

Special Economic Zones and Economic Transformation The Case of the People's Republic of China

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List of Abbreviations

ASEAN	Association of South East Asian Nations
CCP	Chinese Communist Party
CEE	Central and Eastern Europe
CICT	Commercial and Industrial Consolidation Tax
CITIC	China International Trade and Investment Corporation
CMSNC	China Merchant's Steam Navigation Co.
COMECON	Council for Mutual Economic Assistance
DFI	Direct Foreign Investment
DZ	Domestic Zone
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
FIE	Foreign Invested Enterprise
FTZ	Free Trade Zone
GDP	Gross Domestic Product
GOVA	Gross Output Value of Agriculture
GOVI	Gross Output Value of Industry
IMF	International Monetary Fund
JV	Joint Venture
LDC	Less Developed Country
MNE	Multinational Enterprises
MOFERT	Ministry of Foreign Economic Relations and Trade
MOFTEC	Ministry of Foreign Trade and Economic Co-operation
N.A.	Not Available
NIE	Newly Industrialised Economy
PR	People's Republic
RHS	Right Hand Side
SEZ	Special Economic Zone
SOE	State-owned Enterprise
SZSYB	Shenzhen Statistical Yearbook
TVE	Township and Village Enterprises
UNIDO	United Nations Industrial Development Organisation
WFOE	Wholly Foreign-Owned Enterprises
WTO	World Trade Organisation

1 Introduction

In many developing and transforming countries, foreign capital is seen as one of the key instruments for a faster development or a successful transformation. It is expected that foreign investors provide the much needed capital which is not supplied in sufficient amounts by the underdeveloped domestic capital markets. In addition, foreign investors are assumed to transfer modern technology and western management techniques, increase competition and thereby increase the speed of modernisation and help to get access to markets in industrialised countries. The combination of the foreign capital with the abandoned, often underemployed domestic labour is expected to increase the value of domestic production and to have an overall positive effect on the economic development of the country. Therefore, static effects as well as a considerable influence on the future dynamics of the economy are expected.

The number of countries, opening up to the outside world, switching from an import substitution to an export promotion policy has tremendously increased in the last three decades, especially after 1989 and the disintegration of the Soviet Union. The changes were partly initiated by the disappointing results of the import substitution policy in many developing countries with its limited impact on the economic development of these countries and the very slow rise of the living standards. This policy was especially popular in the 1950s and 60s (Economist Intelligence Unit 1979: 1).¹

The slow growth of these countries and the rapid development of the so-called Asian Tiger countries (Hong Kong, Singapore, Taiwan and South Korea) was the source for a redefinition of the development strategy. It was assumed that there is a positive correlation between the openness of an economy and its economic growth, including the growth of the export sectors and backward linkage effects to other parts of the domestic economy.² The Asian Tiger countries followed an export promotion policy, focussing on the active encouragement of industrial production for export markets, combining an increasing market mechanism with a strong industrial policy. Part of the policy was that trade barriers were lowered and that the countries were opened for foreign competition so that the domestic enterprises were more integrated into the

¹ The idea of an import substitution is based on the work of Prebisch (1950) and Singer (1950). The central assumption of this theory is that the host countries of foreign capital in the developing world are exploited by the foreign enterprises. To avoid the negative effects of the foreign relations, the host country has therefore to restrict and closely to monitor the FDI and to develop its own production base so that a terms of trade deterioration cannot affect the host country. See also Krueger (1985) and Bhagwati (1985).

² Edwards (1993) gives an excellent summary of the development of the different industrialisation approaches and also discusses the various empirical studies which analyse the interaction between openness of an economy and economic growth.

international markets.³ At the same time, the political decision-makers influenced the economic process in many respects. Following the fast successes and the positive influence of the export promotion strategy on the domestic development of these economies, developing countries all over the world started to copy this development policy.⁴ At the same time, the oil price shocks of the 1970s and the increase in domestic labour costs made it necessary for enterprises from developed countries to find new ways of reducing their production costs. The location of production units in foreign countries with lower prices is one such way so that the volume of foreign capital that was looking for investment opportunities abroad also increased during this time (Li and Li 1999: 27).⁵

The rising number of opened countries has led to an increased competition among the developing countries in attracting the scarce foreign capital and the developing countries are heavily constrained in this respect. Especially, because most foreign direct investment (FDI) still flows into industrialised countries. In 1998 only 166 of 644 bill. US-\$ or 26% (in 1997 37%, United Nations 1999: 361) of the overall annual international investment went to developing countries. Of the 166 bill. US-\$, 77 bill. US-\$ were invested in South-East Asia and 45 bill. in China alone (United Nations 1999: 479). A similar picture can be drawn in respect to the inward stocks of FDI. Of the 4,088 bill. US-\$ stocks, 1,219 or 30% were invested in developing countries, of which 657 bill. went to south-east Asia, including an accumulated investment of 261 bill. US-\$ in China (United Nations 1999: 491). A great surprise was, that China, which was one of the most closed economies when it started its open-door policy at the end of the 1970s, became the second largest host country for FDI in the 1990s after just 15 years, second only to the USA, and by far the largest receiving country among the developing countries.

Because the inflow of foreign capital is not an automatic process, all countries are using different instruments for attracting foreign investors. One instrument that can be found all over the world and which is the central issue of this study are special geographical regions with various incentives for foreign investors.⁶ The number of Export Processing Zones (EPZs), one of the most popular forms of such regions, has

³ A comprehensive discussion of the role of FDI in the Asian economies can be found in Lloyd (1996).

⁴ Although this positive correlation between export promotion and economic development became the new paradigm of development policy, it was and still is under discussion. Kavoussi (1985) has shown in one study that most open countries (with the exception of the Tiger countries) have outperformed the protectionist countries in the period 1960 to 1973, but fell behind when the world economy slowed down in the period 1973 to 1977. Singer and Gray (1988) did the same analysis for the period 1960 to 1983 and came to the same conclusion: Their findings support the argument that high growth rates of export earnings occur only when external demand is strong.

⁵ It is interesting to note that the changed situation not only increased the pressure on the less developed countries to restructure, but the developed countries faced a stronger need to adapt to the changed situation as well.

⁶ United Nations (1991) proposes the use of the regional approach in Central and Eastern Europe.

constantly increased and has reached in 1998 over 850 such zones around the world (International Labour Office 1998: 1). The establishment of special geographic areas to reach economic aims is not a new idea. In modern times, larger areas were transformed into free trade zones already since the 18th century; Gibraltar for example was established as a free trade zone in 1704, Singapore in 1819 and Hong Kong in 1842 (Economist Intelligence Unit 1979: 1).⁷

In all zones, a set of incentives like tax privileges, special infrastructure and simplified regulations are used to attract foreign investors. When China started to open-up SEZs at the end of the 1970s, although such special zones were used extensively all over the world, the concept was all but uncontroversial (Heiers, Schattschneider and Zapf 1988: 166). Three aspects are important in this discussion: (1) The design of the zone which is equivalent to the selection of one policy mix; (2) The starting point of the host country: industrialised, developing or transforming; and (3) The aims of the host country's government.

In respect to (1) we concentrate our discussion on the Chinese SEZs, which have a number of specific characteristics with special effects. Concerning point (2) we restrict the discussion to transformation economies, which is still a huge field. We will see that SEZs can have functions which are important to transformation economies, but not to industrialised and developing countries. The analysis of point (3), the aims of the host country, will show that a restriction to a small number of aims is necessary and that the zones have to be designed properly according to the aims.

A major difficulty of the governments in transforming countries is the large number of distortions of the domestic economy, combined with only limited political power. Fast, deep and comprehensive reforms are in such a situation, although they might be necessary, very often impossible, because of the opposition from strong interest groups. If these interest groups are geographically concentrated, the regional policy approach with the establishment of SEZs might be of particular attractiveness for the political decision-maker. The interests of the various groups can be taken into account at the same time. Some opposition also exists against new policies, because people do not have enough information about the potential effects for them. The implementation of new policies in geographically restricted regions can be an information transmission mechanism with a strong demonstration effect. At the same time, SEZs give the government, which lack experience with the reforms, the chance to experiment before policies are implemented in the whole country. This can help to avoid costly policy mistakes. We will argue that this role of SEZs as laboratories is the most important aspect for the zones in China.

⁷ For the long history of special geographic regions over the centuries see Djumena (1995).

For example, those regions which have comparative advantages in international trade can open up while the other regions remain behind the old tariff wall.⁸ The tariffs could be reduced step by step later-on or the SEZs could be extended in geographic terms. This is obviously not a first best policy, but SEZs have to be understood as second best instruments, following the approach of Lipsey and Lancaster (1956). As is well known from economic theory, in such a situation the costs and benefits and thereby the welfare effect of reforms depend on the sequencing of the individual policy steps.

In the analysis of optimal policies it is assumed that the political decision-maker can be represented by a single objective function. For transformation economies this is an inadequate simplification. The policy outcome is instead the result of a complicated bargaining process. The distribution of power in the political arena often shifts during the transformation process and the political arena itself is transformed by the development of new institutions and the abolishment of old ones. The development of SEZs can therefore not be understood as the simple implementation of a blueprint which has been developed in the first place. Instead, changes in the political arena and in the overall institutional framework will continuously change the design of the zones. The political economy aspects must therefore be taken into account in the analysis of SEZs in transformation economies.

Ahrens and Meyer-Baudeck (1995: 87) suggest to use the experiences with the Chinese SEZs as lessons for other countries in Eastern Europe:

"[...] special economic zones (SEZs) might be appropriate instruments for accelerating the economic restructuring of CEE [Central and Eastern Europe, C.K.], all the more as SEZs have proved to be driving forces of the systemic change in socialist China. Protagonists of SEZs point out that this instrument positively affects both the economic performance of individual regions and the transformation of the national economy."

This is the starting point of our analysis. We concentrate on the effects of SEZs on the host country during a transformation process.⁹ We analyse in detail the Chinese experiences and in contrast to earlier studies we do not restrict ourselves to Shenzhen SEZ, but look at the development of the four other zones as well. As we will see, this is especially valuable for finding possible negative experiences. This gives the chance to draw important conclusions so that in future policy making this kind of mistakes could be avoided. At the end of the study we are in the position to evaluate

⁸ This is of course only true in a limited sense. There are many interrelations between the possibilities of the companies which are located in the zones and their behaviour in the domestic market. Very often, there is at least some access to the domestic market so that the domestic firms face some new competition from often superior products.

⁹ The question, on how far the Chinese reform path has influenced the concept and institutional characteristics of the Chinese SEZs is of course very interesting, but beyond the scope of this study.

the above proposal to establish SEZs in other countries, following the Chinese experiences. This question is not only of historical interest, because there are still a number of countries, including for example Cuba and Ukraine, which follow or are contemplating about starting such a strategy. The central questions of this study are:

- **What are SEZs and how have they developed in China?**
- **What was their role in the Chinese reform concept?**
- **How can the political-decision-maker influence the development of the zone, especially the volume of foreign capital inflow?**
- **In how far can the Chinese experiences be a lesson for other countries?**

We will see that in China mainly political reasons were responsible for the establishment of SEZs, but this is not to say that they haven't had enormous intended economic impacts as well. It is noteworthy to see that SEZs as policy instruments cannot be seen independently from the other parts of the transformation and liberalisation policy. They have to be an integral part of the reform policy, including price reform, institutional reforms, macroeconomic stabilisation, privatisation and restructuring, just to mention the main areas. SEZs can only support the transformation of the former socialist countries, they cannot initiate the transformation alone (Gutowski and Merklin 1984: 7).

The analysis proceeds in the following way. After the introduction, **chapter 2** defines what is meant with 'transformation' in this study and discusses the general role of foreign capital in the development of a country, introduces the concept of SEZs and describes the possible effects of such zones on transition economies.

Chapter 3 summarises those aspects of the Chinese reform policy that are relevant for the understanding of the Chinese SEZ concept. It is at this point not intended to give a comprehensive description of the whole reform process. Instead, only the major steps are presented. The role of the ethnic Chinese investors for the reform process in China is discussed in this chapter as well.

Chapter 4 analyses the domestic and foreign interests in the establishment of SEZs. For the domestic side, the satisfaction of existing interest groups or the creation of new ones might be especially essential for the government in a transformation country as was already mentioned above. The interests of foreign investors are relevant for the evaluation of SEZs, because the host country can only offer special incentives, but cannot guarantee that they are effective in attracting foreign investors. Obviously, if scarce resources are used to build up incentives, these incentives should be effective.

Chapter 5 describes the development of the five Chinese SEZs. The chapter contains a large amount of statistical data which has not been discussed in the literature

before. But only in this way it will be possible to compare the various zones in a serious way. This ends the more descriptive part of the study.

The theoretical part is contained in **chapter 6**, which concentrates on the existing theoretical models analysing the effects of SEZs on the host country and some extensions of these models are developed. It is examined in how far these models can help to evaluate the SEZs in China and which possible answers they offer and which limitations they have.

Chapter 7 then concentrates on the empirical investigation. Three empirical papers which use cost-benefit analysis methods to estimate the effects of the Shenzhen SEZ are surveyed in section 7.1 and the limitations of this approach are discussed. Section 7.2 concentrates on the linkage effects between the coastal provinces and the hinterland using spatial econometric tools. The open door policy was concentrated on the coastal provinces, but at the same time it was intended to benefit the whole country, especially by the establishment of the SEZs. We therefore look in this section closer at the overall effect on the whole of China. Finally, we discuss some aspects of linkages between enterprises in the SEZs and enterprises in the hinterland (section 7.3).

Chapter 8 then concludes the study by bringing the various parts of the study together to answer the leading research questions stated above. This chapter gives policy recommendations for the establishment of SEZs.

The study shows that the theoretical literature has not faced yet many relevant aspects of real world SEZs. Some small extensions are provided in this thesis, but we make clear that we do not believe that the further development of these models will produce more general insights. Of course, they can be helpful for analysing selected aspects, but they won't help to understand the overall value of SEZs. The analysis illustrates that the example of the SEZs in China is in fact a special one. Because of the complexity of SEZs as policy instruments it is therefore not surprising that there is no simple answer for or against SEZs. Instead, SEZs can have positive effects on the host country, but negative as well. We use in our analysis an eclectic approach, which uses different instruments to analyse the various aspects of the research topic. We think that this brings us closest to the answering of the above questions.

In total, the following analysis shows that one should not be blinded by the rapid growth of the SEZs in China, especially of Shenzhen, which was transformed from a small village into a huge modern city with a population of more than four million people. The economies of the geographic regions with SEZs have grown with exceptionally high growth rates of sometimes 30 to 40% per year. The establishment of SEZs has the potential for a massive regional growth, but it is essential to ask what the aims of a country are when it uses a limited geographical approach. The political decision-maker has to remember that this kind of a policy instrument does have the

potential for enormous benefits and for enormous costs. The various aspects of the effects of SEZs as policy instruments are discussed in the following chapters.

2 Transformation, FDI, and Special Economic Zones

This chapter relates the concept of SEZs to transformation processes as they are analysed in this study and discusses the role of FDI in such a process. To do this we start with a general discussion of transformation processes. We then continue with the discussion of foreign capital and which effects a foreign capital inflow can have on the host country. Finally, we discuss the institutional characteristics of the Chinese SEZs in section 2.3.

2.1 The Transformation Process

Transformation in our context is defined as the process which leads to the fundamental and far-reaching restructuring of an economic system from a centrally planned economy to a functioning market economy.¹⁰ In the general discussion on transformation processes, many misunderstandings could be avoided if the term 'transformation' would be defined in a more precise and used in a more standardised way, which has not been done so far. During the process the main characteristics of an economic system, especially the ownership structure (including defined property rights protected by a functioning legal system which has to be developed), the decision-making process (resulting in an allocation of resources and goods) and the role of the participants in the economic process (individuals and institutions) are redefined. The decision process is being decentralised, functioning goods and factor markets have to be created (prices will then guide the decisions of the individuals), inefficient state-owned enterprises (SOEs) have to be restructured, private enterprises have to be allowed and the institutions of the economic and political system have to be adapted to the needs of a modern, open market economy. The overall role of the state and the state institutions have to be redefined.

Walder (1995: 978) emphasises that the creation of new incentives is a central point in the transformation process, including the incentives for individuals and institutions like the government and the governmental organisations. Lin, Cai and Li (1994: 10) discuss the central role of new incentives in the transformation process in China, how they developed and which effects they had. They come to the conclusion that the new incentives were decisive for the early successes in China's reforms. The countries with a centralised socialist planning system were heavily distorted in any respect and the outcome of the economic process was fundamentally different from the outcome

¹⁰ Both, centrally planned and market economies are of course only theoretical concepts, which describe the extreme cases on a continuum of different possibilities. These pure forms of economic systems will never be found in the real world. Instead, mixtures with elements of both systems will be typical. Therefore, transformation in practise means the extension of markets as the mechanism which determines the outcome of the economic process and the establishment of prices as co-ordination mechanism, combined with the establishment of all those institutions which are necessary in a market economy.

of a market process. The degree of this deviation determines what has to be reformed during the transformation process and how far-reaching the effects of the transformation have to be.

A typical characteristic of a transformation process and its policy making is the limitation in the available policy instruments. In an established market economy with strong and established institutions, realised policies are the result of a more or less clearly defined political process. Interest groups try to influence the formulation of policies, but the influence is limited by the institutions, especially legal institutions. In a country in the middle of a transformation process, political influence is in transition as well and new political institutions have to be created and old ones have to be dissolved. Howell (1993: 251) emphasises this central point of the reform process:

"Paradoxically, the process of transition from command planning to a market economy still requires a central role for the state. At the political level the state functions to manage new competing and conflicting interests. At the economic level the state steps in to regulate the potential anarchy of market forces. At the same time reform and opening up change the structure and very nature of the state itself."

Ahrens and Meyer-Baudeck (1995: 88) add:

"At the same time, political and economic competences must be properly assigned in order to maintain the ability of political institutions at all federal levels to act, and to have private economic agents act independently within a stable and enduring institutional framework."

The political decision-makers in this situation have to be more careful in their policy formulation, because it is possible that they face strong opposition from the former leading groups, which are going to loose from the reforms and still have enough influence to slow down or even stop the reforms (for the various aspects of government failure in a reform process see Wallis 1998: 42). In addition, the negative effects of the early stages of the reforms on the economic growth can create another constraint for the political decision-maker. Economists who have mainly worked on the transition economies in Eastern Europe came mostly to the same conclusion as Ahrens and Meyer-Baudeck (1995: 87): "[...] it is quite evident that the political authorities are hardly capable of planning and controlling the transition towards the new system, the more so as an economic recession is inevitable in the early phase of transformation". The economic recession has taken place in Eastern European countries, but China has not suffered from this effect in the early years. China had times of serious macroeconomic imbalances, but never experienced a dramatic decline of the production value. This is partly the result of the remaining control of the Chinese government over the economy, although the decentralisation has passed a lot of the influence down to lower levels of the political hierarchy.

Another key characteristic and a limitation at the same time for politicians in transformation economies is the need for fast and early successes. The population has already suffered in the old system and it might be willing to trust into promises of future improvements during the so-called 'honey moon' period, but not after long, the people will typically demand recognisable improvements. Sometimes the population even demands immediate improvements of their living conditions. The people are often not willing to accept a longer period of deterioration before the situation might get better. The political decision-makers in transforming countries must take this into account when formulating their reform plan. Comparing the reform experiences of China with those of countries in Eastern Europe support this point. The Chinese reformers choose those areas for their first reform steps, where fast positive changes were easy to achieve. With their fast successes, the new Chinese government was able to gain more support in the early years for their reform policy from most groups in the society.¹¹

The political decision-makers in a transformation economy face the following limitations: (1.) the possible opposition from within the political arena, and (2.) the opposition of the people when they are not satisfied by the results of the reforms. In addition, the reformers have to take the interests of third countries or international organisations (like IMF and World Bank) into account, which can be prominent participants in the reform process. The opening to the outside world and the integration of the country into the world markets can produce a strong impact on the reform in the transformation economies. On the one hand it is the import of a more rational price structure, which might speed up the domestic price reforms and which thereby supports the efficient reallocation of the domestic resources. On the other hand it is the inflow of foreign capital with its expected effects on the domestic economy. Policy changes influence directly the investment decisions of foreigners so that the government has to consider this as well. The membership in international organisations gives a country the chance to commit itself to a specific policy. This can take some pressure from the reform government, because then international organisations can be made responsible for further reform steps.

The ways of policy making have to be changed during the transformation process. In China before the reforms started, ideology and mass campaigns were used to control and to influence the behaviour of the individuals. Part of the development of the socialist states all over the world was the education or indoctrination of the 'new man'. The old ideas and typical behaviour were not compatible with the socialist ideology. Therefore, the thinking and habits of the population had to be transformed in such a way that it would enable the functioning of the socialist system. This was

¹¹ The Chinese reformers were also lucky in so far as they were not as much under pressure to reform as the reformers in other countries in later years. And for them it was also possible to work in an economy which was not as over-centralised as for example the economy of the Soviet Union.

done with large campaigns. While such campaigns were used in China extensively during the Mao era, a major shift during the reforms was the reduction in the use of these campaigns and the introduction of economic incentives to influence (but not to directly control) the behaviour (Pearson 1991: 26). As Chao (1994: 61) emphasises, the aims of the Chinese reformers were at the beginning quite limited and ex post it should not be interpreted that the government had a very comprehensive reform plan, especially in terms of the political system: "The main idea is to allow market forces to work their magic in helping to lift productivity and economic efficiency without giving up political ideology." For a long time, even after the start of the reforms, the development of a socialist society was the political aim and the use of the market mechanism was only thought of as supporting the development of the socialist system. This has changed in 1993 when the 'socialist market economy' was formulated as the new aim and included in the constitution. Although no exact definition of this concept is given, the actual development in China demonstrates that the market-economy part clearly dominates the socialist part of this expression.¹²

At the beginning of the reform and transition process, the redistribution of property rights are of great importance and they have to be guaranteed by the government (Krug 1996: 6). The introduction of clearly defined and guaranteed property rights are directly related to the aforementioned incentives. Ownership and the right to decide about the use of the property and of the returns from the property create the largest incentives. Only then are entrepreneurs willing to invest in their ventures. The definition and protection of property rights will also reduce the distortions in the economy. At the same time, a system must be established which allows that resources move out of the non-competitive industries and being employed in the competitive ones - the reallocation process.

The transformation process includes massive changes in the production structure. Because of the lack of effective incentives, political influences and the limited capacity of the old planning system, the production decisions in the old system did not correspond with the necessities of the new system. Therefore, incentives have to be created which guarantee that the individual firms change their behaviour. The reforms must include on the one hand domestic measures like the reduction in subsidies or the abolishment of preferential access to scarce resources. On the other hand, the competition from foreign enterprises which can be increased by opening the country to the outside world, can be used to induce a restructuring process. In many cases the process of restructuring takes time so that the immediate and full abolishment of the protection might be too radical a change for many domestic enterprises. It can therefore be reasonable to have a transition period in which

¹² A very vague definition was given in China Daily (1993): "The socialist market economic structure is linked with the basic system of socialism. The establishment of this structure aims at enabling the market to play the fundamental role in resource allocation under macro-economic control of the State." (cited from Jakubowicz 1996: 1)

protection is reduced slowly so that the domestic enterprises are protected from too much competition and have time to adapt to the changed situation (this is of course the traditional infant industry argument of protection).

To create effective incentives for the domestic enterprises to start restructuring, it is essential that the government makes early and clear statements on how long this policy (the preferential treatment in form of protection) will last. The encouragement of joint ventures (JV) with foreign investors are an additional instrument that can help the domestic enterprises to learn about possible ways of reforms or to get direct support in the restructuring from the foreign partner.

One of the main elements of a socialist economy are the state-owned enterprises (SOEs), which dominate the economy. During the transformation process, the role of the state controlled economy decreases and private decentralised decision-makers control an increasing share of the economy. The growth of the private economy as well as the reform of the SOEs, which are in many cases highly inefficient or behave in a way which do not correspond to a market system, are both necessary. As the Chinese experience has indicated, the reform of the SOEs is not necessarily of highest priority at the beginning of the transformation process as long as the private sector gets enough space to develop independently with sufficient access to scarce resources. But the example of China demonstrates as well that the delay of the reform of the SOEs might produce even larger problems in later periods. It has of course to be asked in the analysis of the SEZs whether they can support the reform of the SOEs in the transformation economy and how this could happen.

One way of reducing the weight of the state-controlled industry in an economy is to allow and to encourage the development of decentralised, private agents in the market. This has been done in China and the extremely successful and fast growth of the so-called township and village enterprises (*Xiang Zhen Qi Yie*, TVES) indicates that in this way, competition can be created endogenously. But this is only a partial solution because the SOEs often succeed in keeping their soft-budget constraint so that they are protected from bankruptcy. This has the effect that resources continue to flow into inefficient production and the distortions create large costs for the society, direct costs as well as indirect costs which emerge because of the delay of necessary reforms.

Another way of reforming the SOEs is to privatise them. But before privatisation is possible, they must be transformed into enterprises which act more like a private company than like a traditional state-owned one and which have the possibility to make a profit. The experiences in Eastern Germany and Eastern Europe have demonstrated the multiple problems of these reforms.

As this discussion illustrates, the transition is a complex process, which involves many different aspects of the whole economy and the whole society in general. It is

therefore not enough, to look at an individual policy instrument to understand the functioning and the desirability of this instrument. Instead the whole situation has to be taken into account, because the interaction with all other reform policies has to be included. This is one limitation of this study, because it tries to discuss SEZs and their effects in a general way, without looking in more detail on the interaction with other reform steps in China.

2.2 The Role of Foreign Direct Investment¹³

A central reform step for transforming countries is the opening up of the domestic economy to the international markets. Most of the transforming economies were more or less closed towards the world market in the initial situation, only a controlled engagement in the Council for Mutual Economic Assistance (COMECON) was accepted. The opening up, including the increased import and export relations to foreign, non-socialist countries and the acceptance of foreign capital are expected to give rise to a number of benefits for the host country. Foreign capital can help to ease these problems of a limited supply of domestic capital and of the insufficient developed domestic capital markets.

Foreign capital can appear in different forms: foreign loans, portfolio investments and FDI.¹⁴ There are a number of investigations which analyse the question how the role of the Newly Industrialised Economies (NIEs) in East Asia as net borrowers of foreign capital has influenced their development and how it has changed over time (for a discussion see Lloyd 1996: 408).

Foreign loans are needed and used in all countries as can be seen from the statistics of the World Bank and the IMF. But as the debt crisis in Latin America has exhibit, a limit of the indebtedness must not be crossed. Otherwise the problems stemming from serving the loans will be larger than the benefits for the country's development, especially when the existing institutions cannot guarantee that the loans are used in projects with high financial returns so that they make the repayment of the loans possible. The reason for these problems are that many projects (also during the transformation process), especially investments in infrastructure, which are financed by these loans do not have a return which is sufficient for repaying the loans.¹⁵

¹³ A comprehensive discussion of the role of FDI in economic development can be found in United Nations (1999). For a detailed discussion of the definition of FDI and the various aspects of the problems of measurement see OECD (1996).

¹⁴ It has to be emphasised that this classification is under discussion, because the distinction between portfolio investments and FDI seems in many cases to be quite arbitrary.

¹⁵ In more and more investment projects to build infrastructure, private foreign capital is playing an increasing role. The foreign investors build the infrastructure and operate it for a specified period of time in which they charge the users of the infrastructure. Finally, the infrastructure is transferred to the host country (the so-called BOT agreements - build, operate, transfer).

The second kind of foreign capital, the portfolio investment, can also not be used for long-term projects, because it is very volatile and the problems of the combination of insufficient financial institutions and large amounts of portfolio capital became obvious in 1997 during the Asian financial crisis. Portfolio investment has no direct interest in getting control in the running of an enterprise.

Finally, FDI¹⁶ is long-term in nature and the investor has the aim of controlling at least partly the use of the capital in the production process and to be involved in the decision-making process which influences the success of the firm. FDI is part of the internationalisation of the production process through which the various steps of the production are located in different countries. FDI can have a number of advantages for the host country¹⁷:

(1.) The risk of the economic venture is borne by the foreign entrepreneurs (not necessarily alone as in the case of joint ventures). Therefore, they have a vital interest in creating a good performance of the enterprise. As long as the institutional framework guarantees the protection of the interests of the host country (like social issues and environmental protection), the successful performance of the enterprise will benefit the country as well. Distortionary effects of such investments will be discussed later in section 4.5.

(2.) The foreign companies with their needs of higher quality may force through backward linkages domestic suppliers to improve their quality standards and may help them in upgrading their production technology. Thereby domestic suppliers learn about the quality which is needed to be competitive on the world markets. We will come back to this question of backward linkages in section 7.3.

(3.) The engagement of foreign entrepreneurs can have demonstration effects besides the influence on the quality of products. Domestic enterprises observe the behaviour of the foreign enterprises and try to copy their business strategies. The fundamental assumption is that the foreign firms, stemming from more developed countries, possess superior management techniques and better technology. Export-oriented FDI promotes especially the development of the export sector, "local firms may be stimulated to enter the export market by learning from the experiences of the foreign affiliates" (Johansson and Nilsson 1997: 215). Johansson and Nilsson emphasise that

¹⁶ As definition of FDI we use the Chinese one: "Direct Investment by Foreign Entrepreneurs refers to the investment inside China by foreign enterprises and economic organizations or individuals [...] following the relevant policies and laws of China, for the establishment of ventures exclusively with foreign own investment, Sino-foreign joint ventures and cooperative enterprises or for co-operative exploration of resources with enterprises or economic organizations in China. It includes the re-investment of the foreign entrepreneurs with the profits gained from the investment and the funds that enterprises borrow from abroad in the total investment of projects which are approved by the relevant department of the government." CSY (1998: 649)

¹⁷ For an excellent survey of the possible effects of FDI and a comprehensive survey of the literature see Blomström and Kokko (1997).

many countries lack the physical preconditions (including machinery, technology and infrastructure) for entering successfully the world markets and that there exists an idea gap, which limits the ability of developing countries as exporters.

(4.) Another effect is the increase in human capital. On the one hand, foreign firms demand qualified workers so that the host country is forced to invest into the education system if they want to attract foreign capital for a longer period of time, and especially high quality FDI. On the other hand, the foreign entrepreneurs themselves invest into the human capital of the employees and provide technical training for the local staff. By working in a western firm, the employees get additional insights into the organisational and technological ideas of the foreign firms. They will transfer this knowledge when they move to another, domestic enterprise.

(5.) The increase in competition which is the result of the entrance of additional, highly competitive firms can support the transformation of the domestic economy and the development of markets. The domestic firms have to find ways to adapt to the changed market conditions. But this is not guaranteed, because it can happen that the foreign firms chose the protected or distorted sectors for their investment, because they have the ability to displace the domestic firms out of the oligopolistic markets and to earn additional rents. This is of course not in the interest of the host country.

(6.) The foreign firms, although they might have privileges in respect to tax payments, will notwithstanding add to the tax revenue of the government (Sun 1996).

(7.) The political decision-makers face numerous demands from the foreign investors, who try to force the domestic government to build a framework which allows the foreigners at least a fair engagement in the host country. One example for this effect is the development of the legal system in China since 1979. Many of the economic laws which were passed were initiated because of pressure from the foreign investors. The development of a legal system then also benefits the domestic enterprises.

In their empirical investigation Borensztein, De Gregorio and Lee (1998) come to the conclusion that foreign capital has the potential to benefit the host country, but that as a precondition a minimum of human capital is necessary to guarantee this. Also a number of theoretical models have revealed that FDI can have positive effects on the host country. But it should not be overlooked that many of these models use very restrictive assumptions and that the use of more realistic assumptions (like different forms of distortions) give rise to the possibility of negative effects of the inflow of foreign capital (see the large literature on immiserising growth). From the statements of politicians from transforming countries, one can get the impression that the inflow of foreign capital in the form of FDI is purely beneficial. It is an open question why

politicians often set such a high expectation in foreign investors, which is such a dramatic change to the situation in the 1950s and 1960s when the scepticism towards foreign capital and especially towards the negative effects of multinational enterprises (MNEs) was dominating (as reflected in the discussion of the Dependencia Theory).

The discussion on the relation between the liberalisation of foreign trade and investment and GDP growth is still continued as Helleiner (1995), Frankel and Romer (1995) and Levine and Renelt (1992) reveals. The hope of a positive effect of foreign capital on the host country is also demonstrated by the publication of the total amount of realised FDI in China. The Chinese government interprets an increase in the volume of foreign capital as a success (and a decrease in the volume or even in the growth rate as a failure). We question this concentration on pure quantity of FDI without taking the quality of the investments into account, but we do not want to follow this problem further.¹⁸

We therefore just assume in our analysis that the host country wants to attract FDI, disregarding the potential qualitative differences in foreign capital. We further assume that this is the result of the objectives of the political decision-maker, though we do not want to go into more detail of the question of the objective function. The interesting question is now which policy instruments can be used to increase the attractiveness of the host country as a location for foreign investors.

We have included this comprehensive discussion of the potential positive effects of FDI, because from our point of view it is crucial not to confuse effects of the SEZs from effects of FDI. If foreign capital does not move into the country because of a SEZ, but only chooses the SEZ as a location then the beneficial effect of FDI cannot be attributed to the SEZs. We will see in chapter 7 that this is one of the most problematic elements of cost-benefit analysis.

2.3 SEZ - Institution and Effects

"In general, SEZs are aimed at promoting foreign trade, diversifying the production of exportables and overcoming structural balance of payments pressures, importing modern technology and know-how, and improving supply conditions on the domestic market. Furthermore, positive employment effects as well as positive spill-overs to the rest of the economy evolving backward and forward linkages are expected."
(Ahrens and Meyer-Baudeck 1995: 88)

¹⁸ We see this as an key policy question how the host country's government can influence the specific characteristics of foreign capital inflow like the time perspective and the sectoral distribution. The Chinese government tried to direct FDI in specific sectors, the so-called pillar-industries, by publishing lists of sectors in which foreign investments enjoy special incentives. But it seems to us that the question how and when this kind of incentive can

This citation illustrates the variety of effects which are expected from SEZs, although from our point of view some effects are not included in this citation. Ahrens and Meyer-Baudeck especially do not mention which role foreign capital plays in all these effects. It is helpful to classify the effects into the following three main categories: (1.) SEZs offer incentives for foreign investors, which increase the expected rate of return so that the attractiveness of the host country relative to other countries increases and the attractiveness of the region with the SEZ relative to other parts of the country. The first effect is positive if the net benefit of an additional inflow of foreign capital is positive. The second effect can either be positive or negative, depending on whether a strong agglomeration effect created positive externalities or induces costs of additional distortions. (2.) SEZs can support the transformation of the whole economy, by direct linkage effects, reallocation effects and through experiments which can be first conducted in the SEZs before they are realised in the whole country. (3.) SEZs can help politicians to stay in power by allowing them to take different interests into account at the same time. The political economy aspects will be discussed in more detail in section 4.1.

These are three focal points of our analysis. For analysing point (1.) it has to be asked why the foreign investors do not come in sufficient amount without additional incentives. What are the main obstacles to them and how can SEZs help to reduce these? As with other subsidies, they may not change the behaviour of the investor only that investors who would have come anyway, like to accept this additional benefit ("taking along effect"). Point (2.) is more comprehensive. Linkages are an influential factor for the transmission of effects from the SEZs to the rest of the country. Without enough linkages, the special zones will only be enclaves generating some income for the home country, but not developing the whole potential. Being able to make experiments is especially relevant for politicians in transforming economies, because they typically do not have experience in this kind of situation.¹⁹ Even foreign consultants are often not of very much help, because the situation is so new that the consultants can base their recommendations only on qualified guesses.

(3.) The political economy point of view is especially substantial in the case of China, because it is the most compelling explanation why SEZs were used in China in the first place. It can give an answer to the question why it is the SEZ approach that the political decision-makers choose to open the country. It must be of special interest for them to concentrate the liberal trade policy on a region. This can be the case if the different regions have different interests in or advantages for international trade.

increase the welfare of the host country needs more in-depth analysis, but this is far beyond the scope of this study.

¹⁹ Rhee, Katterbach and White (1990: 6) add as another important point: "FTZ [Free Trade Zones, C.K.] are only a step on the way to implementing a free trade regime for the whole country, but because of limited administrative capacity or other reasons the free trade regime cannot be implemented immediately."

Pearson (1991) discusses that it is not enough to understand the opening up process as the setting of the investment framework. Instead, one has to look at the bargaining process between the host country and the foreign investors. On the one hand this bargaining process takes place on the national level and translates into the laws regulating foreign investment. On the other hand the bargaining takes place at the firm level as well, which is central in the analysis for China, because the state as joint venture partner is directly involved in the bargaining process as well at both level.

As chapter 6 will reveal, the theoretical models have so far concentrated on analysing the conditions under which SEZs are welfare improving or deteriorating. But these analyses only include some effects which are in our classification under category (1.). Categories (2.) and (3.) are not included at all so that the results have to be interpreted very carefully.

Governments are often willing to bear short term costs of a policy while aiming at long term benefits. Therefore, a negative welfare effect of a short term analysis alone is not an argument against the use of SEZs as a policy instrument, because not all benefits are included in the analysis. This does not mean that the short term analysis is of no use. The results of a short term analysis are still of relevance for the politicians. The political decision-maker will ask how high the costs of a measure are not whether there are costs. He will try to find the best available instrument in order to minimise cost, but as long as the costs are bearable, the government will accept such costs either because it values the long-term effects higher or because the policy can contribute to its own aims (like political support). This is the reason why we discuss a large number of different aspects of the establishment of SEZs so that we can evaluate SEZs in a more general setting.

Internationally, special zones can be classified in the following way:

"A tax-free zone and free ports, which are implemented in order to facilitate (foreign) trade turnover, to improve the refinancing possibilities of enterprises, and to make these areas attractive to foreign and domestic investment;

Import or export processing zones, which favour the production and processing of importables and exportables;

Enterprise zones (zones of free economic activities), primarily established in industrial countries as an instrument of regional policy;

Free banking and insurance zones and technology parks, implemented to increase the international competitiveness of domestic banks and insurance companies and to improve, respectively, the transfer of know-how and the diffusion of technical knowledge." (Ahrens and Meyer-Baudeck 1995: 88)

2.3.1 SEZs versus EPZs

We will see in the following part that a number of characteristics of these different zones are all combined in the Chinese SEZs. Because the Chinese SEZs are based on the idea of export processing zones (EPZs)²⁰ and to clarify the difference between the two types of zones we cite the following definition of EPZs:

"a relatively small, geographically spread area within a country, the purpose of which is to attract export-orientated industries, by offering them especially favourable investment and trade conditions as compared with the remainder of the host country. In particular, the EPZs provide for the importation of goods to be used in the production of exports on a duty free basis. EPZs are therefore export enclaves within which special economic concessions apply including an extensive package of incentives very often exemption from certain kinds of legislation which do apply outside the zones. Among the most common of such exceptions is that EPZs generally allow the duty free entry of goods for re-export. Within the zone the physical infrastructure and all services necessary for manufacturing are provided: roads, power supplies, transport facilities, low-cost/rent buildings. In a number of cases restrictions on foreign ownership which apply in the country as a whole are waved for foreign firms locating in the zone." (Abbott 1997: 232)

An alternative characterisation of the EPZs is given by the United Nations Industrial Development Organisation (UNIDO) by the following five points (quoted from Chu 1986: 22):

- EPZs are dominated by market mechanisms.
- EPZs are restricted to a limited region.
- EPZs specialise in the production of export goods and offer special incentives for such a production.
- Their major aims are to attract foreign investment, earn foreign exchange and to generate employment.
- Secondary aims are technology transfer, development linkages and the regional development.

Tab. 1 displays the regional distribution of the EPZs which were registered in 1979 and 1997 with the World Export Processing Zone Association:

²⁰ For a description of examples from India, South Korea and Taiwan in the 1970s see Wall (1976).

Tab. 1: Number of EPZs in Different Regions in 1979 and 1997

Region	Number of Zones	
	1979	1997
North America	N.A.	320
Central America	7	41
Caribbean	6	51
South America	5	41
Europe	N.A.	81
Middle East	10	39
Asia	19	225
Africa	4	47
Pacific	1	2
Total	52	845

Source: Economist Intelligence Unit (1979: 6), International Labour Office (1998: 3)

Tab. 1 indicates that EPZs are a policy instrument which is used all-over the world and which has experienced an impressive increase in the last two decades, increasing from 52 zones to 845 world wide in less than 20 years. The data demonstrates that this kind of zones are by far not only an instrument for developing or transforming countries. Almost half of the zones were located in North America and Europe in 1997.

The number for China with 124 EPZs in 1997 shows that China has opened not only EPZs in the 5 SEZs which are discussed here, but a great number of other zones. For us it is important to see the differences in the concept of SEZs. The following definition of SEZs by Ahrens and Meyer-Baudeck illustrate that many authors do not make a difference at all between EPZs and SEZs:

"SEZs are geographically or functionally limited parts of an economy in which rules and other institutions concerning the production and the distribution of goods and services differ from those in the rest of the economy. These special institutions are realized in order to promote and favour economic activities in a specific area. Generally, they offer both financial incentives, such as lower taxes and tariffs, and subsidies as well as the substantial deregulation of the legal and administrative framework or the provision of legal privileges." (Ahrens and Meyer-Baudeck 1995: 88)

This definition of SEZs is almost identical to the above cited definition of an EPZ with the only difference that the promotion of economic activities in general are mentioned and not specific for export sectors. Following this definition of SEZs would therefore mean that EPZs are a special form of SEZs. In the whole paper, Ahrens and Meyer-Baudeck (1995) sometimes use the term SEZ just for the Chinese SEZs, sometimes they include free trade zones, EPZs and all other special zones in the notion SEZ. The definition of Chao (1994: 63) shows a totally different emphasis:

"As originally envisioned, SEZs were established as development enclaves to be insulated from the rest of China to test the notion of free-market principles in a socialist economy (Leung 1986; Vogel 1989;

Kleinberg 1990). Firms in these zones are provided relatively free-market environments with minimal government intervention. Foreign exchanges earned through exports can be retained for importing raw materials and new machineries. Private and joint-ventures enterprises are free to hire their own workers instead of having them assigned. They are also free to set wages to reflect market conditions. Bonuses can be awarded to workers for outstanding performances. No central planning is imposed on production with respect to either the type or quantity of products made."

In the following we will see that the Chinese government had a different construction in mind, although the SEZs were based on the idea of EPZs. Already Article 1 of the Regulations of the People's Republic of China on Special Economic Zones in Guangdong Province from August 1980 reveals the major difference:

Article 1 Certain areas are delineated from the three cities of Shenzhen, Zhuhai and Shantou in Guangdong Province to form special economic zones [...] in order to develop external economic cooperation and technical exchanges and promote the socialist modernization program. [...] (BFAI 1986: 95)

This Article 1 illustrates that the first aim, opening of the country to the outside world is exactly what the other countries had in mind with their EPZs. The technology transfer, the second aim of the Chinese government was not such a clear-cut aim of other governments and the last aim, the support of the transformation process is a new element. From this it becomes clear that the construction of the Chinese SEZs had to be different from the EPZs in other Asian countries. This demonstrates Article 4:

Article 4 In the special zones investors are offered a wide scope of operation, favourable conditions for such operation are created, and stable business sites are guaranteed. All items of industry, agriculture, livestock breeding, fish breeding and poultry farming, tourism, housing and construction, research and manufacture involving high technologies and techniques that have positive significance in international economic cooperation and technical exchanges, as well as other trades of common interest to investors and the Chinese side, can be established with foreign investment or in joint ventures with Chinese investment. (BFAI 1986: 95)

This reveals that the SEZs were much more comprehensive in their construction than the EPZs (see Heiers, Schattschneider and Zapf 1988: 167). They have to be designed in this more comprehensive way, because otherwise their role as laboratories to conduct experiments is extremely limited (Ge 1999: 1269). It was no concentration on manufacturing, but as Article 4 illustrates the investment in agriculture, construction and even tourism was intended as well.

“Our SEZs not only can develop export-oriented industry, they also can develop labour-intensive industry, they can also develop technology-intensive industries; not only can they develop industry, they can also develop agriculture, animal husbandry, construction industry, and commercial industry. In short, the approach of our SEZs, in comparison to EPZs of the rest of Asia, is much broader.” (Wang and Chen 1985: 21)

Other publications add tourism, real estate, hotels, restaurants, transportation, and communication to this list.

This reflects the aim of the Chinese government that in the SEZs not only production should take place, but that a comprehensive economic structure should develop with all sectors of a modern economy and that the zones have a real population while the labour force of the EPZs typically commute in and out of the zones. Article 4 lays the foundation for linkages between the SEZs and the rest of the country, because joint ventures with domestic Chinese partners were intended so that the basis for a transfer of know-how to other parts of the country would exist. The relationship between the SEZs and the rest of the country are further regulated in Article 9 and 17:

Article 9 Products of the enterprises in the special zones are to be sold on the international market. If an enterprise wants to sell its products in the domestic market in China, it must have the approval of the Guangdong Provincial Administration of Special Economic Zones and pay Customs duties. (BFAI 1986: 95)

Article 17 Investors in the special zones are encouraged to use China-made machinery, raw materials and other goods. Preferential prices will be offered on the basis of the current export prices of China's similar commodities and paid in foreign exchange. These products and materials can be shipped direct to the special zones with the vouchers of the selling unit. (BFAI 1986: 96)

Article 9 indicates that a separation between the SEZs and the domestic zone (DZ) was intended as in the case of EPZs. In the beginning, they were planned as enclaves with only a very limited access to the goods market of the domestic economy. This changed not before 1990, when prime minister Li Peng emphasised at a National SEZ Work Conference that SEZs are more than enclaves (Chan 1991: 11.9). This changed approach is also reflected in the fact that Pudong New Development Area in Shanghai as the continuation of the zone policy, was planned from the beginning in the early 1990s much more integrated with the rest of the domestic economy, which should guarantee a better and more successful interaction. A key difference to EPZs is that in the case of China the domestic market, one of the most attractive aspects for many foreign investors for an engagement in China, was already from the beginning not totally closed for products from the SEZs. The Chinese government limited the competition on the domestic market by permitting only such goods which could not

be produced by domestic companies or which were under limited supply. Article 17 represents the wish of the Chinese government that through the supply of resources and of intermediate inputs backward linkages would be developed. But this aim conflicts with regulation in Article 13 on the import of production inputs which became one of the major criticisms against the SEZs in China:

Article 13 Machinery, spare parts, raw materials, vehicles and other means of production for the enterprises in the special zones are exempted from import duties. The necessary consumer goods shall be subjected to full or low import duties or exempted, depending on the merits of each case. Imports of the above-mentioned goods and exports of products of the special zones must go through existing Customs procedures. (BFAI 1986: 95)

Because of the poor quality of many intermediate inputs from Chinese production and the unreliability of the supply and because of bottlenecks in the transportation infrastructure, many foreign investors preferred to import the main part of their inputs from abroad (Li and Li 1999: 103). The effect was that only a small share of the total value added was added in China. We will see this in chapter 5 in the trade statistics of the SEZs.

Article 13 includes a main characteristic of Chinese reality by including the sentence "depending on the merits of each case" in the law. Almost everything, including the taxes to be paid, tariffs, other fees and most other regulations are not applied in every case in the same way. As an effect of the missing of the rule of law all these aspects can be negotiated between the foreign investors and the Chinese side, where the outcome depends on the bargaining power of the foreign investor. For the large enterprises which have an interest in investing in China, the differences in the institutional settings of the SEZs compared to the rest of the country are therefore not as large as one could think from the laws. The status of the investor depends mainly on the investment volume and the role of the chosen sector for the Chinese economy (Bolz, Löscher and Pissulla 1990: 132).

Tab. 2: A comparison of general EPZs and the Chinese SEZs

	EPZs	China's SEZs
Strategic aims		
- Attracting foreign direct investment	Yes	Yes
- Emphasis on managerial and skill training	Not usually	Yes
- Technology transfer	Sometimes	Yes
- Employment generation	Often important	Yes
- Sociopolitical objectives	Not usually	Not a key issue
Financial/legal		
- Relaxation of customs duties	Yes	Yes
- Fewer restrictions on profits transfer	Yes	Yes
- Lower company taxation	Yes	Yes
- Tax holidays	Often initially	Yes
- Export oriented	Usually totally	Not totally
- Access to local market	Sometimes	Restricted
- Reduced environmental control	Often	Uncertain
Planning/geographical		
- Physical size	Usually small	Large
- Specific designation of boundaries	Yes	Yes
- Restrictions of goods and factor movements	Usually	Usually
- Central zone control / administration	Usually	No
- Physical site planning / delimitation	Yes	Yes
- Regional development objectives	Sometimes	Yes
Social and infrastructural		
- Constraints on labour/union organisations	Often	No
- Greater use of female labour	Usually	Probably
- Social infrastructure for workers	Sometimes	Yes
- Cheap industrial sites in zone	Yes	Yes
- Residential facilities for overseas staff	Often	Yes
- Recreation facilities for tourism	Sometimes	Yes
- Hotels included	Rarely	Yes
- Retail facilities	Unusual	Yes

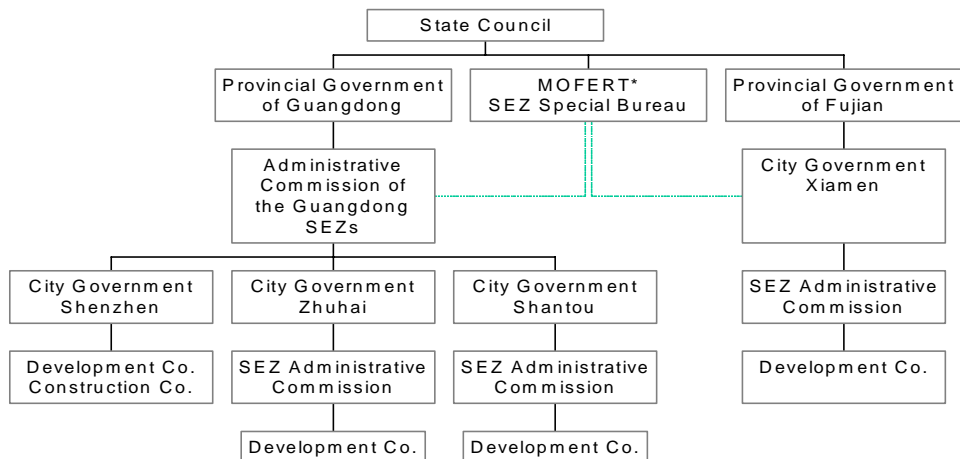
Source: based on Bhardwaj (1993), own corrections

Tab. 2 gives a direct comparison of the main characteristics of the EPZs and the Chinese SEZs. It reveals that SEZs have more comprehensive aims, use almost the same financial and legal instruments, are larger in size and have a better social and industrial infrastructure than EPZs in other countries. SEZs are independent administrative entities while EPZs are under the direct administration of the central government (Bolz, Löscher and Pissulla 1990: 98). Bhardwaj (1993: 1095) summarises this fact with the words: "Shenzhen and the other zones were more than just production bases for export trade. They were local governments, with a sizeable territory and population under their jurisdiction."

2.3.2 Administrative Structure

The following diagram displays the administrative structure of the four original SEZs:

Fig. 1: The Administration of SEZs in China



* Ministry of Foreign Economic Relation and Trade, which is now MOFTEC, Ministry of Foreign Trade and Economic Cooperation.
 Source: Osborne (1986: 100)

In contrast to the EPZs which are normally run by the central government, the SEZs in China have their own administrative level, the SEZ administrative commissions which are under the control of the city governments. Only in the case of Shenzhen, the city government is directly responsible for the development of the SEZ. The development of the SEZs is supervised by the provincial government of Guangdong and Fujian, which again are under the directive of the State Council. The key institution that co-ordinated the development of the SEZs at national level is the SEZ Special Bureau at the Ministry of Foreign Trade and Economic Relations.

The Administrative Commission of the Guangdong SEZs had the following functions:

1. drawing up development plans for the special zones and organizing their implementations;
2. examining and approving investment projects in the special zones;
3. dealing with the registration of industrial and commercial enterprises in the special zones and with land allotment;
4. coordinating working relations among the banking, insurance, taxation, customs, frontier inspection, postal and telecommunications authorities and other organizations;
5. administering labour matters;
6. being responsible for educational, cultural, health and other public welfare facilities in the SEZs; and
7. supervising the implementation and enforcement of laws and orders in the SEZs." (Wang 1988a: 102)

A special characteristic of the Chinese SEZs are the development companies. The task of the development companies are covered in the Regulations of the People's Republic of China on Special Economic Zones in Guangdong Province, although at this time it was planned to have a company on province level, while in later years they were based on the zone level as displayed in Fig. 1. The responsibilities of the development companies are:

Article 25 Its [the development company, C.K.] scope of business includes fund-raising and trust investment, operating enterprises or joint ventures with investors in the special zones, acting as agents for the investors in the special zones in matters related to sales and purchases with other parts of China outside the special zones, and providing services for business talks. (BFAI 1986: 96)

Already this regulation indicates that the development companies were intended to become major players in the economy of the SEZs and the later years confirmed this development. The development companies are a speciality of the Chinese SEZs. These companies are a kind of state-owned conglomerate with - as the citations illustrate - very comprehensive responsibilities. In addition to the responsibilities mentioned in Article 25 they have occupied the following functions:

- development of own joint ventures with foreign or domestic partners;
- get access to export markets for zone enterprises as well as for Chinese domestic enterprises;²¹
- improvement of the infrastructure in the zone by founding construction companies and real estate companies;
- be intermediary for loans in foreign currency.

As an example Bolz, Lösch and Pissulla (1990: 115) discuss the Shenzhen Special Economic Zone Development Company. This company fully owns or at least partially owns 230 enterprises (in 1989, later figures were not available). 80 are in the industrial sector (mainly joint ventures with foreign partners), 25 in real estate development, 24 in the service sector and 19 in the tourism industry. In addition the development company in Shenzhen has shares in 29 companies abroad, has 83 joint ventures with foreign partners and 53 joint ventures with Chinese partners (including enterprises in the SEZ and ministries). This demonstrates the impressive size of the Development Companies in the Chinese SEZs.

Bolz, Lösch and Pissulla (1990: 115) emphasise that most of the time these development companies seem to behave in a profit maximising manner. But because

²¹ The analysis of Rhee and Belot (1990) on eleven examples of outward-looking development strategies in non East-Asian economies show that in all these success stories foreign enterprises have played a decisive role in helping to get access to foreign markets and is in no case this was tried by a state institution.

of the size (the Shenzhen development company) is partner in 10% of all joint ventures in Shenzhen) and its connection to the political decision-makers and the administration, competition is not guaranteed in many cases.

2.3.3 Functions

The Chinese used the notions 'windows' and 'radiator' to describe the main functions of the SEZs. On the one hand they would be windows to the outside world so that China could learn about the potentials of the world markets and could transfer technology into the country (Ge 1999: 1268). On the other hand, SEZs would be the first step for foreign enterprises to enter the Chinese market in a more guaranteed investment atmosphere so that they could collect information through this inside looking window.²² The radiator function describes the linkages between firms in the SEZs and those in the rest of the country. Hayter and Han (1998: 11) give a number of examples for such co-operation between Chinese partners. Already in 1985 over 500 joint ventures including enterprises from 20 provinces and 19 ministries existed in Shenzhen SEZ. One example is the Shenzhen Industrial and Trade Centre, a co-operation between the Ministry of Aviation and the Shenzhen Municipal Government, which organises the transfer of engineers and technicians, who collect information in the SEZs and then provide large SOEs in other parts of the country with these information. Besides the SEZs were called bridges, which would bring Chinese and foreign partners together and they would allow the transportation of input and products into and out of China (Wall 1993: 251).

2.3.4 Incentives

A number of incentives were used in the Chinese SEZs to attract foreign investors. The main features are:²³

- reduced or no customs duties;
- no import quotas;
- reduced or no foreign exchange controls;
- unlimited profit repatriation;²⁴
- no or a minimum of taxes;
- less restrictions on foreign ownership;
- less bureaucracy (the one chop policy);

²² Rhee, Katterbach and White (1990: 7) come to the conclusion: "Imperfect information may be one of the major constraints against increasing foreign and domestic collaboration, including DFI, in LDC export activities."

²³ Based on Hamilton and Svensson (1983) and Chen (1993: 262), with own extensions.

²⁴ A strong incentive for many foreign companies in investing in an insecure environment is the possibility to repatriate profits fast and without any difficulties. For this, foreigners must have access to foreign currencies and must be permitted to exchange domestic currency and to transfer foreign currency out of the country. According to Bhardwaj (1993: 1098) this was one of the major incentives for foreign investors for their engagement in the Chinese SEZs.

- good infrastructure (or at least the prospect of heavy infrastructure development);
- streamlined administrative regulations with relative independence for local planning authorities;
- direct access to planning units at provincial and central level;
- tax holidays;
- reduced tax on corporate profits (15%);
- duty-free allowances on production materials;
- autonomy in hiring and firing workers;
- generous depreciation allowances;
- negotiated limited access to the domestic Chinese market for goods produced within the zone;
- residence and work permits and income tax exemptions for foreigners working in the zone.

A more detailed description of the differences in the institutional setting between the SEZs and the rest of the economy is given in the Appendix in chapter 0.²⁵

Enterprise regulations

Chinese state-owned and private companies, joint ventures (JV) and wholly foreign owned enterprises (WFOE) are allowed to operate in the SEZs. Basically, the Chinese enterprises have the same legal rights as the companies with foreign investment. But actually, very often the treatment is not identical (Bolz, Löscher and Pissulla 1990: 115). Chinese enterprises can only become partners in a JV in the zone when they have a minimum size so that they can act as trustworthy partners for the foreign joint venture partner.

The laws which regulate the joint ventures and the WFOE are not zone specific, but national laws. But they are complemented by additional zone legislations. The SEZs were allowed to develop their own legislation, which differ now in many respects from the legislation of the rest of China (Gensler, Yang and Li 1998). For a detailed description of the differences in the early reform phase see Herbst (1986: 124).

Labour law

The enterprises in the zones are free to choose their labour force. In addition state-owned labour service companies provide the companies with workers from within the zone and from the rest of the country. The enterprises can first employ these workers for up to six months as a trial period. In this period the workers can be fired without any formalities. After the six months, a formal contract between the

²⁵ A comprehensive discussion of the incentives of the SEZs and the open coastal cities can be found in Easson and Li (1989: 125).

employer and the worker is signed. But also during this contract, the worker can be fired. In Shenzhen SEZ it is necessary in such a case to prove that the worker is not needed anymore and that he cannot be employed in another part of the enterprise. In case of a dismissal before the end of the contract, the company has to pay a compensation (Bolz, Lösch and Pissulla 1990: 122).

A special insurance for the employer is the regulation that an employee who quits his job before the end of the contract has to compensate the employer for the training costs. This avoids the danger for the enterprise to be used as a cheap training institution which was a major problem in the early years of the reforms. An additional regulation which benefits the export oriented enterprises and the enterprises with high-technology production is the upper limit of the extra wage costs. Many of these regulations were at the beginning specific to the SEZs and were later-on transferred to the rest of the country.

Imports and exports

In the first 15 years of the existence of the SEZs, all enterprises were free to import machinery, intermediate inputs, capital goods and so on. No import duties were levied on these imports before 1996. From January 1st, 1996 onwards, the Chinese government changed this regulation and foreign enterprises had to pay import duties on intermediate inputs. But as in so many other cases the actually paid tariffs were the result of negotiations. Already in 1997 the Chinese government abolished this regulation and foreign firms are now again free to import intermediates without paying tariffs.

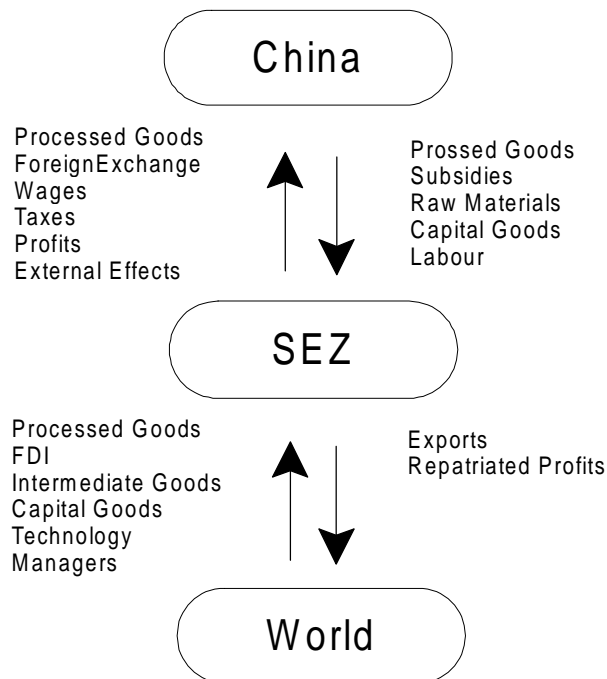
The enterprises in the SEZ are encouraged to buy machinery, raw materials, intermediate inputs and so on in China. The relevant prices are world market prices or negotiated prices, which have to be paid in foreign exchange. Raw materials and intermediate inputs which are used in the production of goods for the domestic market can be bought at the same price as paid by the state-owned companies. The price can be paid in Renmenbi, foreign exchange is not necessary.

In respect to foreign exchange, the inflow and outflow of each individual enterprise had to be balanced in the early years. This was a major problem for many enterprises, because no market for foreign currency existed. Since the foreign currency swap markets have been established in the second half of the 1980s (the first one in 1985 in Shenzhen and already 90 swap markets in 1988), this problem has eased.

2.3.5 Potential Effects of SEZs

Fig. 2 displays the different interactions between the SEZ and the DZ on the one hand and between the SEZ and the rest of the world on the other.

Fig. 2: Interaction of SEZs with the DZ and the Rest of the World



In the following we discuss in more detail the potential positive and negative effects of SEZs:

Static efficiency: Grubel (1984: 49) argues that the partial deregulation rationalises the price structure which is relevant for the production decision in the SEZs and increases the static efficiency. Of course, the conclusion of Grubel has obviously to be qualified, because this result only holds if the chosen policy is in fact second best. As is well known, a partial reform in a distorted economy does not necessarily increase the efficiency of production. Such an increase in the efficiency is only potentially possible, but not guaranteed.

Employment: the additional foreign capital will demand more labour so that the unemployment problem, which most transition economies face, can be reduced. This point has also to be qualified. Although the absolute number of people being employed in special zones is not small, it is not in a dimension which reduces the employment problem in the host countries substantially. The experience with EPZs has demonstrated that only very few cases have created new employment which accounts for more than 1% of the total employment in the host country. In most cases it was only around 0.1% or 0.2% of the total labour force (Economist Intelligence Unit 1979 : 9). This is the same in the Chinese SEZs. In addition, most of the employment was created for women who were not counted as being unemployed before (Ahrens and Meyer-Baudeck 1995: 89). They have mainly started to work because of the new opportunities which resulted from the establishment of the special zones. The skilled workers, who moved into the SEZs were also not

unemployed before, because in the DZ the demand for qualified employees was high.²⁶

Some critics have argued that the SEZs are used to reduce the social and environmental standards so that especially women can be exploited. One very polemic example of this kind of discussion is Abbott (1997), who attacks export processing zones in general and includes the Chinese SEZs.

Foreign capital and the export sector: the institutional characteristics of the SEZs attract FDI into the export sector and helps to expand this sector. The foreign investors provide the knowledge about the quality of goods which can be sold on the world market and build up the access to third markets. The expansion of the export sector can increase the foreign exchange earnings and can reduce balance of payment problems.

Technology transfer: the foreign investors are expected to transfer various kinds of technology, including advanced production technologies, modern management know-how and marketing strategies. This information, because of its public good properties can be used, at least partly in other domestic firms and supports so the faster upgrading of the domestic economy. Foreign investors will as well speed up the introduction of new technologies (Grubel 1984: 51). But Ahrens and Meyer-Baudeck (1995: 90) come to the conclusion: "Regarding, the goal of transferring modern technology and know-how, the outcome was often disappointing." Lösch (1995: 2) comes to the same conclusion in respect to the ability of the SEZs to initiate technology transfer. This might be the result of the conflicting interests of the investor and the host country, because the investors typically try to protect their technological advantage so that only a minimum of the technology is transferred. Wu (1996) sees the lack of a proper regulatory framework as the main reason. As different studies have shown depends the ability of a host country to initiate technology transfer heavily on the characteristics of the country, including the level of the human capital.

Agglomeration: the geographical concentration of industries can produce external effects between various firms, either in the same sector or between firms from various sectors (Wall 1993: 248). The theory of growth poles bases on this regional approach and assumes that areas can be chosen for a faster development and that later-on positive externalities from these growth centres then support the development of the rest of the country. Growth poles are for-runners and focal points which go ahead in the development. They are in the middle of a functional interrelation net and give growth impulses to the other points of the net. They can be

²⁶ The UN (1991: 5) report comes for EPZs to the conclusion that they "usually have no positive effect on the unemployment rate", because the employment effects stem from an increase in the participation rate in the labour force, and not from providing jobs to unemployed workers." (cited from Lösch 1995: 5)

regional agglomeration points or spatial concentrated industries. This includes any regional concentrated economic activity that has through its own strong development direct or indirect effects on other regions (Brauweiler 1997: 314). Closely related is the idea of Krugman (1996) of the cascade of growth:

"Suppose that a regional economy grows to the critical point at which it becomes profitable to replace imports of some good subject to scale economies with local production. This import substitution will expand regional employment, drawing in workers from other regions; and in so doing will further expand the local market. This market expansion may, in turn, provide the market size necessary to induce a second round of import substitution, and so on - a cascade of growth reflecting the circular relationship between market size and the range of industries that a region possesses." (Krugman 1996)

The idea of the effects of SEZs on regional development is also discussed by Ahrens and Meyer-Baudeck (1995: 92).

Infrastructure: related to the agglomeration effect of industries is the possibility of economies of scale in the provision of infrastructure (Wall 1993: 248). Only limited financial resources are available for investments in infrastructure so that the concentration of the investment at a few points can have stronger effect on the attraction of foreign capital. But concentration in itself is not a guarantee for success as the many real estate and infrastructure developments in China (as well as in other countries) demonstrate, which are idle because of a lack of customers.

Human capital: the foreign firms that are attracted into the SEZs are expected to invest into the training of their staff (Grubel 1984: 51). The host country government has to invest in the provision of well-trained employees, especially in later stages of the development of SEZs, when higher quality goods are produced.

Linkages: direct economic linkages may develop between enterprises in the SEZs and in the rest of the country. The volume of domestic inputs is a key indicator for the zone's integration into the domestic economy. If no inputs (or only labour as in the case of the EPZs) from the DZ are used in the production in the SEZ, the zone is just an enclave. The build-up of linkages between the SEZ and the DZ can force domestic producers of intermediate inputs to produce higher quality inputs so that foreign firms demand these inputs domestically and do not import them from abroad. The producers of final goods are affected by this kind of linkages, because the increased import of goods with higher quality from the SEZ into the DZ can increase the pressure on them to restructure and to upgrade their technology.

Experiments: a very important possibility which SEZs provide is the geographical limited introduction of new policies so that the function of the market system and the effects of new policies in such a system can first be tested and the political decision-

makers can learn from these experiences. Grubel (1984: 53) adds: "The free zones will lead to increased understanding of the effects of free economic activities in today's age of high technology, income and mobility." We will come back to this key aspect in section 4.4. These experiments can also build up acceptance for the reforms in the country.

Cost of regulations: import restrictions like import tariffs or import licences and other non-tariff barriers induce high costs on the producers in the host country. Even if the paid tariffs can be reclaimed, the procedure of paying and reclaiming means additional work and therefore additional costs. In the case of SEZs and their abolition of import taxes, these costs do not occur. This reduces the costs for the enterprises and for the host country, because the administration of the imports becomes easier (Grubel 1984: 50).

Lobbying: according to Grubel (1984: 50) the cost of lobbying for preferential trade policy is reduced, because the government is bound to its commitment. But Grubel overlooks that the establishment of the SEZ creates new ways of benefits for individual firms in the form of rents so that new lobbying activities will develop. From our point of view the overall effect is therefore ambiguous.

Product variety: the welfare of the consumers is increased, because new products and especially higher quality products become available.

Information broker: The SEZs can play the role of a match maker between foreign investors, interested in using the advantages of the host country and domestic companies. They make it for foreign investors and foreign organisations easier to collect information about the investment conditions in the host countries and reducing thereby the search costs for the potential investors by focusing the interest. The SEZs can as well be the bases for foreign investors for further investigations in other parts of the country and play thereby the role of a catalyst.

Additional distortions: not all domestic enterprises are allowed to move into the SEZs so that a bureaucracy decides which enterprise is allowed in and which not. This can lead to corruption and rent seeking activities, because the location of an enterprise in the SEZ has large advantages. SEZs affect as well the competition between firms in the domestic zone and the SEZs. It might even happen that an inefficient enterprise from the domestic zone is allowed to move into the SEZ and because of the lower input prices can now compete with a more efficient enterprise in the domestic zone.

Through the existence of two different economic systems and two price systems in one country, smuggling and other illegal activities are especially rewarding.²⁷ During the transformation period it can also happen that resources do not flow into the most productive occupation, but because of political interference or other limitations of the market mechanism are used in highly speculative ventures. This happened partly in the real estate sector in the Chinese SEZs.

This list of expected effects from SEZs shows that not all effects stem from the SEZs directly. Instead, they are the result of a FDI inflow which might be induced by the SEZs. We will come back to this point in chapter 7 when we discuss the cost benefit analysis. Before, we look in the next chapter in more detail at the Chinese reform policy.

²⁷ The anti-smuggling campaign in China has just shown this. The tariff income of the whole of China has increased in the last year by 80 percent and in Shantou the income has even increased almost 500 percent (Rosenthal 2000: 13).

3 The Reform Policy in China

Chapter 2 introduced the concept of SEZs and discussed the role of foreign capital in a transformation process. In this chapter we discuss the main features of the Chinese reform period since 1978 which constitute the bases for the development of the Chinese SEZs. For understanding and appreciating the role of the SEZs in the reform process in China, a more general look at the reform agenda is supportive. Reform agenda should not be misunderstood as a ready blueprint for the whole reform process which was available at the beginning of the reforms in 1978. Instead, many reform steps can be seen as reactions to existing problems or to earlier reforms which made further steps necessary, and even today a clear reform concept has not been developed. The only principle of the reformers at the beginning was that they were not interested in political reforms which would question the power of the Chinese Communist Party. McCormick (1990: 3) summarises: "The reforms may somewhat decrease the autonomy of China's Leninist state, but they are nonetheless intended to increase the capacity to rule."²⁸ Notwithstanding, the reforms had a major impact on the living conditions of the people and their possibilities in the society. McCormick concludes: "In political, economic, and cultural spheres there is more room for individual autonomy. These are enormously positive steps." (McCormick 1990: 201)

From our point of view, China followed a step-by-step approach in its reforms, but this does not mean (sometimes this is confused) that the individual reform steps were not extremely fundamental, far reaching and were realised in an extraordinary short period of time. From our point of view, in a step-by-step not all reform aspects are included in the reforms from the beginning, which simplifies the reform policy substantially. Dernberger (1997: 67) argues that the Chinese reform policy is based on the principle "if it ain't broke, do not fix it and if it is broke, fix it with a Chinese solution". This corresponds to the Chinese saying: 'groping for stones to cross the river'. This describes the Chinese reform process which concentrated on selected areas in each reform step in an excellent way, because it emphasises the careful and experimental nature of the reforms. It illustrates that there is typically not only one way to cross the river, but that the key task of the reform policy is to find a feasible one. Of course, this contradicts the aim of economic theory to formulate optimal policies, but in real world situations the information constraint is so serious that we do not see a way, how the determination of an optimal policy might be possible. This is only in addition to the problem of the optimality criterion.

²⁸ 'Autonomy' means in how much the state is constrained by social demands created by an autonomous civil society. The characteristics of a Leninist state are (1) state organisations thoroughly penetrate society and the autonomy of the civil society is severely restricted; (2) hegemonic role of the state in the economy; (3) public speech is controlled; (4) extensive system of secret police. (McCormick 1990: 7). The developments in China show that some of these characteristics have been weakened, but that some are still fulfilled.

Sachs and Woo (1997: 71) also interpret the developments in China as a gradual reform strategy and they attribute the strategy "to the logic of political compromise, and the complexity of political and economic change in a country of more than one billion people [...]." Dernberger argues in the same direction "that rather than try to understand these economic policies as a single piece, it is more useful to understand them for what they were: a series of policies introduced to cope with specific economic problems as those problems emerged and became serious." (Dernberger 1997: 57)²⁹ From our point of view, it is crucial to keep this in mind for the next sections, because the description of only the main developments can give the impression that a clear reform concept has existed what had definitely not been the case.

Chapter 3.1 gives a short overview over the historical development of the Chinese transformation process. Without taking the political arena in China which is described in chapter 3.2 into account the development of the Chinese SEZs cannot be understood. Political reasons helped the SEZs into being and the rivalry between central governmental and local interests supported their later development. Section 3.3 discusses the changes in the development objectives. Section 3.4 presents the development of foreign capital inflow in the whole of China. Section 3.5 then discusses the role of ethnic Chinese as foreign investors, which is for the development of the Chinese SEZs an extremely important point.

3.1 The Historical Development³⁰

In 1976, after the end of the so-called Cultural Revolution (1966-1976) with its devastating effects for the Chinese economy and society and after the members of the ultra-leftist fraction in the Communist Party (the Gang of Four) were deprived of their power, the possibility of a major policy change arose (the existing problems made such a policy change as well necessary). It opened the way for a more problem oriented policy, in contrast to the ideological policy based on political movements during the Cultural Revolution. With a lack of political support, Hua Guofeng became the weak successor of Mao Zedong. Hua's development concept - 'The Great Leap Outward' - was based on the idea that a massive import of foreign technology could initiate the development of the domestic economy. For this end, he even accepted a massive deterioration of the Chinese trade balance. Hua's policy was not successful, partly because of mistakes in the concept, partly because of the active opposition of Deng Xiaoping and his supporters, who did not agree with Hua's policy. Deng saw on the one hand the problem of the increasing trade deficit, on the other hand he emphasised that China was not able to absorb the foreign technology because of infrastructure, technical and managerial constraints (Howell 1993: 50).

²⁹ See also Walder (1995: 965) and Chen (1997b).

The major difference between Deng and Hua was that Hua judged the economic development policy of China before 1978 as basically correct. The full achievements, according to his interpretation, were only prevented by the sabotage of, for example, Liu Shaoqi and the Gang of Four. After the removal of these impediments the full success of the policy would soon materialise. The other politicians like Deng Xiaoping, Chen Yun and Zhao Ziyang who shaped the economic policy after 1978, saw instead an economic failure of the earlier policy and propagated the need of a totally new policy (Crane 1994: 78).

In 1978 Deng Xiaoping finally succeeded (the major platform was the Third Plenary Session of the 11th Central Committee in December 1978) in getting back to power, although officially he was only the chairman of the Central Military Commission (Chao 1994: 59). His ideas of economic policy and how he saw the changes of development in China were almost the total contrary to the position of Mao.³¹ Mao's position can be summarised as: regional and local self-sufficiency, rural collectivisation, central planning plus state control and ownership of industry, limited contact with the outside world and concentration on the development of heavy industry. Deng's policy on the contrary emphasised the role of the market, introduced new elements of family farming, shifted the emphasis from heavy to light industry and he saw a great opportunity in opening up to the outside world. Self-reliance of the regions and autarky became policies of the past (Cannon and Jenkins 1990: 6, a comprehensive discussion of the various aspects of regional development in China can be found in Hsueh 1994).

Fundamental differences existed in the development concepts of Deng and Mao. Deng accepted the working of comparative advantages and based his development concept on regional differences during the development process. In the light of modern economic theory, his concept is close to the growth pole theory. This theory is based on the expectation that an uneven regional development can produce a faster national economic growth. Deng's reform concept was not totally new, but was based on the idea of the Four Modernisations (*Si Ge Xian Dai Hua*) formulated already in the 1960s by prime minister Chou Enlai (Cannon and Jenkins 1990: 8). The four areas of modernisation should be agriculture, industry, national defence, and science and technology. Later it was added that there was a need for "correctly handling the relationship between self-reliance and international co-operation" (Chou Enlai 1964, cited from Leung 1986: 8). This was the foundation of the open-door policy concept of Deng Xiaoping (Deng's development concept will be described in detail in section 3.3).

³⁰ An excellent and very detailed description of the whole Open Policy can be found in Howell (1993). The problems of the Chinese reformers with re-interpreting the new policy in the light of the old ideology is discussed in Pearson (1991: chapter 2).

³¹ Deng Xiaoping described his policy as the second revolution of the Chinese Communist Party (Bhardwaj 1993: 1091).

At the beginning of the Chinese reform process, the necessity for change was obvious to everybody and there were no serious discussions about the necessity for a change in itself, it was only under discussion which path to follow. During the first years after 1978, when the reform politicians were still stabilising their power base, the influence of the more conservative, dogmatic politicians was quite strong. As a consequence the reformers had to formulate reform steps of the economic and political system which were still not so far-reaching as to question the fundamentals of socialism and which would not create too much opposition. A step-by-step approach was therefore an obvious choice.³²

The Chinese reformers had to face a number of very serious problems, although the overall situation was not as bad as in other transforming economies 10 years later. This gave the Chinese government more leeway for a more careful reform concept. The central problems were according to Müller-Hofstede (1983):

- a low growth rate of agriculture and industry combined with a high population growth so that the living conditions deteriorated continuously;
- a disproportional investment structure with an overemphasis of heavy industry (between 1952 and 1978 only 12% of total investment was in agriculture, 5.4% in light industry, but 54.3% in heavy industry);
- the low growth rates of the productive sectors did not produce enough new jobs so that the unemployment (although of course still hidden) was growing. In addition, the destruction of the education system during the Cultural Revolution resulted in a very low education level and quality of the work force;
- the wrong focal points in the investment policy produced increasing bottle-necks in energy supply and transportation capacity which hindered a faster economic growth;
- the increasing complexity of the economic system revealed the inability of the political system to guide and co-ordinate the economy, based on centralised planning.

The reformers in China had a number of advantages in comparison to the reformers in other transformation economies. The less pressing need for reforms has already been mentioned.

³² A discussion on “market authoritarianism” can be found in Bhagwati (1995). Also relevant is the discussion of Onis (1991) on the development state. See also Cheung (1997: 29)

Tab. 3: Development of GDP and Employment Shares in Three Sectors³³

		1970	1975	1978	1980	1985	1990	1995	1997
Real GDP*	Primary	79	97	102	126	198	241	337	367
	Secondary	91	137	175	203	302	371	791	965
	Tertiary	55	66	86	90	200	279	504	631
GDP Shares	Primary	35%	34%	28%	30%	28%	27%	21%	19%
	Secondary	40%	43%	48%	48%	43%	42%	48%	49%
	Tertiary	24%	23%	24%	21%	29%	31%	31%	32%
Employment	Primary	81%	77%	71%	69%	62%	60%	52%	50%
	Secondary	10%	13%	17%	18%	21%	21%	23%	24%
	Tertiary	9%	10%	12%	13%	17%	19%	25%	26%

Source: CSY (1998: 55 128), own calculations

* [bill. Yuan, in prices of 1978], data for 1970 and 1975 are nominal because of lack of reliable price indices for the pre-reform years.

Tab. 3 illustrates some other advantages. In the years before the reforms started, the primary industry made up only about one third of the GDP, but employed between 70% and 80% of the labour force. This central role of agriculture in the domestic economy in respect to employment, while not so important in its role for the economic growth was one major advantage. This opened the reformers the chance to start their reforms in an area with more potential for fast successes and less political opposition from ministries and other interest groups. Another advantage of the Chinese economy was the lower degree of centralisation. Thereby lower levels already had developed the capacity to use more decision-making power in an effective way (Tseng 1994).

The main features of the new policy can be summarised as decentralisation, diversification and the establishment of markets, the regional concentration on the development of the coastal provinces and the integration of the domestic economy into the world market. These features are closely connected. The aim of Mao to develop self-reliant regions had created an economic structure in which key industries were not concentrated in the most advantageous provinces, but were build up in almost every province. The necessary restructuring of the industry had therefore also a regional dimension. Deng formulated this aim with the words: "Let some localities in the country [...] prosper first [...] for they will set an example for others." (Beijing Review 1981). Cannon and Jenkins (1990: 15) describe this as: "Regional industrial specialisation was to be encouraged, and this has been linked with a consistent policy to promote the more rapid development of the coastal region, which is seen to have an initial advantage and lower production costs."

These reforms were not possible in a top-down planning fashion. On the one hand was the above mentioned limited ability of the planning system to co-ordinate such complex processes. On the other hand were political reasons as will be discussed in chapter 4. The reforms started in agriculture. The Soviet-style collective production

³³ Primary Industry: agriculture. Secondary Industry: industry and construction. Tertiary Industry: transportation storage, postal and telecommunications services, wholesale and retail sale, banking, insurance, real estates, research, social welfare, public security and so on.

system was both unpopular and extremely inefficient. Therefore, the first policy changes were the re-establishment of a decentralised decision-making process in the agricultural sector and the recreation of free markets for the products. The so-called "contract responsibility system" (*Cheng Bao Zhi*) was introduced, which guaranteed that the state remained the owner of the land while the farmers were able to make independent production decisions reacting to market prices.

In this system the farmers make contracts with a state institution in which they commit themselves to supply a pre-specified quantity of output as rent for the land. About the surplus quantity which the farmers produce, they can decide themselves. Either they can extend the contract with the state and supply additional output at a higher price (which is still lower than the market price). Or they can bear the full risk themselves and can try to market the produce directly on the newly established free markets. This alternative was of special attractiveness to those farmers who were not too far away from larger cities. The rising rural incomes were an effective incentive and the agricultural production increased tremendously:

Tab. 4: Sown area and Yields of Grain [mill. ha, mill. tons]

	1970	1975	1978	1980	1985	1990	1995	1997
Sown Area	119	121	121	117	109	113	110	113
Yield	240	285	304	321	379	446	467	494

Source: CSY (1992: 321, 328); CSY (1998: 400, 403)

Tab. 4 summarises the development of the sown area and the yields of grain between 1970 and 1997. The sown area has decreased after the beginning of the reforms from about 120 mill. ha to around 110 mill. ha, a decrease of over 8%. The main reasons for this decrease were on the one hand the loss to soil erosion, on the other hand and more important the increased demand for land as construction sites for industrial and residential buildings. At the same time the yields have grown tremendously. In the eight years between 1970 and 1978 the yields grew by 19% over the whole period of 8 years. Between 1978 and 1985 yields increased by 25% (in only 7 years and starting of course from a much higher level). Interesting is the development of the yields per hectare. In 1970, China had a production of about 2 tons per hectare, which increased to 2.5 tons/ha in 1978. Until 1997 it then increased to even 4.3 tons/ha, an annual increase of 2.9%. This reveals the tremendous impact of the reform policy on agriculture. The increase of the yields was also a result of the use of higher quality seeds, the use of more fertiliser and of greater mechanisation, but the new and effective incentives had their share. These changes in agriculture had direct effects on the industry, because the demand from agriculture induced additional growth in the industrial sector.

The agricultural sector illustrates one typical characteristic of the Chinese reforms. Often this is called the dual-track production and pricing system. The production and the prices were not freed totally from state interventions, but only at the margin decisions were directed more and more by market prices. This was true for private

enterprises and for collective and SOEs as well, which were still partly included in the planning system. At the same time, it was allowed to sell part of the production on the free markets. As a result of the impressive growth in the agricultural sector the responsibility system and the dual track price system were then after 1984 introduced in the industrial sector as well.

Tab. 5: Real GOVI by Ownership*

		1970	1975	1978	1980	1985	1990	1995	1997
Real GOVI	State-owned	186	260	329	363	492	628	877	762
	Collective-owned	26	61	95	112	244	410	944	1138
	Individual-owned					14	62	332	532
	Others					9	50	428	551
Shares	State-owned	88%	81%	78%	76%	65%	55%	34%	26%
	Collective-owned	12%	19%	22%	24%	32%	36%	37%	38%
	Individual-owned					2%	5%	13%	18%
	Others					1%	4%	17%	18%

Source: CSY (1998: 433), own calculations

* [bill. Yuan, in prices of 1978], data for 1970 and 1975 are nominal because of lack of reliable price indices for the pre-reform years.

Tab. 5 contains the development of the real gross output value of industry by ownership. It shows that the SOEs dominated the Chinese economy in the 1970s. At the beginning of the 1970s, they had a share in the output value of almost 90%. Even at the end of the 1970s, they still had a share of over three quarters. Although the SOEs more than doubled their real production value during the reform phase, they lost dramatically in share, to have just over one quarter in 1997. Until the end of the 1980s, it were mainly the collective enterprises which gained, but then in the 1990s the individual-owned and other enterprises gained rapidly. Although the output of the collective enterprises almost tripled between 1990 and 1997, their share increased by only 2 percentage points. The individual-owned and other enterprises³⁴ reached, through an annual growth rate of over 73%, a share of 18% each in 1997, after just 5% and 4% in 1990, respectively.

Not the privatisation of the SOEs was the aim at this point of time (this discussion did not seriously start before the early 1990s). Only the opening of the industrial sector for new entrants was intended and Tab. 5 demonstrates impressively that this policy was very successful in this respect. Naughton (1997: 7) has used the expression "growing out of the plan" for the induced development which describes the Chinese reform path in a very vividly way.³⁵ While this development is very clear in respect to the production value, the role of the different legal forms as employers gives another picture. The figures in Tab. 6 and Tab. 7 describe on the one hand the massive expansion of the labour force in the SOEs between 1970 and 1997 from 48 mill. to over 110 mill. and at the same time they display the decreasing role of the

³⁴ In the category 'others' also the foreign enterprises are included which were expanding rapidly in the 1990s.

³⁵ In China, by 1999 the number of private enterprises has increased to 1.23 million, which employed over 90% of the new employees and added 80% to the current economic growth (Scalapino 1999: 12)

SOEs as employers. But this decrease is much slower than the change in the production value. Even after two decades of reform policy, the SOEs still employ the majority of the labour force. Collective enterprises have increased the number of their employers slightly, but they share in the total employment fell from 22% in 1978 to 14% in 1997. The main new employers were the individual-owned enterprises and the other enterprises (containing especially the foreign-owned enterprises) with almost one third of the labour force in these two categories in 1997.

Tab. 6: Employment in Urban Areas [mill. persons]

	1970	1975	1978	1980	1985	1990	1995	1997
State-owned	47.9	64.3	74.5	80.2	89.9	103.5	112.6	110.4
Collective-owned	14.2	17.7	20.5	24.3	33.2	35.5	31.5	28.8
Individual-owned	1.0	0.2	0.2	0.8	4.5	6.1	15.6	19.2
Total	63.1	82.2	95.1	105.3	128.1	166.2	190.9	202.1

Source: CSY (1998: 130) own calculations

Tab. 7: Employment Shares in Urban Areas [%]

	1970	1975	1978	1980	1985	1990	1995	1997
State-owned	76%	78%	78%	76%	70%	62%	59%	55%
Collective-owned	23%	22%	22%	23%	26%	21%	17%	14%
Individual-owned	2%	0%	0%	1%	4%	4%	8%	10%
Others						13%	16%	21%

Source: CSY (1998: 130) own calculations

This approach, not to privatise SOEs directly, but increase the competition by allowing private enterprises, means that the political decision-makers had not to face opposition from the managers of the SOEs which would have been the case in the process of privatisation. This can be seen even today in the difficulties of the Chinese government in reforming the SOEs. While at the same time the liberalisation of the industrial sector created the chance for the development of a highly efficient private or semi-private industrial sector.

Although the SOEs were not directly reformed, their role in the domestic economy has substantially decreased. But non-SOEs in China are not the same as private enterprises.³⁶ Chinese private entrepreneurs have learned that in the Chinese institutional setting it is often safer to use the intermediate form of collective enterprises. They are then run like private firms, but the collectives (like villages or cities) have a direct interest in the enterprise. Therefore, the distinction is not as clear cut as in other economies. The fastest growing new enterprises belong to the so-called township and village enterprises (TVEs) as contained in Tab. 8 for rural areas. Although these enterprises are often managed like private firms, local governmental institutions normally own at least part of the assets and therefore try to influence the business practice. For this ownership structure we use the notion semi-private.

³⁶ Walder (1995: 966) argues that these enterprises are still "largely government owned and operated" and that this counts for the classification. But from our point of view it depends more on the behaviour of enterprises and often they behave more like profit-oriented, private enterprises.

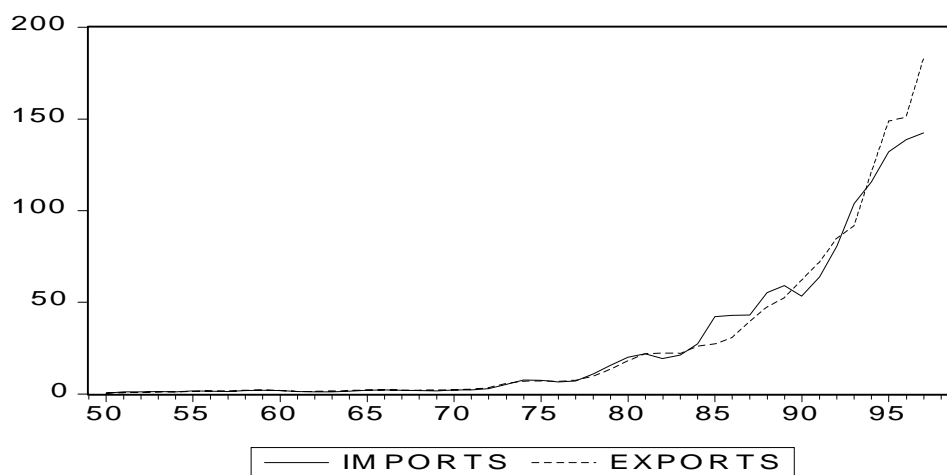
Tab. 8: Employment in Rural Areas [mill. persons]

	1970	1975	1978	1980	1985	1990	1995	1997
TVEs			28	30	70	93	129	92
Individual-owned						15	31	35
Private enterprises						1	5	6
Total	281	299	306	318	371	473	489	494

Source: CSY (1998: 131)

Impressive is the role of the township and village enterprises in creating new jobs mainly in rural areas. In 1996 the labour force of the TVEs reached its peak with 135 mill., starting with an employment of just 30 mill. at the beginning of the reforms (CSY 1998: 131). This was of great importance for the reforms in the agricultural sector, because the new job opportunities absorbed the surplus labour from agriculture.

Another area in which Dernberger's (1997) principle of "only if it is broke, fix it" was applied is the foreign sector. Besides agriculture and industry this was the third major area of reform. The foreign sector consists of international trade and of the flow of foreign capital. Before the reforms, the Maoist principle propagated a comprehensive self-reliance policy in respect to foreign trade. At the end of the 1960s, China's foreign trade dependency ratio was less than 5 percent, with no foreign borrowing or foreign investment. By this, China was one of the most autarkic economies in the world (Dernberger 1997: 63 and Cannon and Jenkins 1990: 8).

Fig. 3: Imports and Exports of China [bill. US-]

Source: data from CSY (1998: 620)

Fig. 3 displays clearly the effect of the new reform policy on the foreign trade of China. Imports and exports which were both below 10 bill. US-\$ per year before 1978 (before the 1970s imports and exports were even below 2 bill. US-\$), increased to 142 bill. and 183 bill. US-\$ in 1997, respectively (CSY 1998: 620). This is an impressive annual increase of 14% and 16% of imports and exports, respectively. With the reform policy, China also started to accept loans from international

financial institutions like the IMF, the World Bank and private banks (Müller-Hofstede 1983).

One major reform step was to decentralise the export and import decisions. Before 1978, international trade was for China only a way to overcome internal shortages. The trade was conducted by only a small number of specialised state-owned Foreign Trade Corporations, which were under the supervision of the Ministry of Foreign Trade.³⁷ An independent trade policy was not necessary, because all international trade was part of the mandatory plan. Then the trade system was horizontally and vertically decentralised. Ministries were allowed to conduct trade directly, more trading companies on provincial and local level were established and large enterprises were allowed to engage directly in international trade.

Since the open door policy came into effect, more and more trade took place outside the plan so that a trade policy in its own right became necessary. In 1978 100 per cent of all exports were in the mandatory planning. In 1988, this share had dropped to 45 per cent and in 1992 it had even decreased to 15 per cent (Fukasaku and Lecomte 1996: 14). A similar development took place with the imports. Already in 1993 the share of the total Chinese imports controlled by the plan had decreased to below 20 per cent. The expansion of the international trade is very impressively reflected in the ratio of the volume of international trade to GDP as presented in Tab. 9. In 1978 the value of the internationally traded goods was only 10% of the GDP in this year. Until the mid 1980s this ratio increased rapidly to reach 235%. In 1995 it had increased then even to 40% to fall back again to 36% in 1996 and 1997.³⁸

Tab. 9: Trade volume-GDP ratio 1978 - 1997³⁹

	1978	1980	1985	1990	1995	1996	1997
(Exports + Imports)/GDP	10%	13%	23%	30%	40%	36%	36%

Source: CSY (1998: 55, 620), own calculations

A major step for opening up the country was the promulgation of the ‘Law on Joint Ventures Using Chinese and Foreign Investment’ in July 1979 by the National People’s Congress (Tso 1998: 3) and thereby the acceptance of FDI in all parts of China.⁴⁰ With the Joint Venture Law, FDI was given a legal basis although this did not mean that foreign investors were already really protected by the legal system, but at least it was a first step in this direction (Crane 1990: 28). In this year, key Chinese representatives (Rong Yiren and Gu Mu) contemplated as well about the possibility of Wholly Foreign-Owned Enterprises (WFOE), which were not permitted yet (Howell 1993: 52).

³⁷ For a more detailed discussion of the former trading system, see Osborne (1986: 36).

³⁸ A major problem with these figures are of course the variations in the GDP-statistics.

³⁹ Überprüfen ob hier real GDP verwendet wurde.

⁴⁰ The law was at this time formulated in a very general form and it was not possible to use it directly. Over the years more and more details were added to the law so that it became more useful (Li and Li 1991: 161).

Tab. 10: Foreign direct investment 1978-97 [bill. US- $\text{\$}$]

	1979-83	1985	1990	1991	1992	1993	1994	1995	1996	1997
Contracted	7.7	5.9	6.6	12.0	58.1	111.4	82.7	91.3	73.2	51.0
Realised	1.8	1.7	3.5	4.4	11.0	27.5	33.8	37.5	41.7	45.3

Source: CSY (1998: 637)

Tab. 10 demonstrates that the opening of the country for foreign investors had not immediately attracted great volumes of realised FDI. In the first five years 1979-83 the total volume of realised investment was only 1.8 bill. US- $\text{\$}$, but the foreign investors at least demonstrated their interest by signing contracts totalling an investment volume of 7.7 bill. US- $\text{\$}$. Until 1991 the contracted and the realised FDI increased continuously with an annual growth rates of 13% and 17%, respectively. In the 1990s, especially after 1992, the inflow of foreign capital took off and China became in a very short period of time the main destination of FDI of all developing countries and one of the biggest receivers of FDI in the whole world.⁴¹

Another major policy change was the acceptance of regional differences in economic development as was already mentioned above. We will come back to this change in the development concept in section 3.3. Two reasons made this regional concept attractive to the new government. First, the earlier policy developing the whole country simultaneously had demonstrated itself as a total failure. Therefore, the usefulness of comparative advantages became obvious. Secondly, the regional approach allowed the reformers to build up political support for further reforms as will be discussed in chapter 4, by concentrating the most controversial reform steps in clearly defined areas.

Mainly because of political and ideological reasons, the political decision-makers were cautious towards FDI. From the beginning there was a strong opposition against the increase of foreign investment in the whole of China. Opponents like Chen Yun feared that this kind of foreign relations would make China vulnerable. He instead favoured the increase of foreign trade, because he argued that in this way it would be easier to control the foreign influence. As a compromise, the reform-minded politicians like Deng Xiaoping propagated the idea of a regionally limited policy (Crane 1990: 29).⁴²

In the case of China, the first zones which were established after 1979 were the special economic zones (SEZs). In later reform phases, a great number of other zones were established, including the 'Economic and Technological Development Zones', 'High Technology Development Zones', 'Bonded Areas', 'Free Trade Zones' and

⁴¹ It is still surprising that China was so successful, because the risks and costs of foreign investments can be extremely high. Negotiations are very time consuming, contracts are often subject to re-negotiation, a trustworthy legal system is missing, bureaucracy is almost everywhere and many other such difficulties can be found. Notwithstanding, the opening policy of China was obviously very successful in attracting large volumes of foreign capital.

⁴² As we will see below, this was mainly directed towards the political opponents, because the actual investment took place not so much in the SEZs, but the major share of the foreign capital flew from the beginning into other parts of the country.

'Free Banking Zones'.⁴³ One of the main problems for a clear characterisation of these zones in China is the mixture of different types in the same geographic region as we will see later-on. SEZs can contain all the other types of zones. The same problem arises in the literature because of the unclear definition of the notion of special zones. The four terms 'export processing zone', 'duty free zone', 'free economic zone' and 'special economic zone' are often used interchangeably. Sometimes they are distinguished, but not in a standardised way.⁴⁴

In September 1979, vice-premier Gu Mu announced the establishment of 'special districts' in the two southern provinces of Guangdong and Fujian. He used the notion of 'special districts' to emphasise that these regions and the EPZs in other countries were not identical. The main reason for this emphasis was a political one. China was the first socialist country to adapt a policy with this kind of special zones. Therefore, it had to be demonstrated that this instrument, dominated by market mechanism would only be used to support the development of the socialist economy and society (Crane 1990: 30). The EPZs of Taiwan and other Asian economies played definitely an important role in the policy formulation of the Chinese government (Chu 1986: 23). This can be seen from the fact that soon the zones were renamed into 'special export zones'. But the use of this expression did also not last for long. Already in May 1980 it was changed into 'special economic zones' to emphasise the more comprehensive nature of these zones in comparison to pure EPZs (as described in chapter 2), although only Shenzhen and Zhuhai were developed in the first years in such a comprehensive way (Chu 1986: 22). At the beginning, the reformers emphasised the possibility to control the effects of the foreign capital inflow and of the investors on the hinterland as the main advantage of the formation of such enclaves. As locations the four cities Shenzhen, Zhuhai and Shantou in Guangdong province and Xiamen in Fujian province were chosen. The concept of the Chinese SEZs, or better the non-existence of a concept is described by Crane (1994: 77):

"The zones did not emerge fully formed, the product of a comprehensive policy review; rather, they evolved gradually, buffeted by shifting political and economic fortunes. Modelled loosely on export processing zones in other developing countries, the SEZs were originally envisioned as areas where foreign investment would be both permitted and controlled in an effort to gain national economic advantage from world markets."

It is not absolute clear, where the original idea came from, but most researchers see the China Merchants' Steam Navigation Co. (CMSNC) as one of the most influential parts in the starting phase (Chu 1986: 24). This company is one of the oldest Chinese

⁴³ The 'New Development Area' Pudong in Shanghai and the 'Special Administration Zone' of Hong Kong have another quality and are therefore not included in this classification.

⁴⁴ An overview about the different types of special zones can be found in Grubel (1982) and Grubel (1984).

SOEs with substantial activities outside China. It is under the direct control of the Transport Bureau of the central government. In autumn 1978, during a meeting of officials of CMSNC with Ye Fei, the minister of transportation, the idea of special zones was discussed (Chan, Chen and Chin 1986: 88, Bhardwaj 1993: 1093). CMSNC proposed to install an industrial zone close to Hong Kong, where they could operate part of their activities for the Hong Kong market. Shekou, a peninsula adjacent to Hong Kong, which became later part of the Shenzhen SEZ, was chosen for this purpose. The industrial zone started its operation 1. January 1979 as an export processing site for CMSNC (Goodman 1989).

This kind of industrial zone was not a totally new element of the economic policy in China. Already since 1973 the Ministry of Foreign Economic Relations and Trade (MOFERT) had been setting up special bases for the production of export goods. For these bases not all of the standard regulations were applied so that they had greater flexibility in their economic policy, but these experiments were not as far-reaching as the new SEZs. Chan, Chen and Chin (1986: 89) come to the conclusion that “The Shekou Industrial Zone was merely a further logical step along this line of development.” In 1978, the Party Central Committee decided to use foreign capital through compensation trade, local processing for export orders, or subcontracting with the defined aim to increase China’s exports.

It is unclear whether the final initiative to establish SEZs came from central authorities or whether it was started on the local or provincial level. Some authors describe the process as accidental and local and they only see a very passive role of the central government. Leung (1986: 9) sees a key role of the central government: “In other words, Shenzhen, Zhuhai and Xiamen have been carefully chosen by the central government to take advantage, as well as to meet the challenge, of Hong Kong, Macao and Taiwan.” From our point of view this is not the correct interpretation. Our interview partners in Beijing (CITIC) and Shenzhen (city government) also saw the local politicians as the driving force at the beginning (personal interview November 1998).

Connected with the establishment of the SEZs and the inflow of foreign capital was the reform of the Chinese legal system, which was started from the beginning of the reforms. Over the whole reform period, a great number of new laws were passed. A major share of these laws regulated the role of foreigners in the domestic economy either in the form of trade or direct investment. This rationalisation of the legal system was initiated by the demands of the foreign investors for at least a basic protection of their interests. Obviously, especially for the SEZs clear legal regulations had to be formulated, because of their special role in attracting foreign investors. Shenzhen SEZ was an experimental zone for the introduction of new laws concerning foreign investment and to build up a legal system sufficient for a market economic system. The general framework of the laws in the SEZs is the national law.

Then there are special regulations on the provincial level (e.f. Provisional Regulation on SEZ in Guangdong 26.8.1980). In this general framework the local governments of the SEZs can pass specific laws and regulations for the activities in the zones. But there is no general legal framework for all SEZs, instead, each individual zone created its own legal system (Bolz, Lösch and Pissulla 1990: 109).

The development of the zones and the increase in the complexity of the institutional setting was not a linear process, on the contrary. During the whole period since the establishment of SEZs in China started in 1979, opponents tried to block this policy.⁴⁵ Again and again, the reformers succeeded in extending the reforms although they had to make concessions to the conservatives in between. In 1981, the opponents used a number of corruption and smuggling scandals in Fujian, Guangdong and Zhejiang province to attack the reform policy. As a result of an anti-smuggling conference the central government increased its control over the southern provinces and the SEZs again (Howell 1993: 57). In 1982 it was discussed to establish SEZs in Shanghai and Chongqing as well. This was in the end not realised, but both these large and influential economic centres got more independence for their economic policy, especially in the field of international trade. The main reason for this slow extension of the reform policy was a new campaign of the opponents against the SEZs. In this year, the SEZs were not only interpreted as the source of the increasing economic crimes and as the continuation of the influence of foreign against Chinese interests as was the case in the 19th century in the treaty ports (Djumena 1995). The central government reduced the autonomy of Guangdong province, because of charges of mismanagement. At this time, the whole concept of SEZs was in question (Howell 1993: 59).

After a positive report of the State Council Economic Research Centre in late 1982, the SEZs got a new push. They got an additional function of serving as experiments for the whole country. But the overall discussion and the unclear situation about the further policy regarding the Open Policy had a negative effect on the interests of the foreign investors and as a result the volume of negotiated FDI decreased. In 1983, different policies were formulated to build up new confidence with the foreign investors. On the one hand it was discussed to establish additional SEZs in Shanghai and in Hainan (a large island in the South-China sea which was part of Guangdong province at this time). On the other hand, the joint ventures got additional rights, including an extended access to the domestic market for those enterprises located in Shenzhen. WFOEs were allowed to open up in the rest of the country on a trial basis. In 1984 the number of new enterprises with foreign participation increased

⁴⁵ For an excellent analysis of the political discussion behind the establishment of SEZs and their existence, see Crane (1994). The opponents of the radical opening policy can also be found among the so-called reformers. Deng Xiaoping and his closest allies Zhao Ziyang and Hu Yaobang belonged to the radical reformers, two other groups were the conservative reformers, who concentrated on the ideology and the moderate reformers, who propagated a slower and more careful policy.

tremendously. According to Bolz, Lösch and Pissulla (1990: 142) the specification of the joint venture law in September 1983 was the main reason for this change. At the end of 1983, the Open Policy came again under attack, because all negative incidents, like corruption, smuggling and prostitution cases were interpreted by the opponents as a direct consequence of the Open Policy, but this had only little impact on the foreign investors.

By visiting the SEZs himself, Deng Xiaoping initiated in 1984 a new phase of strong support for the Open Policy. As a result of his visit, 14 coastal cities were opened for foreign investors and got similar rights as the SEZs, although not as far-reaching (Economic and Technological Development Zones with their concentration on knowledge and technology intensive industries were established there). At this time, about 13% of the total Chinese labour force lived in the coastal cities, 23% of industrial production and 40% of export production came from these cities (Bolz, Lösch and Pissulla 1990: 72). At the same time, Xiamen SEZ was extended to a larger area. New regulations gave foreign investors more access to the domestic market when they used higher technology. In this case, the Chinese government was for the first time willing to trade market access against technology transfer. Because of increasing complaints of inland regions, 24 cities in the hinterland also got some limited possibilities to attract foreign investment.

In 1985, the Open Policy was extended to other large areas including the Pearl River Delta, the Yangtse Delta, and the South Fujian Delta. In the early years of the reforms, the Open Policy was seen more or less as supplementary to the domestic reform. Now the emphasis changed and it became an integral part of the whole reform concept. Zhao Ziyang summarised: "The Four Modernisations rely first on reform and second on opening up. These cannot be separated." (Howell 1993: 70) As a consequence of the increasing decentralisation policy, the central government lost control over the macroeconomic development. It had transferred many of its instruments to influence the macro economy to the local political levels, which were mainly interested in the local development and did not take so much the national interests into account. The result was a massive imbalance in economic development and a new attack from the opponents of the reform policy. As a consequence, the government re-centralised major reform areas, including the foreign trade system, to regain control over the further development. Gu Mu summarised this: "Things were developing too fast and time is needed to consider and rationalise." (Howell 1993: 72)

In June 1985, Deng Xiaoping emphasised that Shenzhen were just an experiment and therefore the economic success were not guaranteed. This statement had a massive negative influence on the investment behaviour of foreigners. The number of newly established enterprises decreased by 50% in 1986 (Bolz, Lösch and Pissulla 1990: 142). At the same time, the investments in capital construction especially in the non-

industrial sectors was restricted drastically. It was hoped that this restrictions would help to channel more foreign capital in the industrial sectors. The entrepot trade of the SEZs was limited by establishing a real boarder between the SEZs and the rest of the country (Chan 1991: 11.4).

The separation of the trade companies from government institutions and thereby a new liberalisation of the trade system was conducted in 1986. Government officials were not allowed any longer to work at the same time in foreign trade companies. The operation period of joint ventures was extended from 30 to 50 years and foreign-funded enterprises got again more access to the domestic market. In the so-called 22 new regulations, further incentives for foreign investors were formulated, especially lower costs for land and labour and additional tax incentives were added. The Open Policy was extended in regional dimension, including various boarder areas with the aim to further increase the trade relations with the Soviet Union and Eastern Europe.

The anti-bourgeois liberalisation campaign in early 1987 created once more concerns among the foreign investors about the further development of the Open Policy and the sustainability of the reform concept. 12 supplementary regulations for the encouragement of foreign investment were passed. But at the same time the control of the central government over the international trade was increased. Different measures were introduced (contract responsibility system, import/export licences), which guaranteed a stronger central control over foreign trade than during the most liberal time in 1984.

The major change for 1988 was the establishment of Hainan as an independent province and as a SEZ. Hainan received a greater decision-making power than any other SEZ or province. At the same time, Guangdong and Fujian, the two provinces with SEZs, became experimental areas for overall reforms. Premier Zhao Ziyang announced his plan to transform the whole coastal zone into open areas. All the new steps created great confidence with the foreign investors and the volume of foreign investment increased rapidly. Foreign banks got the possibility to do Renminbi business in the SEZs. But then an increase in corruption and other economic imbalances gave again the conservatives the possibility for an attack against the Open Policy.

The problems increased in 1989. The inflation rose fast, many corruption scandals surfaced and a general dissatisfaction with the reform policy developed. This translated into the demonstrations in many cities all-over China, which were ended by the massacre in Beijing 4th June. The reaction outside of China was the introduction of sanctions and a halt of most programs, at least for a short period. Domestically, the radical reformer Zhao Ziyang was put under house arrest and many of his supporters lost their positions and their influence in 1989 and 1990. FDI fell in

the second half of 1989 by 43 per cent in comparison to the same period one year before.

The deterioration of the situation continued in the first half of 1990. In all SEZs and other open areas, many foreign invested companies made loses and an increasing number was closed (e.f. in Zhuhai SEZ one third of the enterprises was closed). The new contracted value of foreign investment was 22 per cent lower than in 1989. The only positive sign was that the number of registered WFOE increased dramatically. Shanghai became a new focus of the Open Policy, which was continued by the new political leaders (like e.f. Li Peng), only at a slower pace. Late in 1990 the foreign investments increased again and imports and exports picked up, producing a trade surplus of over 8 bill. US-\$ at the end of 1990. Because of the improvements in the economic situation, the Open Policy was expanded by opening up greater areas in the hinterland. In 1990, the State Planning Commission recommended that not any area in China would be excluded from the industrial policy included in the SEZ approach. This would of course mean nothing else than the end of the SEZ policy. But although this recommendation was included in the Eighth Five Year Plan, the end was not realised yet (Chan 1991: 13)

1991 saw a further liberalisation of the foreign trade system. Even Li Peng, who was a major critique before, was now demanding deeper reforms and more opening. In the political arena, the radical reformers managed to get many of the positions back, which they had lost in 1989 and 1990, although the struggle between conservatives and radical reformers continued. Further free-trade zones were established and additional cities were opened for foreigners so that the total number of special zones reached 747.

For the spring festival 1992, Deng Xiaoping travelled to the South of China, to Shenzhen, Zhuhai and Shanghai, not only to inspect the zones, but to give his full support for a further deepening of the reforms. First comments were made (by Qiao Shi) that the SEZs should not only lead in economic reforms, but that economics always include political questions so that the SEZs should lead in reforming the political structure as well. Foreign capital was now permitted as well in insurance, finance and ocean shipping, which was not allowed before. In addition, other restrictions for foreign investors in joint ventures were abolished. An official extension of the Open Policy for another 100 years was announced. During the 14th Party Congress the future aim of establishing a 'socialist market economy' was included into the constitution - a major success for the radical reformers. The establishment of Pudong New Area in Shanghai means a large expansion of the SEZs, because the aims which are persecuted by the zone in Pudong are much more far-reaching than the aims of the five SEZs.⁴⁶

⁴⁶ The Pudong New Area contains like the SEZs a number of other zones: (1) Lujiazui Finance & Trade Zone; (2) Jinqiao Export Processing Zone; (3) Waigaoqiao Free Trade Zone; (4)

Since 1993 the discussion about the SEZs has diminished in China and a further liberalisation of the foreign trade system became more essential.⁴⁷ Tariff rates were lowered, import quotas and other import restrictions were abolished and other reforms were introduced to fulfil the preconditions for the WTO negotiations and a WTO membership. Besides, other aspects of the reforms came into the fore of the political discussion like the reform of the banking and the tax system, the restructuring of the SOEs and the further development of the legal system, just to mention some reform areas. The discussion has also shifted away from the SEZs to more general questions of regional development, because the expectations of the Chinese government that the fast economic growth in the coastal zones would automatically transfer to the hinterland have not been fulfilled. Therefore, it has been discussed, which instruments could be used to initiate a development in the interior provinces as well. At the same time, the SEZs got additional concessions, like the regulations that after January 1997 the foreign invested enterprises with 'advanced technology' were allowed to sell 100% of their products on the domestic market (Henley, Kirkpatrick and Wilde 1999: 241)

The Chinese reforms were not a linear and unproblematic development, on the contrary. Permanently, the discussions and power struggles between the reformers and the conservatives made changes in the reform path necessary, depending on the changing majorities. During the 1990s again and again a discussion took place on the abolishment of the SEZs. It was requested that their privileges would be either reduced or extended to the whole country, because no reason were to be found to favour these zones anymore. So far, the discussion has not yet led to the actual abolishment of the SEZs. The developments of the overall Chinese reforms demonstrate that with the Chinese reform path it is also possible to react to changes in the political power play (which is discussed in more detail in the next section) without abandoning the whole reform aim.

An interesting discussion of the interaction between different reform steps is Zhu (1996), who presents the increased participation of private investors (domestic and foreign) in the development of local infrastructure, which was before a sole responsibility of the state.

Zhangjiang Hi-tech Park. Shantou SEZ, as an example for the SEZs, contains the following zones: (1.) Shantou Bonded Area, (2.) Shantou New and Hi-tech Industrial Development Zone, (3.) Nan'ao Island Development and Experiment Zone (4.) Chaoyang City Economic Development and Experiment Zone and (5.) Chenghai City Laiwu Experiment Development and Experiment Zone (CFERS 1998: 4-7).

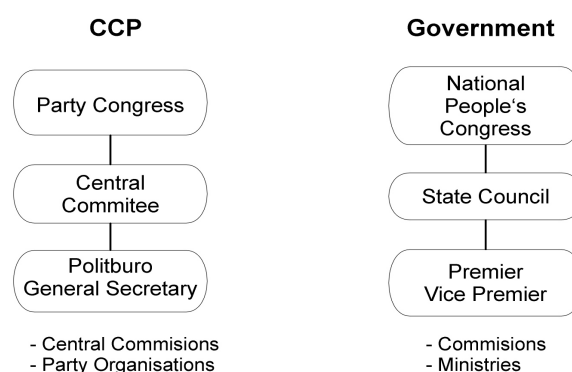
⁴⁷ Billing (1995: 2) cites Hu Angang of the Chinese Academy of Social Sciences that the SEZs played a useful role at the beginning of the reforms, "but have outlived their usefulness. It's now time to level the playing field so that the inland provinces will have an equal shot at attracting foreign investment."

3.2 The Political Process in China

We analyse now the main features of the political decision-making process in China. We need this information in section 4.1 where we look at the political economy of SEZs in China. It is important to include the main institutions and their interaction which are involved as players and influence the outcome of the political process to fully understand the changes which have taken place after 1978 during the Chinese reforms. The institutional setting and the special ways of bargaining in the political arena in China can explain a major part of the reform process. A central point in the discussion of transformation processes is the political feasibility of specific policy instruments. Many comments on China and the Chinese policy give the impression that only the Communist Party makes decisions or that the decision-making power is even more reduced to one single person like Deng Xiaoping. Typically, no distinction is made between the Chinese Communist Party (CCP) and the Chinese government. This is a much too simplified, because these are no homogeneous groups with only a single interest. We have discussed in section 2.1 that the reform minded politicians in a transition economy are constrained in many ways. One major constraint is the willingness of the people to accept the reform plan. Even more important are constraints in the political arena with the necessity to gain the majority support in the political establishment and to overcome the opposition of other power groups.

In China, new policies are the result of complicated bargaining processes between the major players. These players are the institutions of the CCP (including Politburo, Central Committee and Central Commissions) on the one hand and the governmental organisations (State Council, Ministries, Local Governments and National People's Congress) on the other. Fig. 4 gives a very rough overview of the main institutions:

Fig. 4: Main Political Institutions in China



The party institutions are the main political centres, especially the Politburo with the General Secretary. It was in the logic of any socialist system that a government existed, but that it was traditionally closely controlled by the party. This is also true for China as Zhou Yi emphasises:

All the major and important general and specific government policies, and all major questions concerning the government's work, must first be submitted to the central [party] authorities for examination and approval. And only after the relevant discussions are carried out by the central authorities, and the relevant decisions or approval given by the central authorities, can major and important general and specific government policies be implemented. (Zhou Yi 1987 cited from Shirk 1993: 59)

Zhou Yi clearly describes the relation between party and government. In addition, the party leaders are not independent in their decision-making. Although the party leaders appoint the officials in party, government and military, these are again the members of the Central Committee of the party which has the authority to choose the party leaders. Shirk (1993: 83) summarises this:

Government officials are both the agents and the constituents of party leaders; local officials are both the agents and the constituents of central leaders. Officials hold their positions at the pleasure of the party leadership, but party leaders hold their positions at the pleasure of officials in the selectorate. The lines of accountability run in both directions, turning a hierarchical relationship into one of "reciprocal accountability".

It is essential to see that the decision-making process in China does not follow a pure top-down approach. Instead a complicated process leads to an agreement between the different institutions. One of the major institutions in the formulation of new policies is the Central Committee of the CCP. To realise a new policy or to position new persons in leading position, it is necessary to gain the support of the majority of the Central Committee.⁴⁸

The Central Committee consists of members of three main groups (1) the central CCP and central government officials; (2) the local party and government officials; and (3) the army officers. During the reforms the local officials formed the largest groups and through them the reformers gained power after 1979. Deng Xiaoping and his close allies succeeded in extending the Central Committee by more local officials and at the same time supposed a policy change of a stronger decentralisation of the decision-making power from the party to government institutions and from central to local levels. This policy got the support of the Central Committee, because it was in the interest of the majority of the members, especially the local representatives.

The decentralisation included the permission to conduct experiments in the economic field on the local level (Shirk 1993: 63). This kind of experiments has a long tradition in the Chinese policy making. Already Mao used this instrument to build up support for his ideas. The most famous examples were Dazhai and Daqing, one

⁴⁸ A kind of majority rule seems to be applied, although the exact decision rule of the Central Committee is not known (Shirk 1993).

model village and an oil field which represented the policy of Mao. Dazhai for example was a village which irrigated their fields without help from outside, especially no government support, at least officially. Mao used this as an example for his further policy and he propagated the extension of this kind of self-reliance to other areas. In later years, it became clear that this was not really an experiment in the strict sense. The government had initiated the whole process and great amounts of financial support were directed into the village to guarantee the success (Talas 1991: 58). The same mechanism was replicated in later years with the SEZs. Officially, they were started as experiments, but in fact it was a present to a local institution to gain their support, with the effect that this 'experiment' must not fail (Shirk 1993).

Another strategy of the reformers to reduce the opposition in the Central Committee was to avoid early plans to reform the large SOEs. The interest of these enterprises were represented by the officials of the influential ministries and the whole central bureaucracy. Because these interests were not affected directly, the central bureaucracy was willing to transfer some of their decision-making power to local levels. The local governments were encouraged by the reformers to support the development of private and collective enterprises, which would increase competition and would put pressure on the SOEs to restructure.

To summarise, the reformers needed the support of the Central Committee and reached it by strengthening the role of local representatives in this body and at the same time by transferring decision-making power to exactly this group and their regions. It is this regional aspect of the political arena in 1979 which is one of the main reasons for the establishment of SEZs in China, which will be discussed further in section 4.1.

3.3 The Development Objectives of China

A very fundamental question was and still is what the right development path for China is. As was already described in the introduction, there are two main development concepts, which were both very much discussed especially in the 1960s and 1970s. On the one hand, it is the import substitution policy, which tries to protect the domestic industry and wants to give thereby the domestic production the chance to develop and to substitute for imports. On the other hand, the export promotion policy favours an opening of the country to the world markets and expects the largest positive impact on the development of a country from this competition in exports.

In many respects can China be compared to other Asian countries, so that the proposal of following an export-promotion policy is not surprising. At the same time has China many specific characteristics which cannot be found in other countries. First of all there is the pure size of the economy. Although nowadays the purchasing power of the people is still not very large, the potential for future growth is immense.

Wang (1988b: 193) argues against the export-orientation. Instead he favours a policy which concentrates on the development of the domestic market as the first priority. This would at the same time benefit the opening to the outside world, because MNEs are interested in acting in a clear, well-defined and protected market environment. Wang argues that China is a special case, because “[...] it has a huge expanse of territory with regions at extremely different levels of economic growth.” (Wang 1988b: 191) He refers to the five stages Stoeber (1985: 5) discusses, because the ability to absorb and to use foreign capital efficiently depends on the development stage of the host country.

Article 3 of the Law of the PR China on Foreign-Capital Enterprises gives some key information on the expectations of the Chinese government:

Article 3 Enterprises with foreign capital shall be established in such a manner as to help the development of China's national economy; they shall use advanced technology and equipment or market all or most of their products outside China.

The article illustrates that China hoped for the support of foreigners in the development of the domestic economy which lacked far behind in respect to technology, equipment and marketing experiences. Although the rapid economic development was also one of the major aims of Mao and his policy, his development strategy failed totally. It was his concentration on the rapid development of heavy industry, while light industry and agriculture were neglected. The regional development strategy resulted in a massive waste of resources. Mao's xenophobia of the West brought him to the decision to relocate most of the key industries from the coastal and north eastern provinces into the mountainous hinterland - the so-called '*third front policy*' (Hsueh 1994: 20). Although these factories were newly erected, in many cases they could not produce at full capacity, some could not even produce at all, because of miss-management and bottlenecks in infrastructure like electricity, water or transportation. Some authors argue that this redirection of the investment flows (the major part of total investment were realised in the hinterland) and the concentration on the interior provinces had purely the aim to limit the regional imbalances, but the strategic arguments seem to be more plausible as the main cause (Chao 1994: 60)

Mao used this extensive redistribution policy before 1976 of course as well to reach his aim of a simultaneous development of all regions. After 1978, the development strategy was changed to an approach which included unequal stages of development in different regions. First, only some regions with special advantages should be developed and later-on support the development of the other provinces and regions. The conservatives hoped for a failure of the experiments so that the traditional planning system would be sustained in the rest of the country (Wall 1993: 243). Prime minister Zhao Ziyang formulated the development strategy on the VI. National

People's Congress that those large and middle sized cities along the coast and selected cities in the interior should be first developed as growth poles. The development of the less developed areas with less favourable conditions would follow later. (Göbbel 1986: 26).

Because of their geographic location the coastal provinces have a comparative advantage in international trade. They have a much longer tradition in trading than the inner provinces. One of the main arguments against these provinces were their low standard of economic development. In 1978, Fujian was one of the ten poorest provinces in China and the situation in Guangdong was not much better. Notwithstanding, special preferential regulations concerning international trade and their economic development were formulated for the southern coastal provinces. Besides the economic reasons, one can find political ones. Because of the low level of economic development in these provinces, a failure of the new policy would not affect the whole country too much. The southern regions were overall much more interested in the opening up, while the inner provinces preferred a more protective trade policy. With the opening of SEZs in southern China, both wishes could be fulfilled at the same time. Guangdong and Fujian, the two provinces with SEZs had the opportunity to expand trade and to make experiments with different sets of regulations. At the same time, the rest of the country was still protected behind the old tariff wall. In addition, these two provinces were the main origin of many of the overseas Chinese, who were already in the 1950s and 1960s attracted to invest in those regions (see section 3.5 ; Wall 1993: 244 and Müller-Hofstede 1983: 22). Finally, the closeness to Hong Kong and Macao was not only of economic importance, but had also a political role to play. The close co-operation between the mainland regions and the close neighbours should be used to build up the basis for a later reunification of the areas (Lin and Warr 1993: 3 and Chen, Chang and Zhang 1995: 692).

In general, the basic conditions in the regions of China are essential for an overall development strategy of the country. These conditions are extremely different in the three regions (eastern, central, western), which are defined by the Chinese government. Therefore, large variations in the potentials for economic growth exist. The Chinese government expected a trigger-down effect so that the development of regions with high growth rates would automatically help to develop the other regions as well. The experiences of China have manifested that these expectations have not been fulfilled and that one of the main problems in the formulation of the aims of the SEZs was the multiplicity of aims, which were partly contradicting. The SEZs were to be separated from the country to avoid negative effects, but at the same time positive effects should be transferred; the SEZs should support the economic development of the regions with SEZs and of the rest of the country, to mention just two examples. In the formulation and design of special zones, the host country government should therefore ask, whether this kind of zones are the best instrument

to reach development aims in other regions as well and whether the different aims of the SEZs are consistent or contradicting.

For the future development of the three aforementioned regions in China general predictions are possible. First of all, the eastern region along the coast will shift to a promotion of knowledge- and capital-intensive goods which are characterised by higher quality so that increasing exports to the world markets are possible. The central region first concentrates on the development of general manufacturing industries and only in the second stage it will develop according to the development path of the eastern region. Finally, the western region with its disadvantages for an economic development will have to concentrate on resource based production processes and on agriculture (Nournoff 1988: 205).

3.4 FDI and its Role in China's Foreign Trade

One of the major aims of the Chinese Open Door Policy was the integration of the Chinese economy in the international economic system, including international capital movements and international trade.⁴⁹ This was in a time, when a major shift in the international flows of FDI into developing and developed countries happened. During the 1980s, the developing countries received with 15 bill. US-\$ about one third of the total FDI. In the 1990s the share of the developing countries increased continuously, though the developed countries are still receiving the major part of foreign capital flows (Li and Li 1999: 32, see also p.6 in the Introduction). In this section we analyse the development of the foreign capital inflow into China and look at the role of the enterprises with foreign capital for China's imports and exports. There is one major problem in the use of the inflow data of foreign capital in this analysis. Although it is of course common to aggregate the different kinds of FDI, in the case of China and in the analysis of the welfare effects this might be a wrong simplification, because the effects of the foreign capital depends very much on what kind of production is established with the foreign capital.

We will see later-on that in China, the investors from Asia have mainly invested in simple assembly processes, while western investors have set up more technology intensive productions. Obviously, the potential effects of these different kinds of investments are very different. The publication of only one figure for the foreign capital inflow covers these differences and it is therefore not enough to conclude from the absolute value on the possible effects of the foreign capital. For this end, more disaggregated data would be necessary, but are not available. Tab. 11 consequently contains the development of the total, aggregated foreign capital inflow into China - of FDI (columns 2 to 4) and of foreign loans (but one should keep this limitation in mind):

⁴⁹ For excellent descriptions of the early phases of the open door policy see Lardy (1995) and Kueh (1992).

Tab. 11: Foreign Capital Inflow into China [bill. US-\$]

Year	Realised FDI			Foreign Loans		Total
	Amount	Cumulated	% of Total	Amount	% of Total	
1979	0.1	0.1	4%	2.5	92%	2.7
1980	0.2	0.3	6%	2.9	86%	3.4
1981	0.4	0.7	9%	3.7	88%	4.2
1982	0.4	1.1	19%	1.8	76%	2.3
1983	0.5	1.6	26%	1.1	59%	1.8
1984	1.3	2.8	47%	1.3	48%	2.7
1985	1.7	4.5	36%	2.7	58%	4.7
1986	1.9	6.4	26%	5.0	69%	7.3
1987	2.3	8.7	27%	5.8	69%	8.5
1988	3.2	11.9	31%	6.5	63%	10.2
1989	3.4	15.3	34%	6.3	63%	10.1
1990	3.5	18.8	34%	6.5	64%	10.3
1991	4.4	23.1	38%	6.9	60%	11.6
1992	11.0	34.1	57%	7.9	41%	19.2
1993	27.5	61.6	71%	11.2	29%	39.0
1994	33.8	95.4	78%	9.3	21%	43.2
1995	37.5	132.9	78%	10.3	22%	48.1
1996	41.7	174.7	76%	12.7	23%	54.8
1997	45.3	219.9	70%	12.0	19%	64.4

Source: CSY (1998: 637), own calculations

Tab. 11 indicates that in the first years of the reforms the inflow of foreign loans was much more important for the domestic need for capital than the FDI. Until the early 1990s, the foreign loans were close to 60% or above of the foreign capital inflow into China (with the only exception of 1984).⁵⁰ In the later years, FDI increased so rapidly that this kind of capital inflow became the dominant way, while the foreign loans only increased slowly. It demonstrates the very fast increase in the volume of FDI in the years 1992 to 1997, to reach over 45 bill. US-\$ in 1997, with the total accumulated foreign investments reaching 222 bill. US-\$. In total over 300,000 foreign invested enterprises were approved of which 145,000 were in operation in 1997. Together they employ 10% of the non-agricultural population (17.5 mill. people). The foreign-funded enterprises made almost 15% of the total investments in fixed assets and produced 18.6% of the industrial output of China. Over 13% of the nation industrial and commercial taxes were paid by foreign invested enterprises (CCPIT 1998). Portfolio investments are not very important for China yet, because the stock markets are opened only slowly (Suryadinata 1995: 196).

In contrast to Tab. 11, which presents the realised foreign investments, Tab. 12 contains the signed contracts by different ownership structures. It illustrates that

⁵⁰ Wei (1995) shows in his econometric analysis for 1990 that China has not received an adequate amount of FDI from the U.S. and Europe in comparison to an average host country. Wei therefore concludes that China had at the beginning of the 1990s still large potentials to attract more investments from these countries which is from our point of view still the case so that the composition of FDI inflows will further change over the next years.

during the 1990s, the greatest amount of foreign capital was contracted in the form of equity joint ventures.⁵¹

Tab. 12: Signed Contracts on FDI in Different Legal Forms [bill.US-\$]

	1990	1991	1992	1993	1994	1995	1996	1997
Equity JV	2.6	5.4	30	54	40	40	32	21
Contr. JV	1.3	2.0	14	25	20	18	14	12
WFOE	2.4	3.5	16	29	22	34	27	18
Total	6.3	10.8	60	109	83	91	73	51

Source: CSY (1996: 598, 1998: 637, 638), CFESY (1995 : 288)

Tab. 12 demonstrates that the figures of the signed contracts could be very misleading, because the contracted volumes display a much larger volatility than the realised volumes of FDI. Comparing the contracted volumes with the realised FDI clearly shows that while the realised volumes increased continuously between 1979 and 1997, the contracted amounts had large fluctuations in the 1990s. This is not too much of a surprise because the contracted volumes are declarations of intend and are therefore much more dependent on the overall atmosphere and change more with changes in the investment conditions.

Tab. 13: Source Countries of FDI in China [US\$-bill., %]

	1990		1992		1995		1996		1997	
Hong Kong	1.9	54%	7.7	70%	20.5	55%	20.9	49%	21.6	41%
Taiwan	0.2	6%	1.1	10%	3.1	8%	3.5	8%	3.3	6%
Singapore	0.1	1%	0.1	1%	1.9	5%	2.3	5%	2.6	5%
South Korea	0	0%	0.1	1%	1.0	3%	1.5	4%	2.2	4%
Asian NIEs*	2.2	61%	9	82%	26.5	71%	28.1	66%	29.7	56%
Japan	0.5	14%	0.7	6%	3.1	8%	3.7	9%	4.4	8%
United States	0.5	14%	0.5	5%	3.1	8%	3.4	8%	3.5	7%
UK	0.0	0%	0.0	0%	0.9	2%	1.3	3%	1.9	4%
Germany	0.1	2%	0.1	1%	0.4	1%	0.5	1%	1.0	2%
France	0.0	1%	0.1	1%	0.3	1%	0.4	1%	0.5	1%
Total	3.5		11.1		37.5		42.1		52.4	

Source: CSY (1998: 639), CSY (1992: 589), own calculations

*'Asian NIEs' contains the sum of the previous four rows of Hong Kong, Taiwan, Singapore and South Korea.

⁵¹ Foreign investors have the following possibilities to get involved in production in China:
Sino-foreign Equity Joint Venture: An enterprise set up within China jointly invested and managed by a foreign firm and a Chinese company. Risks of profit and loss are shared according to the proportion of investment contribution by each partner.
Sino-foreign Contractual Joint Venture: An enterprise set up within China jointly invested and managed by a foreign firm and a Chinese company. Rights and obligations, proportions of profit distribution or shares of risks and liabilities as well as the adaption of management and the settlement of assets are specified in the contract.
Wholly foreign owned Enterprises: An enterprise established in China by a foreign firm exclusively with their own capital. It is a limited liability company that enjoys the status of a legal person and exclusively taxes risks and profits. (SCIG 1998: 30)
Other forms of cooperation which are also sometimes included in the FDI statistics are the **joint development** (agreements mainly for off-shore oil exploitation), **compensation trade** (the foreign partner provides the production equipment and the technology and is compensated in kind of product) and **processing trade** (the Chinese partner processes the materials the foreign partner provides and is paid for this) (Li and Li 1999: 52).

Tab. 13 summarises the development of the inflow of FDI in respect to the source countries in the 1990s. Through the whole of the 1990s, as in earlier years, the Asian NIEs were with 60 to 80% the major source of foreign capital inflow.⁵² Especially, the investors from Hong Kong controlled the major share of investments, between 40 and 70% during the 1990s.

It is essential to note that besides the standard problem of the definition and measurement of FDI which are well-known and which we do not want to discuss here, there are a number of specific problems concerning the foreign investment data in China. On the one hand the figures for Hong Kong are not only investors from the city state, but many multinational enterprises chose their Hong Kong representative offices as investing unit so that these investments which originally stem from investors in other countries are counted as investment from Hong Kong. The data for Hong Kong are therefore larger than the actual FDI. On the other hand, Chinese capital has been transferred in large amounts abroad to be reinvested as foreign capital in China - the so-called round-tripping - to enjoy the privileges of foreign capital. Harrald and Lall (1993: 24) estimate for 1992 that this kind of round-tripping applied to 25% of the FDI of this year (United Nations 1995: 59). It seems that in later years the relative significance of round-tripping has decreased, while the FDI inflows have increased from 28 bill. US-\$ in 1993 to 34 bill. US-\$ in 1994 for example, FDI outflow has decreased from 4.4 to 2 bill. US-\$ in the same period (United Nations 1995: 60). Round-tripping of course distorts the volume of foreign investment as well. Finally, a major part of the investment is in kind. In 1994 the State Administration for Import and Export Inspection has investigated the valuation of these in kind investments. They found out that in the investigated 5,570 projects the actual value of the foreign investment was 1.8 bill. US-\$ and not as contracted 2.23 bill. US-\$. Because there are no estimations to correct for these measurement errors, we use notwithstanding these limitations in the following the official data:

⁵² This reflects the fact that FDI from Asian economies has a very strong bias towards investment in other Asian economies (see the FDI intensity index in Lloyd 1996: 420).

Tab. 14 contains the regional distribution of foreign capital inflows by provinces and larger regions.⁵³ It demonstrates clearly how dominating the coastal provinces were and still are in attracting foreign investment.

Tab. 14: Regional distribution of FDI [mill. US-\$]⁵⁴

	1984	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997
Hainan	18		95	101	176	452	734	918	1062	789	706
Guangdong	644	651	1323	1460	1823	3552	7498	9463	10260	11754	12635
Fujian	62	119	348	290	403	1416	2867	3713	4044	4085	4197
Zhejiang	49	27	54	48	92	294	1033	1150	1258	1521	1503
Jiangsu	139	33	127	141	233	1403	3002	3763	5191	5210	5435
Shandong	16	36	163	151	180	973	1843	2552	2689	2634	2776
Shanghai	42	108	422	177	164	790	2318	2473	2893	3941	4225
Tianjin		56	31	83	94	116	233	1015	1521	2153	2511
Beijing		89	320	277	245	350	667	1372	1080	1553	1593
Liaoning	15	25	126	248	314	439	1227	1440	1425	1738	2366
Jilin	2	5	10	17	18	66	238	242	408	452	402
Coastal	987	1148	3020	2993	3740	9851	21660	28102	31830	35829	38349
Heilongjiang	24	4	57	25	19	103	226	348	517	567	735
Neimenggu		3	4	11	1	6	0	40	58	72	73
Hebei	5	8	44	39	44	174	357	523	547	830	1103
Shaanxi		16	97	42	32	46	234	239	324	326	628
Shanxi		1	10	3	4	54	70	32	64	138	269
Anhui		3	9	10	10	50	258	370	483	507	434
Hubei		8	29	29	46	203	534	602	625	681	849
Henan	7	8	46	10	38	52	435	387	479	524	692
Hunan	11	27	23	11	23	129	433	331	508	745	917
Jiangxi	2	10	9	6	19	97	208	262	289	301	481
Central	50	88	328	187	236	912	2756	3133	3892	4691	6181
Gansu		1	1	1	1	47	56	88	64	90	41
Guangxi		31	53	30	39	180	872	836	673	663	886
Guizhou	1	10	13	5	7	20	43	64	57	31	50
Ningxia		0	0	1	1	3	12	7	4	5	7
Qinghai		0	0	0	0		4	2	2	1	2
Sichuan		29	13	16	24	184	578	922	542	441	248
Xinjiang	7	11	1	7	4	10	53	48	55	64	25
Yunnan	0	2	8	3	3	23	97	65	98	65	166
Western	7	83	89	62	79	468	1715	2032	1493	1360	1425

Source: China State Statistical Yearbook, various issues

In 1984, in the Coastal Provinces, almost 1 bill. US-\$ of foreign capital was invested, while in the Central and Western regions only 50 and 7 mill. US-\$ were invested, respectively. Although in the following 13 years the foreign capital inflow increased in the Central region to over 6 bill. US-\$ and in the Western region to almost 1.5 bill. US-\$, this was still not very much in comparison to the absolute inflow of over 38

⁵³ It would be very interesting as well to know how the flows of domestic capital between the provinces have developed, but the data are very scarce. Only data for 1987 were available. Of all coastal provinces, only Beijing showed a high capital inflow, while Fujian, Guangdong, Guangxi and Hainan had a low capital inflow, Zhejiang, Shandong and Hebei a low capital outflow and Tianjin, Jiangsu, Liaoning and Shanghai a high capital outflow (Hsueh 1996: 449).

⁵⁴ See also the discussion of Sun (1997: 29).

bill. US-\$ into the Coastal region. Notwithstanding, the coastal provinces have lost some of their share of over 90% which they had in the mid 1980s and at the beginning of the 1990s in the total FDI inflow, which then decreased to 83% in 1997 (see Tab. 15). Tab. 14 reveals another interesting aspect of the regional distribution of the FDI inflow. Almost 72% of the foreign capital was located in Guangdong and Fujian. This dominating position decreased over the year, but the two provinces still have a combined share of almost 44%. As can be seen from Tab. 14, Hainan, the fifth SEZ, is with less than 2% of the overall investment in the coastal provinces not a leading destination for foreign investors at all.

Tab. 15: Shares in FDI inflow by regions

	1984	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997
Coastal	95%	87%	88%	92%	92%	88%	83%	84%	86%	86%	83%
Central	5%	7%	10%	6%	6%	8%	11%	9%	10%	11%	13%
Western	1%	6%	3%	2%	2%	4%	7%	6%	4%	3%	3%

Source: China State Statistical Yearbook, various issues

From the beginning FDI was not restricted to the SEZs. Investments in the rest of the country were also possible. As a result only part of the investment took place in the SEZ and it was not even the main share. Until 1985 about 30% of all FDI was concentrated in the SEZs. About 80% of the investments in the SEZs came from Hong Kong and Macao (Heiers, Schattschneider and Zapf 1988: 169).

While some investors were attracted by the preferential conditions in the SEZs, other investors preferred to locate in the DZ, mainly in the large cities of Beijing, Shanghai, Guangzhou, Dalian and Tianjin. These were especially those investors who used higher technology and demanded skilled workers, good infrastructure and a closer link to the political decision-makers and invested on average larger volumes of capital in the individual projects (Li and Li 1999: 40). They came especially from Western countries and Japan and tried to get a foothold in China to get access to the huge Chinese market in the long-run. Examples are Volkswagen and Schindler, which decided to locate in Shanghai and Beijing (Pearson 1991: 32, Wall 1993: 245). Asian investors from other countries than Japan decided to invest in the SEZs, because they concentrated on labour intensive productions for export, used less new technologies and invested smaller amounts of foreign capital in the individual projects.

It is interesting to see that the incentives offered in the SEZs attracted those investors which were not in the position to fulfil the other aims of the Chinese government, including technology transfer and up-grading of human capital. The other investors were mainly attracted by the large market and for them the incentives in the SEZs were more or less irrelevant. We have already argued above that only one figure for the FDI is not enough to really evaluate the effects of these inflows. As we see again, it depends crucially on the aims and interests of the investors, which effects can be expected from FDI.

Tsang and Ma (1996) build a macro-econometric model to estimate the effects of FDI inflow on the Chinese economy. For this end, they perform, using their model, a counterfactual experiment, assuming that only 50% of the actual FDI inflow into China between 1981 and 1991 has taken place. They estimate that GDP would have been between 0.4% in 1981 and 7.7% in 1991 lower than the actual development; industrial output would have been lower between 0.6% for 1981 and 9.3% for 1991, exports would have been lower by double-digit percentage every year (Tsang and Ma 1996: 17). Chen, Chang and Zhang (1995) perform an econometric estimation for the period 1979 to 1990 and concentrate on the impact of the FDI inflow on the growth of the Chinese GDP. They come to the conclusion that a 10% increase in FDI in 1995 could be associated with a 6.35% increase in GDP in 1996 (Chen, Chang and Zhang 1995: 697). These two studies indicate that FDI was very important for the economic development during the reform period.

Tso (1998) examines how it can be explained that in China the Asian NIEs provide the largest share of FDI, while in other countries typically the developed economies invest most. Tso comes to the conclusion that the investors from the NIEs are less sensitive to the institutional barriers in China and that they are more sensitive to the low labour and land cost, with the geographic proximity also playing an influential role. Large MNEs from Western countries were more concerned about the security of their investments in China, while for the overseas Chinese the cultural and linguistic links helped to reduce the information and transactions costs (Wei 1995: 191). Wu (1996) shows the proximity to major source countries of FDI were the main reason for the successful attraction of foreign capital while the labour cost differential were only a residual factor.

Tab. 16: Import and Exports of Foreign-Funded Enterprises [bill.US-\$]

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Import	0	2.1	12	17	26	42	53	63	76	78
Export	0	3.0	12	25	17	25	35	47	62	75
Import GD*						19	25	27	30	33
Export GD*						14	20	26	31	37
Import China	20	42	53	64	81	104	116	132	139	142
Export China	18	27	62	72	85	92	121	149	151	183

Source: CFESY (1995:164), CSY (1996: 596), CSY (1998: 636)

* GD = Guangdong province

Tab. 16 illustrates the rapid development of the volume of imports and exports of foreign-funded enterprises in the whole of China and in Guangdong province. Both, imports and exports of enterprises with foreign capital had an annual growth rate between 1990 and 1997 of about 30%. For all enterprise in China these were 'only' 15% for imports and 17% for exports, which are of course still impressive growth rates. It is surprising that in the earlier years of the reforms until 1991 the trade balance of the foreign-funded enterprises was positive, but became negative since 1992. For the whole of China, the trade balance of all enterprises was negative in the 1980s, but became positive in the 1990s.

Tab. 17: Shares of Foreign-Funded Enterprises in China's Trade

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Import	0%	5%	23%	27%	32%	40%	46%	48%	55%	55%
Export	0%	11%	19%	35%	20%	27%	29%	32%	41%	41%
Import GD*						18%	22%	20%	22%	23%
Export GD*						15%	17%	17%	21%	20%

Source: CFESY (1995:164), CSY (1996: 596), CSY (1998: 636), own calculations.

* GD = Guangdong province

Tab. 17 indicates even clearer the central role of foreign-funded enterprises in the foreign trade of China. At the beginning of the 1990s, these enterprises controlled about one fifth of imports and exports. In 1997, they had increased their shares to 55% in imports and 41% in exports. The foreign-funded enterprises in Guangdong alone increased their importance in the Chinese foreign trade relations and control now 23% of the imports and 20% of the exports.

3.5 The Role of Ethnic Chinese⁵⁵ as Foreign Investors

It is not a new topic that culture influences business practices as well as the economic development of whole societies. Already for centuries the differences in natural and cultural conditions have been studied as main determinants of the development paths of economies. One of the most famous approaches of the 20th century in this respect is the analysis of the protestant ethic by Weber (1965). Culture influences the development of whole societies as well as the characteristics of institutions and the interactions in individual groups as the development of the ethnic Chinese in Asian countries and all over the world illustrates. With their special institutions and their specific ways to organise the exchange of information and goods between members of the group they are in a position to act successfully in environments which are relatively unstable. The reform process in China is an example of how culture, especially common culture, can influence the transition path of an economy. The development of the Chinese SEZs cannot be evaluated without looking at the role of the ethnic Chinese who came as foreign investors, especially from countries in south-east Asia.⁵⁶ And the role of the ethnic Chinese as foreign investors cannot be understood when cultural aspects are not included in the analysis.

No exact data are available on how much exactly of the FDI inflow into China is controlled by ethnic Chinese, but all comments on the investors in China see a major

⁵⁵ Although in many cases, 'Overseas Chinese' is used as a term for ethnic Chinese living abroad, we use the term 'ethnic Chinese', following East Asia Analytical Unit (1995: 11). The term Overseas Chinese reflects the Chinese expression *Huaqiao* which describes temporary residents who plan to come back to China. Because this is often not the case, ethnic Chinese is the more accurate expression.

⁵⁶ It was not only the need for capital which made it so important for the Chinese government to attract ethnic Chinese, it was also the need for qualified personal, because the destruction of the education system during the cultural revolution had created a massive shortage of well-educated employees. For a discussion of this aspect of the ethnic Chinese investors see Surydinata (1995: 194). A very interesting discussion of the development of the FDI of ethnical Chinese in the last 100 years can be found in Wang (1995a).

role for them (East Asia Analytical Unit 1995: 6). It is estimated that the ethnical Chinese in south-east Asia with less than 10% of the population control up to two thirds of the retail trade and that their investment flows in East Asia are even larger than the investments of the Japanese. The dominating position of the ethnic Chinese can be seen from the fact that 86% of South-East Asian billionaires belong to this group (East Asia Analytical Unit 1995: 119). Tab. 18 gives at least a rough estimation of the role of the ethnic Chinese as foreign investors in China. Although the data are distorted in two directions. On the one hand, foreign firms which are owned by non-ethnic Chinese, but are located in other Asian countries make this estimation too high. The ethnical Chinese living in western countries on the other hand, who have invested in China, are not counted at all.

Tab. 18: Source countries of FDI [bill. US-\$]⁵⁷

	1987	1990	1996	1997
Hong Kong and Macao	1.6		21.5	22.0
Taiwan			3.3	3.3
Singapore	0.02		2.8	2.6
Malaysia			0.5	0.4
Total China	2.3		42.1	52.4

Source: CSY (1998: 639)

Tab. 18 demonstrates that most of the foreign capital which came into China after the opening of the economy is coming from countries with a majority of ethnic Chinese inhabitants. In 1987, 70% of the whole FDI came from these five countries. This share decreased over the years to 67% in 1996 and 54% in 1997. It illustrates that these countries still control the majority of the foreign capital flow and it is a clear indication of the role of ethnic Chinese as foreign investors.⁵⁸ Especially, Hong Kong and Macao are central sources for the engagements of foreign investors in China. In addition to the groups included in the statistics above, key Asian investors coming from Thailand and Indonesia are ethnic Chinese. For example, the agribusiness conglomerate Chaoroen Pokphand from Thailand and the Oei family from Indonesia are the two largest investors in China in respect to number of investment projects and to volume of invested capital (East Asia Analytical Unit 1995: 198). The Salim group of Liem Sioe Liong and the Lippo group of Li Wenzheng from Indonesia have major interests in the Chinese market as well (Suruyadinata 1995: 197, 202; and personal interview in Shenzhen 1998).⁵⁹

The interrelation between Hong Kong and China is clearly shown by the results of a survey conducted by the Hong Kong Government Industry Agency in 1996. It brought the result that of all interviewed firms which had production places outside of Hong Kong, 96.1% had locations in China. Over 90% of these firms located in the Shenzhen-Guangzhou area (Li 1997: 5). This influential role of the ethnic Chinese as

⁵⁷ On the data problems of the foreign investment from Hong Kong see the discussion on page 65.

⁵⁸ Although this is only a very rough estimation, it is in accordance with Huang (1998: 52) who cites for 1996 an official figure of 70.9 per cent which came from ethnical Chinese.

⁵⁹ A description of the most important ethnic Chinese from ASEAN countries can be found in Suruyadinata (1995: 209)

investors in China is of course not by chance. On the one hand, the Chinese government was well aware of this economically very potent group and formulated a policy specifically to attract them as investors, following an older approach. Already in the 1960s the Chinese government had set up Overseas Chinese Investment Corporations in 11 provinces specifically to attract foreign capital from the ethnic Chinese living in other countries. In 1978 these Overseas Chinese Investment Corporations were reopened (after they were closed during the Cultural Revolution) and special retail stores for Overseas Chinese were established (Howell 1993: 49). On the other hand the ethnic Chinese as investors already observed the developments in China very closely over the years, because they had kept a large interest in an engagement in China and realised the enormous business opportunities for them.

One major advantage of the ethnic Chinese entrepreneurs is the organisation of their firms. Instead of building and expanding an existing huge enterprise, they prefer to create large conglomerates of smaller firms. In the investment projects in China this had the advantage of being able to negotiate with the representatives on lower levels instead of having to deal with the decision-makers in Beijing, because each individual investment project had an investment volume which was in the authority of the local decision-makers. Only the very large enterprises had the necessary connections to the highest levels and were thereby able to protect their interest in this way in large investment projects.

For our question of how far the Chinese experience can be transferred to other countries we have to discuss three aspects in relation to the ethnic Chinese. These are: (1) the success of Chinese citizens in other countries, (2) the influence of culture (including ethnic origin and language) on business behaviour, especially on contracts and (3) the special geographical concentration of the source regions of Chinese migration.

(1) It is well-known that ethnical Chinese, although only a minority in most countries in south-east Asia control a large amount of capital and dominate the commerce in the region. The ethnic Chinese entrepreneurs have in many cases their own banks in the conglomerates or have easy access to banks so that access to financial funds is no problem for them. Chinese entrepreneurs have in most countries demonstrated their ability to establish very successful ventures. Famous are the large tycoons in Indonesia, Hong Kong, Malaysia, and Thailand. Most of these famous entrepreneurs are of Chinese descent like Lee Shan Kee, Gordon Wu and Li Ka-Shing in Hong Kong, the Charavanont family in Thailand, Lucio Tan in the Philippines, Liem Sioe Liong (Salim Group) in Indonesia, the Kwek family in Singapore, the Quek family in Malaysia and the Tsai family in Taiwan, just to mention some of the most famous representatives (East Asia Analytical Unit 1995: 120)

The investment strategy of the Chinese was all the time not only to concentrate their activities in one country, but to spread it over more countries to reduce the risk in case they become the target of attacks from other ethnic groups. In each case, the networks of ethnic Chinese were used to enter new markets. The huge potential of mobile capital from ethnic Chinese abroad combined with their networks which guaranteed an efficient flow of information on investment opportunities is the first reason why China was able to attract these large volumes of foreign capital as it did. Without the access to such a rich group (in 1992 the Economist estimated that the 30 mill. ethnic Chinese in other countries produced the same GDP as the whole of the PR China) the policy outcome of the reform process would have definitely been different. At the same time it was important that the ethnic Chinese had a major interest in returning to China, not as citizens, but to do business. Because of this interest, they monitored the Chinese policy closely and maintained the old relations to Chinese nationals in China.

(2) As was already mentioned above, culture is an essential factor influencing the outcome of the economic process. On the one hand, the design of all institutions in a society including the economic and legal institutions is influenced by the cultural characteristics of the society and this influences the whole procedures of the economic sphere. On the other hand, culture influences the economic interactions inside of specific groups. Culture in this sense can be understood as a business input which influences the efficiency of the activities and has a direct influence on the costs of a transaction. Culture is also responsible for the openness of groups for new alternatives which gives them the ability to adapt their behaviour or their organisation to new environments to ensure their prosperity.

"The proximity to China of the ethnic Chinese dominated and capital-surplus economies of Hong Kong and Taiwan, and the linguistic abilities, cultural empathy, and in some areas, particularly in the South-East, family and clan links, all contributed to the early prominence of foreign-Chinese investors in China." (East Asia Analytical Unit 1995: 194).

The citation emphasises the role of family links and common culture for the head start of ethnic Chinese investors and it has to be asked why one group was able to play such a outstanding role as investors. In a situation of missing markets, other coordination mechanisms have to be found, which guarantee the insurance against risk, the flow of information, innovations, availability of capital and labour and other resources.

The advantage of ethnic Chinese investors is exactly that they have such a coordination mechanism across borders which they can use in an unstable environment. For a long period of time, the ethnic Chinese communities have established various institutions which help to support members of the group. These institutions are for example guilds, chambers of commerce, temple and welfare committees, and dialect

and clan associations, which all had been developed in the historical environment in which the Chinese government was mainly interested in raising taxes to finance their own expanses, but did not see the establishment of a safe business environment as major responsibility. Because of these historical developments and the institutions which have been developed as a reaction to these conditions, ethnic Chinese have an advantage in situations without a legal framework (East Asia Analytical Unit 1995: 5, 122). The ethnic Chinese were over the centuries able to transplant these institutions to the environments in other countries where they had migrated and to adapt the institutions to the specific conditions of the individual countries. In this way, the ethnic Chinese integrated partly in the new countries and were able to create protection for their own interests.

Especially, in countries in which the economic and legal institutions are underdeveloped, this kind of internal mechanisms have direct influence on the costs of doing business. One example is the interest rate charged by ethnic Chinese money lenders in southern Vietnam. Ethnic Chinese customers pay only about half of the interest, Vietnamese customers have to pay (Huang 1998). One possible explanation for this difference is the possibility to sanction the non-repayment of the loans in the case of the Chinese customers, while it is not possible in the case of the Vietnamese customers. In the ethnic Chinese community, the chambers of commerce are an important forum for passing on information so that in case someone behaves in a way by which he loses the trust of the community, everybody in the community will very fast learn about it. Such a mechanism does not exist with the Vietnamese customer so that the risk premium has to be higher.

Huang (1998) cites the former prime minister of Singapore, Lee Kuan Yew, with the words “[...] what ethnic Chinese from Hong Kong, Macao, and Taiwan [have done is] to demonstrate to a sceptical world that *guanxi* connections through the same language and culture can make up for a lack in the rule of law and transparency in rules and regulations.” *Guanxi* is a concept which tries to summarise a very complex system of relation-based interactions between individuals. It is the Chinese term for the construction of quasi familial forms of assistance from extra-familial relationships. It is based on the exchange of favours, but it is much more complicated and should not be confused with pure bribery. *Guanxi* stands for connections, friendship or family ties and is a key element of the social interaction in the Chinese society (this is not to say that it does not exist in other countries as well, only the scope and importance in the Chinese society is different). By this, contracts can be made binding, although no state mechanism exists to protect it. The social sanctions can be so strong that they fully offset the absence of a state protection.

The *guanxi* system helped the ethnic Chinese investors in respect to their negotiations with the domestic partners and in their relation to the local political decision-makers. With the reforms, the local politicians got more decision-making

power and therefore, it was essential for the foreign investor to have a direct and close relation to them. Hsing (1997) describes in an excellent form the build up of this kind of relationship between Taiwanese investors and the local bureaucrats.

Walder (1995: 971) summarises the role of ethnic Chinese as foreign investors:

"[...] Hong Kong, Taiwan, Singapore and the Chinese diaspora in South-East Asia and North America are filled with ethnic Chinese entrepreneurs who have proved to be valuable sources of knowledge and investment and who have served as important bridges to the world economy." The coastal regions are "building upon the foundations of a highly commercial past, on the traditional features of the Chinese family as an economic unit, and perhaps also upon the legacies of corporate property in single-surname villages. Russia and the other former Communist regimes enjoy no similar advantages."

This citation includes the first reason why a transfer of the Chinese experience with their reform policy and SEZs to other, former Communist countries is quite difficult. Almost no other country (may be with the exception of India and Cuba) has a group with ancestral ties living abroad which controls large volumes of capital and has this interest of returning. Wall (1993: 250) mentions another reason to be careful with this kind of a transfer:

"Most of the foreign firms in the joint ventures and most of the wholly foreign-funded enterprises are owned by overseas Chinese with strong affinities to the mainland. It is unlikely that much of this investment was significantly affected by the availability of the incentives."

It is noteworthy that the ethnic Chinese did not invest in China because of the incentives of the SEZs, but that the investment decision in itself was made because of other reasons. The incentives might have directed the investment flows into specific regions.

Lee Kuan Yew also stated that "*Guanxi* capability will be of value for the next twenty years at least, until China develops a system based on the rule of law, with sufficient transparency and certainty to satisfy foreign investors" (East Asia Analytical Unit 1995: 195). Therefore, as long as no effective and functioning legal system is established in China, ethnic Chinese investors will continue to have this major advantage over other investors.

Another question which has to be discussed in relation to the *guanxi* system is its impact on the development of markets. During the transformation process from a planned economic system to a system with more decentralised decision making it is of course of central importance that markets develop. It is obvious that those who benefit from the *guanxi* system by either earning rents or by getting privileged access

to scarce resources are not interested in the establishment of markets which would create competition and would remove rents. They will try to hinder the development of markets. But the existence of a *guanxi* system can have a positive effect on the creation of market transactions as well. As we have said before, one of the big advantages of the networks of the ethnic Chinese is the fast flow of information on new market opportunities and this on a national and international level. This leads to the ability of the Chinese to use this information in a very short period of time and to occupy niches in developing markets. This might benefit the transforming economy, because new opportunities are realised by the investors and seized immediately. They can thereby help to develop markets, because of their engagement other investors will learn about the possibilities and will try to enter the market as well and increase competition further.

At the same time, the foreign Chinese will use their information about other markets and their connections to the domestic markets for establishing links for Chinese enterprises so that attracting the ethnic Chinese investors not only created access to the foreign capital, but at the same time created access to a large business network and supported the integration of China into the world economy.

(3) We have said before that the volume of capital which is controlled by ethnic Chinese in other countries and the cultural aspects including the *guanxi* system are two reasons which limit the transferability of the Chinese experiences to other countries. Another condition for the special development in China was the concentration of the regions from where the Chinese migrants originated. Tab. 19 contains data on the source regions of ethnic Chinese in different Asian countries. It presents that over 50% of the ethnic Chinese in Taiwan, Indonesia and the Philippines come from Fujian province, while over 50% of the ethnic Chinese in Hong Kong, Malaysia, Thailand and Vietnam come from Guangdong province.⁶⁰ As we have discussed under (2), for Chinese investors the personal relations to their foreign partners are essential and are used to protect the investments. Ethnic Chinese investors would therefore chose their family regions in China as first investment location.

⁶⁰ This means not necessarily that they themselves have migrated, it might be that their ancestors already came from these provinces.

Tab. 19: Home regions of ethnic Chinese in other Asian countries

Country	Fujian (per cent)*	Guangdong (per cent)	Hainan (per cent)	Total
Hong Kong	2	93	-	95
Taiwan	77	13	-	90
Singapore	40	42	-	82
Malaysia	30	59	9	97
Thailand	10	78	11	99
Indonesia	55	4	-	59
Philippines	80	20	-	100
Vietnam	8	89	2	99

Source: East Asia Analytical Unit (1995: 23)

* figures give the share of the ethnic Chinese living in the Asian countries stemming from Fujian, Guangdong or Hainan province.

In all listed countries in Tab. 19, with the only exception of Indonesia, between 80% and 100% of the ethnic Chinese came from the three provinces of Fujian, Guangdong and Hainan. Opening part of the country for these ethnic Chinese investors, the decision to chose the southern provinces is obvious, knowing about the importance of the cultural links between the investor and the domestic partners. To attract investors from Hong Kong, Guangdong province is of course the right location for SEZs, for investors from Taiwan on the other hand, Fujian province is the right choice (many Taiwanese still speak the Fujianese dialect).

Although no comprehensive statistical information about the ethnicity of the foreign investors in China is available, an investigation has been performed in four regions, in Nanhai and Panyu in Guangdong province and Quanzhou and Xiamen in Fujian province by the East Asia Analytical Unit. In these four regions the investments were absolutely dominated by the ethnic Chinese. In the two regions of Guangdong only 2% of the investors were not ethnic Chinese, in the two regions of Fujian even only 1%. While in Nanhai, Panyu and Quanzhou over 70% came from Hong Kong and Macao, in Xiamen the Taiwanese investors had the majority with 47% and 35% coming from Hong Kong and Macao (East Asia Analytical Unit 1995: 221).

Huang (1998: 59) found out in his study that most potential foreign investors with Chinese heritage travelled to their former home-towns to investigate investment and business opportunities. Most enterprises with foreign capital from ethnic Chinese were then located in those village where the investors themselves came from or had relatives. The workers were in most cases locals, who had in many cases family ties with the foreign investor. In many cases the general manager belonged to this family.

Finally, it might have been central for the Chinese government that the ethnic Chinese have another position as foreign investors than investors of another people, because for the Chinese population the exploitation of the domestic economy by foreign forces in the 19th and 20th century was a major argument against foreign investment. Obviously, ethnic Chinese, although they are also coming from foreign countries have a different position.

Fan (1998) further argues that the gradual approach of the Chinese reform policy has strengthened the market elements of the economic system, but at the same time has not totally abolished the planning elements. Therefore, for an enterprise to be successful, it is necessary to be able to use the Chinese *Guanxi* system and to build up the right connections to the governmental officials to get access to the necessary inputs and the right support in other areas. Fan argues "[...] that the investors who know best how to use the GuanXi system in China are the overseas Chinese because the overseas Chinese also do their business in another GuanXi system that is similar to the GuanXi system in China" (Fan 1998: 26, see also Fan 1997).

This chapter has described the main developments of the Chinese reform policy of the last two decades. It was discussed that the reforms did not follow a formulated reform plan, but was more a trial and error process and that it was the result of a complex bargaining process. For this reason, the political arena has been discussed as well. For the analysis of SEZs, the aims of the host country's government are important. That is why we have described the general development strategy of the Chinese government. In the following section we have looked at the central influence of the ethnic Chinese on the foreign capital flows into China. These discussions have already shown some limitations for the transferability of the Chinese experiences on other countries. We will come back to this point in chapter 8. Next we have a closer look at the domestic and foreign interests which are connected with the establishment of SEZs.

4 Domestic and Foreign Interests in SEZs

In this chapter we will discuss in more detail the domestic and foreign interests in the establishment of SEZs. It has already been emphasised in the previous chapters that the reform minded government in a transition country is typically constrained in its instruments. Interest groups which oppose the reforms try to block the plans of the government, while new interest groups with different objectives might develop just because of the reforms. Section 4.1 discusses the political economy of SEZs.

The interests of the foreign investors are analysed in section 4.2. As the controversies in the literature clearly demonstrate, the reasons for the engagement of foreign investors in other countries are plentiful. In order to summarise these various aspects, we use the OLI approach of Dunning (1993) as the most comprehensive approach which tries to include all these aspects in an eclectic theory.⁶¹

Section 4.4 discusses the key role of SEZs as laboratories, which is from our point of view one of the central elements of SEZs and might be one of the most important lessons for other countries.

Section 4.5 describes the main negative experiences of China with the foreign capital inflow. To deduct lessons for other countries from the Chinese experiences with the SEZs, it is interesting to look as well at the negative experiences of China. The key question of what would have happened without the SEZs is discussed in section 4.6. Of course, it is not possible to know what exactly would have happened, but at least some insights are possible which will be helpful in our discussion of the cost-benefit analysis in chapter 7.

4.1 The Political Economy of SEZs

In section 3.2 we have described what the main political institutions in the Chinese policy making process are and that the new government has used these institutions to build up support for its reforms. We now come back to the interaction of the various players in the political process and how the establishment of the SEZs provided the reformers with an instrument to avoid or to overcome strong opposition. Grubel (1984: 47) describes this aspect in general referring to free economic zones with the words:

"The deadlock in the political and ideological struggle over the merit of regulation is soluble, at least in part, by the *compromise approach of*

⁶¹ An interpretation of the changes in the investment environment in China during the reform period using the OLI approach gives Zhang and Van Den Bulcke (1998). This paper is of special interest, because the authors discuss not only the inward FDI, but also the increasing outward FDI of Chinese enterprises.

limited deregulation through the creation of free economic zones. [...] General regulation is a blunt instrument that affects both those who need it and those who do not, or using a different emphasis, those who want it for themselves and those who do not. In effect, free economic zones offer the promise of letting both sides have their way. [...] Partial deregulation through free economic zones is at least potentially capable of resulting in an optimal pattern [of regulation]. [...] One of the great advantages of free economic zones is that they mobilize powerful interest groups. [...] The creation of free zones, on the other hand, produces *clearly identifiable gains* and *diffuse losses*, leading the gainers to the formation of political action groups in support of the zones."

The first part of the quotation describes exactly the situation in China and the dilemma of the reformers at the beginning of the reforms. In the southern provinces of Guangdong and Fujian the interest in more opening towards the international market was much stronger than in the rest of the country. Partly because of its long tradition in trading, partly because of the relationship to ethnic Chinese in other countries in Asia, the entrepreneurs (and therefore also the political decision-makers) saw huge potentials in such a step. It is no surprise that part of the initiative for setting up special zones came from these southern regions as discussed in section 3.1. In addition, the development strategy of the Mao era with its emphasis on the development of the hinterland and the relocation of many industries into the more mountainous regions prevented the coastal provinces to use their comparative advantages before. They were restricted in their development possibilities.

What has been a disadvantage before and had slowed down the economic growth in the coastal provinces, now changed into an advantage. The economic structure of these provinces was much poorer, but it was not dominated by large, inefficient SOEs in heavy industry as in other provinces and it was much more flexible in adapting to the changed environment. The other regions had a much larger liability of the old economic structure and the local governments there feared that the enterprises in their regions were neither able to compete nor to adjust quickly when they were under full competition. This geographical polarisation was a great advantage of the Chinese reformers when they established the SEZs.

The second major aspect of SEZs from the political economy point of view is also mentioned in the above citation of Grubel (1984). It is the development of new interest groups during the reform. We will see in chapter 6 that the theoretical work on SEZs has so far concentrated on static models. But SEZs are part of a transformation process and therefore many of their effects are dynamic. The transformation of reform opponents into reform supporters is one of these possible dynamic effects. The successful implementation of a policy instrument in one region can set an example for other regions, which realise the advantages of the policy and demand similar privileges. SEZs have the function of an information

revealing mechanism in this process. Those, who are affected by a policy change and have only limited information on the potential effects can thereby realise the advantages. This exactly happened in China.

As was described in section 3.1, already in 1984 the second major reform step of the open-door policy followed. The 14 open coastal cities were established, which were equipped with similar, although not as far-reaching lee-way as the SEZs. Again, this was not a top-down reform, in which the initiative came from the central government, but the demand for these reforms came from the provincial governments of the other coastal provinces. This again strengthened the position of the reformers in the Central Committee (Shirk 1993: 141). As Shirk emphasises, the decision of these regional preferences were not born out of economic, but out of political logic. This means that the establishment of the Chinese SEZs could be explained only out of the political decision-making process.

This does not mean that the economic effects did not play a role in the contemplation of the Chinese government and it is beyond the question that the SEZs had a tremendous influence in the economic field as well. SEZs can be used as a policy instrument not so much because of direct economic gains (we will argue that these were not so important in China) and to be in the position to realise other economic reforms which are more central for the overall reform process. We will come back to this point in chapter 6 when we discuss the question how a negative result of the analysis with theoretical models can be interpreted from the point of view of the political decision-maker. In order to evaluate the effects of a SEZ, the domestic policy aspects are only one part. Another major reason to establish SEZs is the attraction of FDI, because it is believed that only the massive inflow of foreign capital can guarantee the rapid economic development of such zones, which again is necessary to gain further support for the reforms. Therefore, we will now look in the objectives of foreign investors.

4.2 Foreign Investors Interests

Because of the manifold reasons for foreign investments it is no surprise that the number of approaches which try to explain such investments is large. The industrial organisation approach started with Hymer (1960) and his investigation of the investment behaviour of US-American enterprises. Hymer's starting point was that foreign firms have to have an advantage in relation to domestic firms, because doing business in another country raises costs, "including communications and transport costs, higher costs of stationing personnel abroad, barriers due to language, customs, and being outside the local business and government networks." (Chen 1997a: 10)

The foreign firms can therefore only compete successfully in the domestic market if they have some other sources of cost-advantages - Hymer calls them firm specific ownership advantages like lower average costs because of increasing returns to scale

or superior technology. The final decision of the foreign firm on how it enters the foreign market (by export, by licensing or by FDI) depends on the one hand on the specific advantages of the firm (high tech versus low tech for example) and on the other hand on the degree of imperfections in the host country. The subsequent work of Kindleberger (1969), Caves (1971), Vernon (1966) and Dunning (1993) concentrated on finding the sources of these firm specific ownership advantages: including industrial structure, product differentiation, technological capabilities, labour skills, management and marketing know-how, brand name, and organisational capabilities.

Buckley and Casson (1976) base their explanation on transaction costs and find internalisation advantages for an enterprise in serving a market by FDI instead of export or licensing. The main transaction costs stem from negotiating contracts, contract enforcement and protecting intangible goods (like brand names). Faced with major market imperfections, foreign enterprises chose FDI over alternative modes of entry.

Dunning (1993)⁶² then combines these three main approaches in his eclectic OLI approach. He argues that a firm has only a strong incentive for FDI when three conditions are combined: **Ownership** advantages, **Locational** advantages and **Internalisation** advantages. Dunning so distinguishes between demand side and supply side factors, influencing FDI flows. The prediction of Dunning's OLI approach can be summarised as: the more foreign firms possess ownership advantages, the more advantages the host country offers and the greater the advantages from internalisation for the foreign firm are, the larger will be the inflow of FDI.

In an empirical study United Nations (1994: 26) found the following major determinants for a FDI inflow:⁶³

Economic factors:

- **size of domestic market:** new opportunities for market-seeking investments;
- **economic growth:** growth prospects in a country increase per capita income and thereby raise the potential demand;
- **higher profitability:** often connected with higher risks, therefore alone no clear effect on the FDI flow;

⁶² This publication is just used as one example of the large number of Dunning's publications in which he explains his approach.

⁶³ Geringer (1991) makes an interesting distinction between task related and partner related factors. Task related factors are for example the market opportunities, productive skills and resource availability. A partner related factor is for example the ability of the domestic partner to work together with the foreign partner and to overcome cultural difficulties.

- **availability of labour:** important for labour-intensive industries and for efficiency-seeking FDI; the quality of human capital is essential for higher technology investments;
- **infrastructure:** especially for MNEs it is important to be able to organise an intra-firm trade and to have a good flow of information;
- **exchange rates:** was for example influential for Japanese investment in Asia when the Yen appreciated;

Political factors:

- **private sector development:** gives the investor more alternatives for outsourcing and the use of domestic distribution channels;
- **macroeconomic reforms:** curb inflation, service external debt, raise domestic savings - implementation of sound economic reforms produce confidence in the future development and reduces costs;
- **liberalisation:** jump in FDI after opening of a country or an industry for FDI - first-mover advantage.
- **regional integration:** positive sign for potential investors, promotion of intra-regional investment.

Another empirical investigation by Economist Intelligence Unit (1979: 25) has found out that the major variables that influence the decision of the foreign investors are political stability, labour costs, transport costs, access to export markets and the tariff arrangements between the host country and the export markets. These studies show that the locational advantages are seen as the major factors influencing the investment decision of the foreign investors.⁶⁴

Li and Li (1999: 35) summarise the aims of foreign investors in the following way:

- "Penetrating new markets.
- By-passing heavy duties at the national border.
- Rationalizing production by making use of the best locational advantages (for example, low wages).
- Exploiting economies of scale within the company group at the global level.
- Taking advantage of tax incentives, preferential policies and government grants for FDI in foreign countries
- Developing new sources of raw materials and energy supply.
- Securing sources of supply to other parts of the company group.
- Internalizing profit through vertical integration along the value chain.
- Exploiting the benefits of monopoly power in new geographical areas.

⁶⁴ No information is available on how the data was collected so that it is still possible that it was not asked for ownership or internalisation advantages. This would be very surprising. Therefore, we conclude that it is more convincing that locational advantages are playing a larger role in the consciousness of the entrepreneur.

- Achieving higher returns on investment by investing in fast growing economies.
- Getting closer to main customers in foreign countries in order to respond to their changing demands more quickly.
- Establishing better access to newly developed technology."

This list shows that Li and Li also see a mixture of locational and firm specific advantages responsible for foreign investments. In 1992, Wang (1995b) made a survey on which variables influenced the foreign investors most in their decision to invest in China. "The main motives [...] were to create market presence, to secure an image, and to survey and get acquainted with the Chinese business practice and economic climate, and occasionally to attain monopoly positions and pursue long-term strategies by virtue of having been the first to appear locally and/or increase profits [...] by means of capturing market." For the investors from Hong Kong and Taiwan the use of cheap labour was of greatest importance (Wang 1995b: 13). The survey illustrates that for many investors the short-term profit was not so central for their engagements in China. This was especially true for large MNEs that follow a long-term strategy. 67% of the interviewed enterprises said that the availability of cheap labour was less important than the market potential. In another survey carried out by the China Central Statistics Office in March 1994, 92% of the interviewed enterprises (altogether 1,066) answered that it was the potentials of the huge Chinese market which attracted them to China (Wang 1995b: 16). In the survey of Wang, asked for the reason why they chose China and not another country like for example in Eastern Europe, 44% of the sample firms answered that they expected China to be more stable in political terms than the countries in Eastern Europe. Locational advantages were therefore much more relevant for the decision of these investors.

In China, two groups of investors can be distinguished. On the one hand, there are the resource seeking (or cost-saving) investments, mainly coming from the other Asian countries. It is an eye-catching development in Asia that the NIEs started their development by increasing their labour-intensive production of export goods. Over the years with the maturing of the economy the labour costs increased so that those enterprises which were producing goods with a high labour input had to find new strategies. One such strategy is of course to relocate the production into a country with lower labour costs. At this time, China offered very attractive labour costs and improved its investment condition. As was discussed above in section 3.5, ethnic Chinese investors from Asian countries had in addition other advantages which made them predestine as foreign investors. On the other hand there were the market seeking investments, especially by those foreign investors with advanced technology (Western and Japanese enterprises). They were not very much attracted by the incentive packages of the SEZs. They located more in the larger economic centres with a good supply of skilled workers, a good infrastructure and a direct link to the political arena so that a possibility to influence the political process through lobbying would be available (Wall 1993: 245). The limited supply of skilled workers in the

SEZs (a result of the Cultural Revolution) was a massive disadvantage in relation to the other Asian economies attracting foreign capital (Pearson 1991). The SEZs were an incentive almost only for the ethnic Chinese investors, not so much for the western investors:

"While the Special Economic Zones, and other coastal zones, continue to attract investment from Chinese enterprises because of the tax breaks and the relative freedom from planning constraints, foreign firms have tended to move away from them as more and more locations along the coast and in the hinterland have been opened up." (Wall 1993: 247)

One main conflict between the host country and the foreign investor arises in respect to technology transfer.⁶⁵ In most cases, as the above discussed theories formulate, firm specific advantages are the source of the possibility that foreign enterprises compete successfully in a foreign market. While the host government is interested in getting access to the foreign technology, the foreign investor will on the contrary try to protect its advantages. "The concern is that MNCs are motivated to restrict the transfer of expertise to the local economy, or outside of the firm in general, if such transfers reduce entry advantages and create new sources of competition." (Hayter and Han 1998: 3)

The theoretical and empirical results presented in this section all indicate that a great number of factors (summarised by Dunning in the three categories of ownership, locational and internalisation advantages) influence the quantity and quality of foreign capital inflow. It is therefore not enough just to decide to attract foreign capital, but it has further to be specified what kind of capital should be attracted. Without this specification it is otherwise not possible to formulate the appropriate incentives for attracting the capital. Those investors for example who are interested in taking advantage of the low labour costs in the host country might be attracted by a SEZ with good infrastructure in a favourable geographic location. But those investors who want to by-pass import duties or want to develop a market presence in the domestic market are much less or not at all attracted by this instrument.

4.3 Information, SEZ and the Investment Decision

We come back to a more general problem of countries in transition. At the beginning of such a process, the countries have usually the problem that a major break in their policy has taken place and that foreign investors, although they might be more sympathetic with the policy of the new government, cannot be sure whether the new government will be in the position to realise its aims in the long-run. As we have seen above, political stability is for many investors one of the major factors for their location decision. Therefore, many foreign investors will chose a wait-and-see

⁶⁵ A comprehensive discussion of the role of FDI and trade on technology transfer can be found in Grossman and Helpman (1995).

strategy to learn more about the commitment of the new political decision-makers and of the political stability in the host country. The new government at the same time needs typically fast successes to get the support of the relevant groups in the political process. Because of the scarcity of capital in this situation in many countries, foreign investment is expected to have a fast and direct beneficial effect. So the strategy of the investors contradicts with the interests of the government. The government must therefore find ways to make the investment strategy more attractive than the wait-and-see strategy.

There existed a major difference between the foreign and domestic investors in China after 1978. The domestic investors had more information about the domestic situation, although their experiences with the developments during the Cultural Revolution were not to build up trust in political stability. Information costs are one of the main differences between domestic and foreign investors. Domestic investors usually have experience in doing business in their home country. At least, they know more about the specific situation, specific customs of the country, they have better access to additional information and they are already in a network which they can use for doing business while the foreign investor first has to build up such a network. Foreigners have to collect information in a different process which is more costly than the information collection for domestic investors.

There are two kinds of distances that are the source of those cost differences. One is the geographical distance, the other the cultural distance. The geographic distance is especially relevant when the information on investment opportunities are not provided by alternative organisations (like the chamber of commerce), or the production in the host country has to be closely monitored. Then an intensive travelling between the host country and the source country of the foreign investment is the result. The cultural distance influences the cost of an investment decision. A close cultural link helps the foreign investor to understand the procedures in the host country and makes it easier for him to find alternative ways if the institutions are not well established (as we have described for the ethnic Chinese in section 3.5).

There are two ways of collecting information on the investment opportunities in the potential host country. One way of getting information is doing research in the country. In doing this, resources are used to produce an intermediate input (information), that has public good character inside the same company. At the same time it has private good properties because this kind of information can be sold in a market, as can be seen from the great number of consulting companies, that provide information on the investment opportunities in different countries or regions. In such a case it is not only the information itself which is sold, but normally also the know-how on how it can be used.

The second way of collecting information is through doing business, for example by building up trade relations to enterprises in the host country. The behaviour of the host country towards the foreign investors can be observed more easily and a network of potential partners can be created. The observations can be used for judging the investment climate of the host country. By this, the next investment decision can be based on more information which is more or less free of charge, because inside the company these experiences with earlier investments have the characteristic of a positive externality. In many cases the success of one project in a country leads to follow-up projects because this country is more present in the thinking of the decision-makers inside the enterprise.

These positive externalities of successful investment projects (of course, failures in investment projects can also have positive information externalities) can accrue within an enterprise and between different enterprises. Other foreign enterprises observe the behaviour of the host country towards the earlier foreign investors and draw conclusions from this.

In an early stage of economic development it is time consuming and expensive to collect the information that are necessary for an investment decision. Because of the larger uncertainty in a transition situation it is additionally necessary to have more information. No practical experiences about the economic and political environment are available at the beginning, but after some investors have been in the country, other investors know more about the potential behaviour of the host country's government. The key function of the government in the initial stage of a reform process is therefore to influence the expectations of the foreign investors that they see a good opportunity to invest, or even before to be willing to collect further information about the investment condition in the potential host country.

The host country's government can influence both ways of information dissemination. The government can provide information, improve the quality of the data and can support private international consulting firms which collect information. The second path of the spreading of information, the externality between firms, is influenced by the historical path of investment, which is in itself dependent on the other relevant decision variables for an investment (production costs, market size, protection policies, infrastructure, political and administrative institutions). Here the host country's government can have some influence and this is the starting point of the discussion of SEZs. Such kind of zones can influence the difference between the cores of a country and the periphery. Therefore, establishing a SEZ means at the same time creating an additional attraction for agglomeration in this region.

By creating SEZs, a country can focus the foreign interest on a special region and can thereby increase the probability of realised foreign projects. Thereby generating an additional positive externality on other potential foreign investors, so that the SEZ

can become the focal point of foreign investment. This process will lead to an agglomeration of industrial production in the SEZ. As usual in models of agglomeration, this process cannot be limitless. The higher concentration of economic activity in this region will lead to growing congestion costs until no more investors are attracted to this area.

Which should not become a serious problem, because successful investors in the zones have an incentive to investigate investment opportunities outside of the zones. The investment process has therefore the potential to be extended to other parts of the country as long as other regions have potentials for the investors to offer.

Normally, the first investment in an unstable environment made by foreign investors are those in the resource extracting industry (Chudnovsky 1996). These investments are very capital intensive and many transforming countries cannot finance it themselves (and do not have the expertise to realise the projects alone). But the development of a domestic resource base is crucial for the economic development of the whole country. Therefore, host country governments have a special interest in giving guarantees for foreign investments in this field.

Huang and Shirai (1994) analyse the development of foreign investment in a host country in time. It has been observed that even extremely favourable incentives for foreign investors not necessarily induce a direct inflow of foreign capital. In many developing countries that opened up, the foreigners were first very careful and almost no FDI was realised, then the investment flow from abroad was typically very volatile and only after some time became the investment flow steady and increasing. They refer as well to the case of China at the beginning of the 1980s when the inflow of FDI was very limited. Huang and Shirai also discuss two reasons for this development we have described above: (1) the search process which is costly and (2) the information externalities. When we look at the data of FDI in China in Tab. 10 (page 49) and Tab. 11 (page 63) we see that the increase in the realised investments in the first 10 years after the reform started was very slow, but then in the 1990s the growth became extremely fast. The foreign capital inflow was definitely not volatile. The contracted FDI displays much more volatility, but from our point of view this is not a relevant variable here, because this volatility does not stem from the availability or non-availability of information, but from short-term changes in the investment conditions or other external changes. We therefore agree with Huang and Shirai in respect to the difficulties to attract FDI in the initial reform phase. But we are convinced that their description of the three stages does not fit the case of China. SEZs have an important role to play in the dissemination of information as Ahrens and Meyer-Baudeck (1995: 92) emphasise, for foreign and also for domestic actors.

4.4 SEZs as Laboratories

"China has indicated that the SEZs should explore paths of their own. It is difficult for anyone at the present stage to give a perfect definition of China's SEZs. In fact, it is perhaps dangerous to encapsulate them into one simplified or typical model." (Wong 1989: 49)

In 1978, when the reform policy started in China, the power of the reformers and their experiences with this kind of reforms were limited. In addition, the country had made catastrophic experiences with large scale policy changes like the Great Leap Forward and the Cultural Revolution. In any case, this kind of huge negative effects had to be avoided. For this end, a more careful reform path had to be followed. An approach with reform steps which were restricted in their geographic scope had therefore a special attraction to the reform politicians.

The initial choice of the four SEZs in the southern provinces of Fujian and Guangdong were obviously from their traditional stronger outward orientation and because of their distance to major economic centres in China. This made it likely to expect that possible negative effects could be limited to the zones itself without having too many effects on the rest of the economy. Unsuccessful reform experiments could be dissolved while successful reform experiments could be transferred to other areas in China. The SEZs had therefore the function of laboratories for the Chinese government and were the basis for the more comprehensive policy formulation (Ge 1999: 1268).

All five SEZs that exist today can be grouped in three categories which describe their initial situation. (1) Xiamen and Shantou were developed cities with an industrial base where part of the city area was transformed into a SEZ. (2) Zhuhai and Shenzhen, were small towns when the SEZs were established, but were planned as comprehensive zones so that large cities with all facilities and characteristics of a modern city would be developed. (3) Hainan, an island of almost the size of Taiwan, which was established in 1988 as a province and at the same time as a SEZ, represents with its economic structure much more than the other SEZs the structure of the whole country. Agriculture has a major share in the island's GDP and industry is just developing in some centres on the island.

SEZs can have a key function for a country in a state of a fundamental transformation. As was discussed in chapter 2, this kind of a transformation implies that new institutions have to be developed and that the participants in all parts of the society including economics and politics have to learn the new rules of the changed system. This includes the political decision-makers who have been trained in the old system and feel at home with the old procedures. They now have to get used to their changed roles in the new system. Many Chinese politicians who had positions in the

planning system often try to keep their planning mentality in the new, more market-oriented system.⁶⁶

The same is true for the other actors in an economy like the producers and the consumers. In a centrally planned economy which had for a long time heavy industry in the centre of its development concept, there was not much room for individual decision-making. Neither had the producers the freedom to decide which resources they would use and which goods they would produce. Nor had the consumers much choice of what they wanted to consume. As in the other socialist countries an over-demand for consumption goods was typical in China and the supplied goods were in most cases only of poor quality. As we already mentioned above, the incentives to increase productivity and product quality were non-existent in the old system. The reform process therefore had the aim to develop a system in which this kind of incentives could work. We have already cited Lin, Cai and Li (1994) above, who come to the conclusion that the Chinese reforms were especially successful in this respect.

In most cases the effects of various reform steps were difficult to predict. Many of the new policies were therefore first tested in the SEZs, before they were transferred to other regions of China. The following list describes the main fields in which these kind of experiments were first conducted, and a transfer of the experience has at least started (although in many areas the reform has not been completed yet). The main policies which were first introduced in the SEZs in this way were⁶⁷:

Administrative system: the direct involvement and regulation of the economic system by bureaucratic institutions were massively reduced. Instead prices were introduced as the new co-ordination mechanism and taxes and interest rates were used by the government to influence the economic behaviour. In the case of Hainan SEZ, the number of ministries was reduced and the whole bureaucracy was streamlined. This new experiment, which has been started in the 1990s, has not yet been transferred to the rest of China, but it has already been discussed to do so.

Entrepreneurship: the government reduced its direct interference in the decision-making process in the enterprises. They got the permission to make independent decisions regarding products, production, prices, marketing and so on and were no longer under the direct control of the government bureaucracy. Instead a contract system was used to combine state-ownership and independent entrepreneurship.

Competition: between firms with different legal forms was allowed. After the SOEs were not any more under strict control of the government, their privileges regarding access to resources, loans or other scarce goods were reduced. Instead they had to

⁶⁶ Personal interview with political decision-makers during various seminars in Yunnan, Shanxi, Beijing, Heilongjiang and Liaoning between October 1995 and March 1996.

⁶⁷ The presentation is based on Wang (1988a: 95) with various extensions.

compete with the foreign-funded enterprises in the newly developed goods and factor markets (although the government is still struggling to reform the SOEs, because so many privileges still exist). Markets for labour, land, capital and foreign exchange were established.

Price reform: prices in the former system did not reflect scarcity or value. Instead, the administration set prices to reach political aims. As a result, input prices were too low and prices of manufactured products were too high and also did not reflect the quality of the goods. To create a rationale interaction of the enterprises in the zone and of the relation between the SEZ and the world markets, a reform of the heavily distorted price structure was necessary and mandatory planning had to be abandoned. For this end, a system with three kinds of prices was introduced: fixed prices, floating prices and free prices. Fixed prices are today only used for a very small number of daily necessities either to protect the basic need of the consumers or to limit the cost increases in the firms. For other goods, which have great importance as well, the price bureau sets a range in which prices can float. Free prices, the aim of reforms, are finally used for an increasing number of goods and increase the incentive to the producers, because they now get the chance to influence their profits by pricing policies. Already in 1985, free prices in Shenzhen SEZ made up 85% of all commodities (Chen 1991: 80).

Employment: the guaranteed employment system ('the iron rice-bowl') was dissolved and instead a labour market including a contract system was introduced. Companies in the SEZs are free in hiring employees and are supported by the labour service company in finding qualified personal. The companies have more possibilities to vary wages and to use benefits as incentives.

Banking system: foreign banks were allowed to open representative offices and other functions of the financial system were reformed including stocks and bonds markets and a variation of the interest rate. Other institutions of the financial sector like the swap centres for foreign exchange were firstly tested in the SEZs.

Capital construction: it is not any more planned, co-ordinated and realised by a planning institution, but construction enterprises are selected by tender. The physical development is not sole responsibility of the government anymore, but other forms of participation, including private firms are introduced (Zhu 1996: 189).

One of the first and one of the major experiments realised in the SEZs was the opening to the outside world. It was so successful, as was already discussed in chapter 3 that already in 1984 the next steps of the opening up process followed in which the policy was extended to other cities and regions all-over the country:

"The Chinese economic reforms since 1978 have been based on pragmatism and flexibility, with a willingness to experiment and learn

from experiments almost unique among developing countries. Once the fear of the unknown was overcome and the benefits of foreign investment recognised, city after city and province after province pressed to be opened up to foreign investment and trade." (Wall 1993: 245)

One key example for the influence of the experiments in the SEZ on the development of the reforms in the rest of the country is the Shenzhen Foreign Economic Contract Law, which was passed in January 1984 (Wang 1988a: 108). It regulated all contractual relations between foreign and domestic enterprises or organisations in the SEZs, including all contracts in which WFOEs or sino-foreign joint-ventures are involved. Although the law was only valid in the zone itself, projects in other areas often used it as a reference point in their transactions. In March 1985 the National Foreign Economic Contract Law was passed. Its formulation was directly influenced by the experiences which had been made in the SEZs. Wang (1988a: 111) summarises that the law:

"[...] has also provided the Chinese central government as well as other provinces and cities with valuable experience in many different aspects of economic cooperation. If this were not the case, the national law regulating the same subject would not have been as successful and effective as it is."

Ahrens and Meyer-Baudeck (1995) also see the potential of SEZs as experiments to reduce the economic costs of the transformation, but they see the main problem in the actual situation of the reforms. Typically, the reforms are started in a situation under great pressure. Therefore, any delay of the whole reform can have massive negative and destabilising effects. But this was, of course, not the case in China. Although the necessities of reforms became obvious in the second half of the 1970s, the direct pressure on the Chinese government was not that high. Because of the inexperience of the Chinese decision-makers and no other country that could be used as an example to learn from, China decided to start limited reforms in selected areas. Besides Ahrens and Meyer-Baudeck (1995: 92) see the incompatibility of a market oriented SEZ with a surrounding planned economy when interaction between the different regions is intended. This is for sure a major point to consider and the Chinese problems with smuggling and other economic crimes in the SEZs and at the borders between the SEZs and the rest of the country demonstrate this very clearly. How is it possible to create an enclave where another economic system exists and at the same time to integrate it into the domestic economy?

There are other problems that have to be taken into account. It is necessary to ask how the experiences of the experiments can be transferred to other parts of the country. Some reform experiments in the more developed SEZs might be relevant for other large cities which have a similar structure as the SEZs, but they might be irrelevant for rural areas. Other experiments, like those on Hainan island might just

be relevant for the less developed rural areas while their relevance for the urban areas is very small. It has to be asked in each individual case, to whom the experiences can be useful, how they can be used and how the preconditions might differ so that the transferability is only limited.

A central aspect of the experiments as has been discussed above is their information revealing mechanism. On the one hand they can show foreign observers which further reforms are planned. On the other hand and more relevant, this information is transferred to domestic players who can use this information on future reforms to evaluate the effect of the policies on themselves and to formulate strategies to overcome potential negative effects. We will come back to these points in chapter 8.

4.5 China's Negative Experiences with Foreign Capital

The theoretical results of the effects of FDI in tariff distorted economies are not very encouraging. Mundell emphasises “Capital can be attracted to a capital-scarce country by a tariff, but the capital movement can only alleviate some of the unfavourable effects of the tariff; it cannot eliminate them.” (Mundell 1957: 333). Brecher and Diaz-Alejandro (1977) have discussed in a more general setting that such a tariff induced capital inflow is necessarily welfare decreasing if foreign capital income cannot be taxed. In the theoretical discussion of the effects of foreign capital inflow on the host country, the theory of immiserising growth has emphasised the potential negative effect on the host country. These models have analysed the conditions under which the increase of the capital endowment of the host country can deteriorate national welfare.

These results can be related to the analysis of the effects of SEZs. It reveals that the inflow of foreign capital into a tariff distorted economy induced by the tariff creates additional costs. So that the possible aim of a government in a transforming economy to attract foreign capital (the reasons why the government might be interested in the inflow of foreign capital have already been discussed above) by means of a tariff can be reached but at additional costs. The question is whether the creation of a SEZ with free labour mobility in the country (not internationally) and free capital mobility from abroad into the SEZ (but not in the rest of the country) could reduce this cost.

Bhagwati (1973) discusses an example in which the inflow of foreign capital reduces the distortion of the tariff on the import good and thereby increases national welfare. This possibility has of course also to be taken into account. Although most developing countries protect their capital-intensive sectors (see Krueger 1981) which are as well the import goods so that in these cases the analysis of Bhagwati cannot be applied and the capital inflow increases the distortion of the tariff. This is already the basic mechanism of the models, which are described in chapter 6. But as

Schweinberger (1998) has discussed, this effect is only part of the overall effect of SEZs.

Therefore, we look briefly at the negative effects China has experienced from the foreign capital inflow, before we go into more detailed analysis of the theoretical models in chapter 6. The main negative experiences of China following Nournoff (1988: 209) were:

- China was the recipient of outdated and backward technology.
- The value of foreign technology was greatly overestimated.
- China was the recipient of some of its own exported components as part of full production lines. In addition some components were locally available at a lower price.
- The inexperience of the Chinese negotiators, whose skills were more in the area of foreign language than in economics, was fully exploited by the multinational-capital side.
- The Chinese side was undervaluing its contribution to joint ventures, as foreign capital was employing a 'commodity price' and the Chinese side a 'socialist price.'
- Compensation trade agreements were signed that denied the Chinese side any share of profit until full payback had taken place.
- Inadequate specifications of foreign-supplied equipment required the fast assembly of inspection teams travelling abroad at substantial cost and project delay.
- Chinese non-participation (sometimes at China's own request) in foreign marketing resulted in profit loss and the failure to gain marketing experience.
- Joint ventures were proposed whereby foreign equity contribution would be limited to patent rights transfer, while the Chinese side was to be responsible for cash contribution plus operating capital guaranteed by the Bank of China.

The transfer of outdated technology is often a complaint of the Chinese government which is surprising, because obviously a labour-intensive technology, which is outdated in a western country with high labour costs, can be appropriate from the economic point of view in a country like China with an abundant labour force, because outdated normally means that it is not cost effective. But with other relative factor prices, higher capital costs and lower labour costs as in the case of China, the technology can be appropriate. It is especially surprising that the Chinese government normally states the aim to increase the employment through foreign

investment⁶⁸, but at the same time equate modern technology with labour-intensive technology, which is of course often not the case. The complaint has therefore to be qualified that not the age of a technology is the decisive factor, but the appropriateness.

The investors from Hong Kong and other Asian countries used China, especially Guangdong and Fujian provinces as investment locations to shift low-skilled jobs across the border and invested mainly in simple assembly and processing plants (producing simple goods like toys, textiles, and plastic flowers). These goods were mainly for export. Due to the rising labour costs in these countries the production in the home countries was not competitive any more.

Western investors were more attracted by the potentials of the huge domestic market and wanted to develop a foothold in the economy. The production for export was less essential for the western investors. Especially, the low quality standard in Chinese production processes made the production of export goods not an attractive alternative for them (Pearson 1991: 32). To serve the Chinese market, the immediate transfer of the latest technology was not necessary, because the market for high quality products has not been developed in China yet. Besides, these investors did not want to generate their own competition for third markets. Volkswagen in Shanghai is an example for this strategy (Heiers, Schattschneider and Zapf 1988: 170). The production of the Santana model which was stopped in Europe, because it was not possible to sell the car on the European markets, was moved to China, because the company expected that the car could be sold on the Chinese market. They did not want to start producing VW-Golfs in China, because they tried to avoid that Golfs from China would be sold in other Asian countries (personal interview, VW Shanghai).

Another reason for not transferring modern technology is the limited availability of qualified labour. China expected that it would be easy to learn from the use of the modern technology in projects with foreign participation and to transfer it to other domestic enterprises. But the Chinese side learned fast that the transfer of technology, either as direct transfer or as spillovers to domestic enterprises is a complicated process which requires a basic level of human capital in the domestic

⁶⁸ The effect of FDI on employment is ambiguous anyway, because it is not clear, what the overall effect will be. On the one hand, new foreign firms of course employ people, but one has to ask from where the people come. The demand for qualified workers often draws personal out of existing jobs and because of the scarcity of these workers, the foreign firms only increase the competition for these workers. On the other hand, the Chinese partner might provide workers from the overstaffed own production so that the open unemployment is not affected although the hidden underemployment is reduced. Finally, the new technology of foreign enterprises might increase the productivity of labour and thereby reduce the over-all demand for labour.

enterprises.⁶⁹ Most of the other points, Nournoff mentions, are the typical result of inexperience which have been overcome in the meantime.

4.6 The Development without SEZs

Another key point is the question of what would have happened without the policy change in form of the establishment of the SEZs. As is well-known from cost-benefit analysis of investment projects, the next best (mutually exclusive) alternative plays an important role in the evaluation of such projects. Any serious cost-benefit analysis must include a with and without comparison. The net benefit of the best alternative has to be subtracted from the analysed project, because this benefit could be realised by using the available resources. In most cases it does not make sense to assume that without the project the development would continue as in the past. This is also the case with the analysis of the establishment of SEZs. We will use this point as a major critique in chapter 7 when we discuss the cost-benefit analyses which have been conducted in respect to the Shenzhen SEZ.

The establishment of the Chinese SEZs has influenced the regional distribution of the economic development as Chao (1994: 68) describes:

"While SEZ in southern China have surged ahead of the rest of China in economic development, it is clear that this achievement has been made at the expense of inland areas in the sense that resources which otherwise could have been devoted to developing inner regions in China had been diverted to the coastal cities."

A kind of a main objective of the establishment of the SEZs was the attraction of foreign capital. It is not very reasonable to assume that without the establishment of the zones, no foreign capital would have moved into China or especially into the regions where the zones are located. This becomes clear looking at Tab. 14 and Tab. 15 on page 66 and 67. The two provinces with the original four SEZs, Guangdong and Fujian, have in the beginning dominated the attraction of foreign capital. Tab. 20 illustrates that in 1984 and 1985 these two provinces together had a share in the total FDI inflow of 68% and 58%, respectively. But these investments were by far not only in the SEZs. The last row in Tab. 20 demonstrates the share of all five SEZs (including Hainan) in the total FDI inflow. In the early years between 25% and 30% of the total foreign capital was invested in the SEZs, which means that still more than half of the investments in Guangdong and Fujian were realised outside of the SEZs. The overall investment in the SEZs were therefore a smaller share in the total FDI.

⁶⁹ In theoretical models these technology spillovers are often modelled as the aggregate industry output being an argument in the production function so that the additional production of a good by foreign capital has an effect on the production of the whole industry, but this theoretical automatism has of course to be promoted in practise.

Tab. 20: Shares in FDI inflow

	1984	1985	1989	1990	1991	1992	1993	1994	1995	1996	1997
Guangdong	62%	49%	38%	45%	45%	32%	29%	28%	28%	28%	27%
Fujian	6%	9%	10%	9%	10%	13%	11%	11%	11%	10%	9%
Jiangsu	13%	3%	4%	4%	6%	12%	11%	11%	14%	12%	12%
Shandong	2%	3%	5%	5%	4%	9%	7%	8%	7%	6%	6%
Shanghai	4%	8%	12%	5%	4%	7%	9%	7%	8%	9%	9%
Coastal	95%	87%	88%	92%	92%	88%	83%	84%	86%	86%	83%
Central	5%	7%	10%	6%	6%	8%	11%	9%	10%	11%	13%
Western	1%	6%	3%	2%	2%	4%	7%	6%	4%	3%	3%
SEZ	29%	23%	25%	25%	21%	13%	N.A.	N.A.	14%	15%	13%

Source: China State Statistical Yearbook, various issues, own calculations

Over the years the role of the SEZs as a destination for foreign capital inflow has decreased considerably and fell to about 15% in the second half of the 1990s. This shows that in the early years as a result of the more limited access to the DZ and the less developed institutional framework, a larger proportion of foreign investors chose the SEZs as locations. But this might be explained by the mechanism discussed above that the SEZs gave foreign investors the possibility to collect information about other investment locations as well and to move on when the conditions have improved.

Due to the fact that all the years for which data are available, the FDI inflow into the SEZs was below 30% of the total for the whole of China, we are convinced that it is correct to say that China was an attractive location for FDI in any case, even without the SEZs. Of course, it would be interesting to know, which share of the FDI inflow has been attracted solely by the SEZs and which share has been attracted by the general advantages of China and only chose the SEZs as a location. Using the fact that in 1984, the first year for which data for the SEZs are available, 70% of the foreign capital was invested outside of the SEZs, it seems from our point of view safe to conclude that a major share of the foreign capital in the SEZs would have been invested in China also without the establishment of the SEZs. The use of the 70% which would be one possibility, seems to be too high, because the special incentives of the SEZs should have had some effects on foreign investors. But we want to keep in mind for our later analysis that at least there are some indications that a major share of the FDI would have come into China anyway, although we cannot quantify the exact share. The assumption that the whole invested foreign capital in the SEZs has been attracted only by the special zones so that the benefits of the foreign capital can be attributed to the zones, would result in a massive over-estimation of the positive effects of the SEZs.

5 The Development of SEZs in China

In chapter 2 we have discussed the institutional characteristics of the Chinese SEZs in general, chapter 3 described the reform policy and the role of the SEZs in the overall reform concept and chapter 4 has analysed the foreign and domestic interests related to the SEZs. In this chapter we are going to analyse the actual development of the five SEZs as reflected in the official statistics in more detail. In order to do this we start with the summary of the main statistical data of the five zones in sections 5.1 to 5.5, which outlines the development of the zones during almost 20 years of reforms.⁷⁰ Section 5.6 gives a direct comparison of the five zones.

5.1 The Shenzhen SEZ

With 316 sq. km, Shenzhen SEZ was the largest of the original four SEZs. The city of Shenzhen covers an area of 2,020 sq. km (SZSYB 1998: 95). It has a common border with Hong Kong and the distance to the city centre of Hong Kong is just about 30 km. When the SEZ was established, Shenzhen was a small town with little potential for economic development. In contrast to the SEZ of Xiamen and Shantou, no industrial base existed in Shenzhen. The only advantage Shenzhen had was its geographical location, including the closeness to Hong Kong and direct link to the international trading routes.

Shenzhen was chosen exactly for this geographical advantage. In the second half of the 1970s, China was already contemplating the reunification with Hong Kong and Taiwan. To reach this aim it was essential to prove beforehand that the Chinese government, although a Communist government, would be able to guarantee the continuation of the functioning of these market oriented economies. In 20 years since the establishment of Shenzhen SEZ the city has developed into a key economic centre in the southern coastal region and has been transformed into a modern city with about 4 mill. inhabitants in 1998 (according to the official statistics, some estimations even speak of around 6 mill. people)⁷¹. In this time a modern infrastructure in the city has been developed and the city has been connected to the other economic regions in China and abroad. It has become an important intermediary between the Chinese economy and the world markets. At the same time it became one of the main locations for foreign investment in China. Shenzhen is by far the most advanced and most successful SEZ in China.

⁷⁰ The discussion of the statistics is very detailed, because such a discussion can only be found in the literature for Shenzhen and this only for earlier years. From our point of view it is important to include all five SEZs and also to look at a longer period to get a more comprehensive picture of the zone's development, otherwise looking only at Shenzhen SEZ could definitely lead to wrong conclusions, because of major differences between the zones.

⁷¹ Personal interview in Shenzhen, October 1998.

Population

After the establishment of the SEZ, Shenzhen city developed rapidly not only in economic terms. The former small town was transformed in less than 20 years into a modern city with over 3.8 mill. inhabitants in 1997 of which 2.7 mill. or 72% had only temporary residents cards (see Tab. 21). In China, the so called *Hukou* or household registration system controlled the migration in the country for a long time. The *Hukou* is a resident card which permits the owner to live permanently in a city and gives them access to public services like schools and kindergardens for their children. Temporary resident cards only allow the owner to work for a limited period of time in a city. These people have to move back to their home regions afterwards. During the reforms the restrictions on migration were increasingly reduced which led to a migration of millions of workers in the whole country. The second row of Tab. 21 displays that the major share in the population of Shenzhen comes to Shenzhen just for employment reasons. Because of higher wages, better chances to get employment and the availability of higher quality goods, Shenzhen and the other SEZs were and still are a very attractive place for many migrants.

Tab. 21: Population in Shenzhen [mill.]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Population	0.31	0.33	0.88	2.02	2.39	2.61	2.95	3.36	3.45	3.58	3.80
Temporary Population		0.01	0.40	1.33	1.65	1.81	2.07	2.42	2.46	2.55	2.72
Employment Share	45%	45%	38%	54%	53%	57%	71%	66%	71%	71%	72%

Source: SZSYB (1998: 96, 118), own calculations

This had a direct effect on the share of employed people in the total population. In the first years of the development of the SEZ, only about 45% of the total population was employed and until the mid 1980s this share fell even below 40%. From 1990 onwards, this development was reversed and an increasing share of the population became employed so that in 1997 over 70% (2.72 mill.) of the population were employed, a very high percentage for any country or region. This demonstrates again one of the major and very important social characteristics of the population structure in Shenzhen. Many people from the interior provinces migrate to Shenzhen for a limited period of time, accept a temporary residence card for this purpose and do not bring their families so that the share of employed in the population is much higher than in other parts of the country.

Sources of infrastructure investments in Shenzhen

An interesting aspect of the development of the Chinese SEZs is the finance of the infrastructure investment as summarised in Tab. 22.⁷² In 1980, the central government and the provincial government were the major sources of investment in infrastructure with together 66%. With 16% the municipal government was a major

⁷² On the planning of infrastructure investment in Shenzhen SEZ see Kwok (1986: 48)

investor and surprising for this early time is that foreign capital already contributed 13%. This increased in 1982 to over 50%, while the share of the central and provincial government decreased rapidly. In the following years, the contribution of foreign investors decreased, but stayed between 15 and 30% of total investment. During the same time the contributions of private companies from Shenzhen increased to almost one third in 1990, while the contribution of the central government fell below five percent already in 1985.

Tab. 22: Sources of infrastructure investments 1980-1989⁷³

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Central government	34%	24%	8%	7%	5%	1%	2%	3%	1%	1%	0%
Domestic financial agencies (loans)	0%	6%	12%	33%	37%	40%	19%	14%	17%	16%	12%
Foreign capital	13%	44%	51%	29%	27%	18%	14%	19%	17%	15%	32%
Municipal government (Shenzhen)	16%	8%	12%	10%	9%	14%	17%	18%	13%	11%	14%
Funds of department of province/city (except of Shenzhen)	32%	11%	9%	9%	8%	10%	15%	16%	12%	12%	1%
Funds of private companies in Shenzhen	5%	7%	8%	8%	10%	14%	26%	15%	31%	26%	30%
Internal corporations	0%	0%	1%	3%	4%	1%	7%	10%	0%	4%	0%
Others	0%	0%	0%	0%	0%	2%	2%	5%	9%	15%	11%

Source: Park (1997: 72), own calculations

Gross Domestic Product

All over the world the dramatic economic growth in the Chinese SEZs has been recognised. While the annual growth of the real GDP in the whole of China was 8,2% between 1980 and 1997, the real GDP of the Shenzhen SEZ grew with an annual average of astonishing 28.5% over these years. Tab. 23 reveals that until 1989 the absolute level of the real GDP was not very high and did not reach 4 bill. Yuan after the first 10 years of reforms. But in the next 8 years growth exploded to reach over 17 bill. Yuan in 1997.⁷⁴

Besides the increase in total real GDP, the change in the shares of the different sectors are characteristic for the economic development and the transformation of the zone economy. While the secondary and tertiary industries show impressive growth rates, the primary industry almost did not grow at all in the 1990s as can be seen from Tab. 23.

Already in 1979, contrary to what could be expected in an agrarian country, agriculture was in respect to its GDP with 70 mill. Yuan not the largest sector. The

⁷³ Data for the following years were not available.

⁷⁴ In a number of publications one can find the description of Shenzhen in 1979 as a fishing village. But the size of the GDP, especially of the non-agricultural GDP shows that this cannot be the case. The population of 310,000 in 1979 (see Tab. 21) is not the size of a fishing village, even in Chinese standards.

tertiary industry was with 80 mill. Yuan already lager. The secondary industry was with 40 mill. Yuan the smallest sector. During the reform process this changed fundamentally. Until the early 1990s, agriculture's GDP grew to 240-290 mill. Yuan and stayed in this range in the following years. The secondary and tertiary industry both grew much more rapidly and had each a GDP of over 4 bill. Yuan in 1992. The secondary industry then grew much faster, but in 1996/97 the tertiary industry followed so that in 1997 both reached a GDP of almost 8.6 bill. Yuan.

Tab. 23: Real GDP in three sectors [bill. Yuan, prices of 1979]⁷⁵

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	0.07	0.08	0.16	0.21	0.24	0.29	0.25	0.27	0.22	0.25	0.24
Secondary Industry	0.04	0.07	0.97	2.32	3.30	4.16	5.58	6.47	7.14	7.60	8.56
Tertiary Industry	0.08	0.11	1.20	2.65	3.40	4.22	4.38	5.10	6.26	7.25	8.58
Total	0.19	0.26	2.33	5.18	6.94	8.67	10.21	11.84	13.62	15.1	17.38

Source: SZSYB (1998: 110), own calculations

Tab. 24: GDP shares of the three sectors

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	37%	30%	7%	4%	3%	3%	2%	2%	2%	2%	1%
Secondary Industry	21%	26%	42%	45%	48%	48%	55%	55%	52%	50%	49%
Tertiary Industry	42%	44%	52%	51%	49%	49%	43%	43%	46%	48%	49%

Source: SZSYB (1998: 110), own calculations

The share of agriculture in the total GDP has decreased from 37% in 1979 to just 1% in 1997. While the share of the tertiary industry stayed between 42% and 52%, the share of the secondary industry increased from 21% in 1979 to 49% in 1997, with a maximum of 55% in 1993 and 1994

The decreasing role of the agriculture can also be seen from the changes of the cultivated area as presented in Tab. 25. While in 1979 an area of 53,000 Mu⁷⁶ were used for agriculture production, in less than 20 years this area has been reduced to only 6,000 Mu, an annual decrease of 12.9%. Taking Tab. 23 into account, it is astonishing that the agriculture was able to increase the real GDP. Between 1979 and 1990, while the production area decreased by 47%, the real GDP tripled. Then, between 1990 and 1997, when the area decreased by over 78%, the real GDP did not fall. This illustrates the tremendous increase in the productivity of agriculture in Shenzhen.

Tab. 25: Cultivated area [Mu]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Cultivated Area	53,000	49,000	34,000	28,000	23,000	16,000	9,000	7,000	7,000	8,000	6,000

Source: SZSYB (1998: 181), own calculations

⁷⁵ Primary Industry: agriculture. Secondary Industry: industry and construction. Tertiary Industry: transportation storage, postal and telecommunications services, wholesale and retail sale, banking, insurance, real estates, research, social welfare, public security and so on.

⁷⁶ Mu is the Chinese measure for agriculture area and corresponds to 0.0667 hectares.

These figures demonstrate the rapid economic development of Shenzhen and the fast change in its economic structure, which has developed into a modern economic structure with a large tertiary sector.

The Gross Output Value of Agriculture and Industry⁷⁷

The extent of the transformation of the regional economy of Shenzhen after the establishment of the SEZ can be seen in the change of the gross output values of agriculture (GOVA) and industry (GOVI). The real GOVA increased from 130 mill. Yuan in 1979 to 420 mill. Yuan in 1997, which is equivalent to an annual increase of 6.7%. Industry had in 1979 a real gross output value of only 100 mill. Yuan, which increased to 25.6 bill. Yuan in 1997, corresponding to an annual increase of 36%. This high growth is especially the result of the extremely fast growth before 1990 (over 46% p.a. between 1979 and 1990), while in the 1990s the annual growth rate was about 21%. As Tab. 26 shows, heavy industry's gross output value was just one third to one half of that of light industry before 1993. Until 1997 heavy industry has then grown so much faster that its output value is now only 25% less than that of light industry.

Tab. 26: Gross output Value of Agriculture and Industry [bill. Yuan, prices of 1979]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
GOVA	0.13	0.16	0.28	0.36	0.42	0.51	0.44	0.43	0.40	0.43	0.42
GOVI	0.10	0.10	1.50	6.64	9.23	11.88	15.42	20.47	20.99	22.70	25.63
GOVI Heavy Ind.	0.00	0.00	0.36	1.63	2.70	3.77	5.00	8.68	9.60	9.98	11.31
GOVI Light Ind.	0.10	0.10	1.14	5.01	6.54	8.11	10.42	11.80	11.39	12.72	14.33

Source: SZSYB (1998: 139)

In the early years of the SEZ, only light industry was present in the region. But already at the end of the first half of the 1980s, the heavy industry took up one quarter of the real gross output value of the whole industry. Until the late 1990s, heavy industry expended its share to 44%, while the share of light industry contracted correspondingly from 100% to 56%. It is very surprising that especially in the years after 1993 heavy industry has increased its output value so rapidly. It was not possible so far to find the reason for this development. Various possibilities can be thought of: (1) heavy investment in this sector, but this cannot be verified with the official statistics, because the statistical data on investment do not distinguish light and heavy industry; (2) rising costs of the inputs and rising prices of the outputs have increased the output value rapidly, but the costs as well so that value added might not have changed so much, but these data were also not available and (3) the production has become more segmented so that more enterprises are involved in the whole production process which would result in double counting (for the problem of double counting see CSY 1998: 488). But this development should be more pronounced in

⁷⁷ Gross output value is defined as the total value of agricultural or industrial products sold or available for sale (CSY 1998: 427). This means that the GDP figures only show the value added, the comparison with the gross output value figures which also include the input costs

light industry than in heavy industry. We tend to believe that the first reason is most convincing, but it is still surprising that especially Shenzhen should have invested strongly in heavy industry.

Comparing the GDP data for agriculture in Tab. 23 with the GOVA from Tab. 26 shows that the value added in the early years was close to 50% of the production while it increased closer to 60% in the 1990s. The same comparison for the goods producing industry (only the secondary industry of Tab. 23) illustrates that in 1979 value added was at 40% of the production value, it increased then to 60% in 1980 and 65% in 1985 and decreased then continuously to about 30 to 35% in the 1990s. This massive decrease in this share is surprising in the first place, but it can easily be explained by the increased division in the production process. More enterprises are now involved in the whole production of the goods and the problem of double counting in the GOVI becomes more pronounced.

Tab. 27: Shares of light and heavy industry in real GOVI

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
GOVI Heavy Ind.	0%	0%	24%	25%	29%	32%	32%	42%	46%	44%	44%
GOVI Light Ind.	100%	100%	76%	75%	71%	68%	68%	58%	54%	56%	56%

Source: SZSYB (1998: 139), own calculations

Tab. 28 gives an interesting extension for structural change in the early years (comparable data for the 1990s were not available).

Tab. 28: Shares in gross output value by sector 1980-1989 [%]

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Agriculture	9%	5%	3%	1%	2%	1%	1%	2%	1%	1%
Industry	19%	31%	22%	31%	35%	35%	48%	58%	51%	63%
Construction	47%	46%	57%	47%	40%	43%	31%	22%	17%	23%
Transportation and Communication	8%	4%	3%	4%	4%	4%	4%	3%	20%	3%
Commerce	17%	14%	15%	17%	19%	17%	16%	15%	11%	11%

Source: Park (1997), own calculations

The construction sector, although never employing more than a quarter of the labour force, had in 1980 the highest production value of all sectors and accounted for almost half of the total production value. Until 1982, the construction sector increased its share up to 57% and started to decline to about 20% from 1983 onwards. A more continuous development had the industrial sector. Between 1980 and 1989, industry increased its share in the total production value from 19% to about 60%. Very evident is the fast relative decline of the agriculture in comparison to the other sectors. Its share declined from 9% to only 1% of the total production value.

Employment

The employment shares in the three sectors also reflect the changes in the economic structure in Shenzhen. In 1997, only 1% of the total employment is still in the

of the intermediates make them important for conclusions about the changes in the ratio between costs and value added.

primary industry; the major share with 56% has the secondary industry, while the tertiary industry has with 43% a relative high share.⁷⁸ For the whole of China these shares are 50%, 24% and 26% (1997), respectively. The transformation process can be seen from the fact that for the province of Guangdong the distribution is between these two extremes with 41% employment in the primary industry, 33% in the secondary and 26% in the tertiary industry.

As was already mentioned above, employment increased at the very high rate of 14.9% per year between 1979 and 1997 in Shenzhen. Through most of the reform process, the so-called township and village enterprises (TVEs) dominated the labour market as presented in Tab. 29. At the beginning of the reforms and in the 1990s they were by far the largest employers in Shenzhen. Their labour force increased from 95,000 in 1979 to 1.2 mill. employees in 1997. In the first half of the 1980s, the SOEs increased their employment so that in the mid 1980s, the SOEs had the largest share in total employment with 52%. By 1990, this trend had already been reversed and the TVEs had the largest shares again. In the 1990s, the employment of the SOEs stayed more or less the same. Collective enterprises expanded its labour force, from 7,000 in 1979 to 87,000 in 1997 with a maximum of 110,000 in 1995, but had still the smallest share.

Tab. 29: Employment ['000]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned enterprises	34	40	170	340	390	390	410	390	400	410	410
Township enterprises	95	97	84	430	500	590	690	1,000	1,100	1,100	1,200
Collective enterprises	7	8	30	50	70	80	50	80	110	95	87
Self-employment	4	4	6	30	40	90	290	320	460	490	610
Others	-	-	30	160	190	240	310	350	380	390	420

Source: SZSYB (1998: 124)

Tab. 30: Shares in Total employment

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned enterprises	24%	27%	52%	31%	31%	26%	20%	17%	17%	16%	15%
Township enterprises	68%	65%	25%	39%	39%	40%	33%	45%	45%	43%	44%
Collective enterprises	5%	5%	9%	5%	6%	5%	2%	4%	4%	4%	3%
Self-employment	3%	3%	2%	3%	3%	6%	14%	14%	19%	19%	22%
Others	0%	0%	9%	15%	15%	16%	15%	16%	16%	15%	15%

Source: SZSYB (1998: 124), own calculations

Two other points worth mentioning are the increased shares of the self-employed people and the employees in other enterprises. The self-employment is a new concept of the reform policy. Before, the work unit (the so-called *danwei*) was the employer and provided social benefits, like accommodation, kindergarten, pensions and health care. Not belonging to a work unit therefore means that the individuals themselves are responsible for their health care, their pensions, accommodations and so on. As

⁷⁸ The data for the changes in sectoral employment over time were not available, but it can be expected that the employment shares changed in a similar fashion as the GDP shares.

the figures in Tab. 29 and Tab. 30 illustrate, the alternative of self-employment became attractive to more and more people, who dared to take the risk. Until the first half of the 1990s, only 3% of all employees in Shenzhen were self-employed. Until the mid 1990s, this share had increased to 19% and in 1997 over one fifth of all employees had chosen this alternative.

The other interesting aspect of the changes in Shenzhen is contained in the position 'others'. For the foreign-funded enterprises which are not listed separately in these statistics, but make up the major part of the position 'others', only the employment figures for 1997 were available. In this year 345,000 people were employed by enterprises with foreign capital, which means that 82% of the position 'others' was employment in foreign invested enterprises so that in 1997 these enterprises had 12.3% of the whole labour force employed and were thereby almost as important as employers as the SOEs.

The share of the foreign enterprises in the total wage payment is very impressive (please note that a direct comparison with the employment data is not possible, because the TVEs are not included in the wage data). In 1997 foreign-funded enterprises paid over 5 bill. Yuan in wages or 34% of the total wage payments of 14.8 bill. Yuan (see Tab. 31).

Tab. 31: Total Wages and Average Wage per Worker [bill. Yuan, Yuan]

	Total Wages	Average Wage
State-owned Enterprises	7.45	19,000
Collective Enterprises	0.88	10,000
Foreign Funded I*	1.65	16,000
Foreign Funded II	3.36	15,000
Others	1.46	
Total	14.8	

Source: SZSYB (1998: 310), own calculations

* Foreign Funded I – Investments from other countries than Hong Kong, Macao and Taiwan;

Foreign Funded II – Investments from Hong Kong, Taiwan and Macao.

Very surprising are the official statistics in respect to the average wage paid, because interviews in the SEZs generally bring the result that higher wages in the foreign firms are the reason why they are so attractive for many Chinese employees. This would be in accordance with the official regulations on wages in foreign-funded enterprises which states that wages in joint ventures should be 120% to 150% of real wages in SOEs (Wang 1988a: 107). But the official data presented in Tab. 31 demonstrate that the SOEs pay the highest average wages in Shenzhen, almost 20% higher than the wages in the foreign-funded enterprises. We do not think that this is very convincing. It might as well be the case that the total wages paid by SOEs are overestimated in the official statistics and therefore the average wages are stated higher than they actually are. This would mean that the share of foreign-funded enterprises in the total wages paid is even higher. But as no further data are available, we cannot come to a final conclusion in this point.

Very interesting is the development of the significance of various sectors in the employment. This can be seen from Tab. 32:

Tab. 32: Employment shares in different sectors [%] 1980-1997

	1980	1985	1988	1989	1995	1997
Agriculture	26%	2%	2%	1%	1%	1%
Industry	23%	30%	46%	51%	48%	45%
Construction	0%	14%	9%	9%	9%	10%
Transportation and communication	8%	7%	4%	4%	6%	6%
Commerce and restaurants	21%	23%	18%	14%	12%	11%
Real estate and hotel management	1%	8%	10%	9%	3%	3%
Banking and insurance	2%	2%	2%	2%	3%	3%
Others	20%	15%	10%	10%	19%	20%

Source: Park (1997), SZSYB (1998: 308), own calculation

Tab. 32 reveals the tremendous intersectoral shift in employment between 1980 and 1997. In 1980, the combined employment of agriculture, industry and commerce made up 70 per cent of the total labour force. In 1989, this combined share had almost not changed (66 per cent), but the internal distribution had fundamentally changed. Agriculture, in 1980 the sector with the largest share in the total employment, became already totally insignificant in 1989. Instead, industry became the largest employer with over 50 per cent of the total labour force employed there. Until 1985 the construction sector increased its share in total employment as well. After 1985 its relative importance declined again, although the absolute number of employees in the construction sector still increased. Tab. 32 demonstrates that in the 1990s not so much change in the employment distribution took place anymore. The major restructuring had already taken place. Industry stayed with an employment share between 45 and 50% the major employer, while agriculture remained with a share of 1%. The main loser in the 1990s was the real estate and hotel sector.

International Trade and Foreign Investment

The traditional Maoist policy of autarky is responsible that at the beginning of the reform policy, foreign trade was almost non-existent, as can be seen from Tab. 33. Shenzhen started on a especially low level of foreign volume of only 10 mill. US-\$. In a short period of time, the new possibilities of conducting foreign trade, transformed Shenzhen totally. In the mid 1980s, import and export values had already crossed the 500 mill. US-\$ volume per year. At the beginning of the 1990s, exports had reached a value of over 8 bill. US-\$ and imports of over 7 bill. US-\$. Both figure increased constantly, exports by almost 18% annually, imports by 14.5%, to reach 25.5 bill. US-\$ and 19.5 bill. US-\$ respectively.

Tab. 33: Exports and Imports of Shenzhen [bill. US-\$]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Exports	0.01	0.01	0.6	8.2	9.9	12.0	14.2	18.3	20.5	21.2	25.5
Imports	0.01	0.01	0.7	7.6	9.6	11.6	14.0	16.7	18.2	17.9	19.5

Source: SZSYB (1998: 284)

Shenzhen's foreign trade has not only increased tremendously in absolute terms, but also its share in the overall Chinese exports and imports as is shown in Tab. 34. Until the mid 1980s, Shenzhen was not relevant for the international trade relations of

China. Until the end of the 1980s, Shenzhen had been transformed into one of the import and export centres of China with about 14% in China's total foreign trade passing through Shenzhen. It is important to note that not all of these exports are produced in Shenzhen and not all imports are consumed in Shenzhen. Shenzhen has a key function as an entrepot for domestic regions of China.

Tab. 34: Shares of Shenzhen's Exports and Imports in China's Total Foreign Trade

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Exports	0%	0%	2%	13%	14%	14%	16%	15%	14%	14%	14%
Imports	0%	0%	2%	14%	15%	14%	13%	14%	14%	13%	14%

Source: SZSYB (1998: 284), CSY (1998: 620), own calculations

Imports and Exports of Enterprises with Foreign Capital

A major difference exists in the role of enterprises with foreign capital in the international trade relations of the whole of China and of Shenzhen. Tab. 35 shows the increasing role foreign-funded enterprises play for the imports and exports of the whole of China. Until the mid-1980s, the imports and exports of the foreign-funded enterprises were only a very small share of the total international trade of China. This changed in the second half of the 1980s. At the beginning of the 1990s the foreign-funded enterprises controlled about 20% of all Chinese imports and exports. Their share increased rapidly to almost 50% of total exports and 66% of total imports. The foreign trade of China might have increased without the foreign-funded enterprises, but especially in the 1990s these enterprises have influenced the speed of the development tremendously.

Tab. 35: Trade of foreign-funded enterprises (FFE), China [bill. US-\$]

	1980	1985	1988	1989	1990	1991	1992	1993	1995	1997
Total exports	18.1	27.4	47.5	52.5	62.7	71.8	84.9	91.7	124.5	151.5
Exports of FFEs	0.01	0.3	2.46	4.91	7.81	12.05	17.35	25.24	46.9	74.9
Share	0%	1%	5%	9%	12%	17%	20%	28%	38%	49%
Total imports	20	42.3	55.3	59.1	53.3	63.8	80.6	104	110.5	118.1
Imports of FFEs	0.03	2.06	5.75	8.8	12.3	16.9	26.4	41.8	62.9	77.7
Share	0%	5%	10%	15%	23%	26%	33%	40%	57%	66%

Source: Park (1997: 72), CFESY (1995), CSY (1998: 620) own calculations

A different role had foreign-funded enterprises in Shenzhen as presented in Tab. 36. In the early years of reforms in the 1980s foreign-funded enterprises had a much greater role to play in Shenzhen compared to the whole of China. In the second half of the 1980s, these enterprises controlled one third of the exports and between one third and over half of the imports. The shares in exports and imports increased till 1997 to 55% and 60%, respectively, which shows that while the foreign-funded enterprises in Shenzhen are above the national average in respect to exports, they are below the average in respect to imports. Not only is the increase in the shares of the trade, which are controlled by foreign-funded enterprises impressive, but it is central to note that the total trade also showed high growth rates so that imports and exports of enterprises with foreign capital increased more than fifteenfold between 1987 and 1997.

Tab. 36: Trade of foreign-funded enterprises, Shenzhen [bill. US-\$]

	1986	1987	1988	1989	1996	1997
Total exports	0,73	1,41	1,85	2,17	21.2	25.5
Exports of FFEs	0,26	0,51	0,56	1,01	11.9	14.1
Share	36%	36%	30%	47%	56%	55%
Total imports	1,12	1,14	1,59	1,58	17.8	19.5
Imports of FFEs	0,64	0,51	0,53	0,87	10.5	11.7
Share	57%	45%	33%	55%	59%	60%

Source: Park (1997: 72), SZSYB (1998: 286), own calculations

These changes in imports and exports directly translate into changes in the trade balance of the firms. While the trade balance of the foreign-funded enterprises is negative on the national level, the foreign enterprises in Shenzhen have a positive trade balance, at least since 1988. We have emphasised the important role of foreign-funded enterprises. But it is also remarkable that 'only' about half of the exports and imports is still controlled by foreign-funded enterprises. This shows how important the establishment of Chinese enterprises without foreign participation in Shenzhen is. But we cannot exactly judge the role of domestic enterprises because of data problems. It has already been mentioned above that Shenzhen is a key transfer harbour for Chinese imports and exports. From the trade statistics alone it is therefore not possible to come to a final conclusion. It might be the case that domestic trade corporations locate in Shenzhen and that their imports and exports are distorting the picture, because they are included in the exports and imports of Shenzhen. Normally, they should not be counted as domestic enterprises in Shenzhen, because they have no direct influence on the economy of Shenzhen.

How the rest of the imports and exports are distributed depending on the ownership of the enterprise is shown in the next table:

Tab. 37: Export and Import Shares by Ownership, Shenzhen [%]

		1986	1987	1996	1997
Exports	Central government and Guangdong Province-run companies	21%	20%	4%	5%
	City-run companies and others	44%	44%	40%	40%
	Foreign-capital companies	36%	36%	56%	55%
Imports	Central government and Guangdong Province-run companies	10%	21%	3%	3%
	City-run companies and others	32%	35%	38%	37%
	Foreign-capital companies	58%	45%	59%	60%

Source: Park (1997), SZSYB (1998: 286), own calculations

Tab. 37 shows that the SOEs from national or provincial level had a share between 10 and 20% in total imports and exports in 1986 and 1987. In these years the SOEs run by the city had with 44% the largest share in the exports, while in respect to imports the foreign-funded enterprises had already a much larger share. Foreign-funded enterprises were able to expand their exports much more rapidly than the SOEs and in 1997 the foreign enterprises were clearly dominating the foreign trade of Shenzhen.

Foreign Direct Investment

Besides the increase in foreign trade, the attraction of foreign capital into the country was one of the main aims of the establishment of the Chinese SEZs. In 1979, Shenzhen had realised foreign investments of only 5 mill. US-\$. Until the end of the 1980s, this volume had increased to almost 400 mill. US-\$. Then, between 1990 and 1997, the annual increase of FDI inflow was 23% to reach 1.66 bill. US-\$ in 1997. At the same time, the foreign capital inflow into the whole of China has increased even faster so that the share of Shenzhen, which was between 10% and 15% in the 1980s until the 1990s, decreased to just 3.7%. This shows that although Shenzhen has attracted high volumes of foreign capital, it is not so essential for the whole of China and its importance for the Chinese trade is much greater than for the foreign investors.

Tab. 38: Foreign Direct Investment in Shenzhen [bill. US-\$]

	1979	1980	1985	1990	1991	1992	1995	1996	1997
FDI	0.005	0.03	0.18	0.39	0.4	0.45	1.31	2.05	1.66
Shares in China	4.5%	15.8%	10.8%	11.2%	9.2%	4.1%	3.5%	4.9%	3.7%

Source: SZSYB (1998: 279)

Although the foreign capital in Shenzhen is only a small share of the overall foreign investment, it is significant for the Shenzhen economy. We have already seen the influential role of foreign capital for Shenzhen in its international trade.

Tab. 39 summarises the decision of the foreign investors to invest in the different legal forms. The data shows, the more flexible contract, but still with a Chinese partner - the co-operative joint venture, was especially attractive in the early years for the foreign investors. Later-on, in the 1990s, when the foreign investors were looking for Chinese partners, they more often chose the form of equity joint ventures.

Tab. 39: FDI in different legal forms [mill. US-\$]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	
Equity Joint Ventures		2	3	70	268	273	206	481	493	331	892	532
Co-operative Joint Ventures		4	19	103	49	52	87	151	214	280	268	208
Wholly Foreign-owned Enterprises		0	6	7	72	74	156	356	543	699	891	921

Source: SZSYB (1998: 279)

Most important, in the years after 1993 most investment was channelled into WFOEs which might have the disadvantage that the investor does not have a Chinese partner who knows the domestic market and has connection to political decision-makers, but with the great advantage of having the whole decision authority. Looking at the number of firms founded in 1997 the picture changes. Of the total of 2,400 industrial enterprises at town level and above (the 7,257 enterprises on village level and below are not included) 1,328 are with foreign capital. Of these 723 (or 54%) were equity joint ventures, 285 or 21% were contractual joint ventures and 320 (24%) were WFOEs (SZSYB 1998: 129). This indicates that still most foreign investors were looking for Chinese partners, but that these investors invested smaller amounts of capital. It is obvious that the foreign investors were willing to invest larger volumes

of capital into their own enterprises when they had full control and were not restricted by joint-venture partners.

Sectoral Distribution of FDI in Shenzhen

Similar to the development in the employment per sector was the development of the FDI per sector between 1980 and 1989 as can be seen from Tab. 40. In 1980, industry and real estate were the major sectors in which foreign capital was used.

Tab. 40: FDI shares per sector in Shenzhen

	1980	1985	1990	1995	1997
Agriculture, forestry, livestock, fishery, and marine production	0%	0%	0%	0%	0%
Industry	44%	20%	62%	70%	78%
Construction	0%	0%	0%	0%	1%
Transportation and communication	3%	5%	1%	10%	9%
Commerce and restaurants	13%	4%	2%	1%	1%
Real estate and hotel management	38%	24%	11%	9%	5%
Others	3%	48%	24%	10%	7%

Source: SZSYB (1998: 280), own calculations

In the mid 1980s, especially in 1985 the statistics show a major share of the FDI in the category 'others', but no reason for this is given or could be found. The clear tendency in the 1990s was that a growing share went into 'industry' and 'transportation and communication', while the share of 'real estate and hotel management' became smaller and smaller. This was the result of the different policy measures against the excessive speculation in real estate. The positions of 'agriculture', 'construction' and 'commerce' are unimportant as a destination of FDI and are only listed to show this.

A very clear picture shows the data on the source countries of FDI (see Tab. 41 and Tab. 42). Hong Kong and Macao are the dominating areas as sources for foreign capital in Shenzhen.⁷⁹ In 1986, 80% of the overall 490 mill. US-\$ came from Hong Kong and Macao. Until 1990 this share had fallen to 50%, but rose again to between 60 and 70% in the following years. The other key source countries were Japan and the USA. The increasing volume under the category 'others' shows that the foreign investment gets more diversified.

Tab. 41: FDI Source Countries [bill. US-\$]

	1986	1990	1991	1992	1993	1994	1995	1996	1997
Hong Kong and Macao	0.39	0.26	0.32	0.46	0.92	1.26	1.05	1.5	2.03
Taiwan	0	0	0	0	0.05	0.11	0.07	0.14	0.07
Japan	0.07	0.17	0.14	0.16	0.21	0.19	0.32	0.3	0.18
USA	0.03	0.04	0.07	0.02	0.16	0.03	0.14	0.11	0.24
Others	0	0.05	0.05	0.08	0.09	0.14	0.16	0.37	0.35
Total	0.49	0.52	0.58	0.72	1.43	1.73	1.74	2.42	2.87

Source: SZSYB (1998: 279)

⁷⁹ On the data problems of the foreign investment from Hong Kong see the discussion on page 65.

Tab. 42: FDI Source Countries [%]

	1986	1990	1991	1992	1993	1994	1995	1996	1997
Hong Kong and Macao	80%	50%	55%	64%	64%	73%	60%	62%	71%
Taiwan	0%	0%	0%	0%	3%	6%	4%	6%	2%
Japan	14%	33%	24%	22%	15%	11%	18%	12%	6%
USA	6%	8%	12%	3%	11%	2%	8%	5%	8%
Others	0%	10%	9%	11%	6%	8%	9%	15%	12%

Source: SZSYB (1998: 279) , own calculations

Firm Structure in 1997

We have already seen above how central foreign-funded enterprises are for the Shenzhen economy. Tab. 43 contains different economic indicators for the foreign-funded, state-owned and collective enterprises in Shenzhen in 1997. Of the 1,802 enterprises with an independent accounting system in 1997, 1,256 or 70% were with foreign capital, of which 993 enterprises were funded with capital from Hong Kong, Macao and Taiwan. SOEs make up 15%, collective enterprises 9% of all firms in Shenzhen. All foreign-funded enterprises together employed 64% of the labour force and produced 83% of the gross industrial output value.

Tab. 43: Economic Indicators of Different Legal Forms 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Foreign Capital [bill. US-\$]	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
State-owned	267 (15%)	53 (10%)	12.2 (9%)	11.7 (9%)	4.4 (11%)	9.2 (21%)	0.068 (0%)	27.0 (15%)	2 (14%)	1.16 (10%)	0.36	0.04
Collective	162 (.9%)	143 (26%)	7.0 (5%)	6.9 (5%)	2.1 (5%)	4.2 (10%)	0.087 (0%)	13.2 (7%)	1.45 (10%)	1.09 (9%)	0.30	0.08
Foreign-funded I*	263 (15%)	90 (17%)	45.3 (34%)	44.5 (34%)	10.2 (26%)	8.4 (19%)	5.7 (31%)	32.2 (18%)	3.89 (27%)	3.35 (29%)	0.23	0.10
Foreign-funded II*	993 (55%)	255 (47%)	69.2 (52%)	66.5 (51%)	19.9 (52%)	19.9 (45%)	12.1 (66%)	99.2 (55%)	6.71 (46%)	5.54 (48%)	0.29	0.06
Total	1,802	541	134.0	129.6	38.5	43.8	18.3	180	14.62	11.52		

Source: SZSYB (1998: 129, 148-153), own calculations;

* Foreign Funded I – Investments from other countries than Hong Kong, Macao and Taiwan; Foreign Funded II – Investments from Hong Kong, Taiwan and Macao.

Tab. 44: Economic Indicators of Light and Heavy Industry 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Foreign Capita [bill. US-\$]	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Light Industry	1,542 (64%)	389 (69%)	66.4 (48%)	64.2 (48%)	17.6 (46%)	21.7 (60%)	10.9 (60%)	73.4 (41%)	4.9 (34%)	3.4 (30%)	0.27	0.05
Farm*	748 (31%)	150 (27%)	26.0 (18%)	25.2 (19%)	7.2 (19%)	9.4 (27%)	4.9 (27%)	27.7 (15%)	2.5 (17%)	1.7 (15%)	0.28	0.06
Non-Farm*	794 (33%)	240 (43%)	40.3 (29%)	39.0 (29%)	10.4 (27%)	12.3 (28%)	6.0 (33%)	45.7 (25%)	2.4 (16%)	1.8 (16%)	0.26	0.04
Heavy Industry	858 (36%)	173 (31%)	71.8 (52%)	69.8 (52%)	21.0 (54%)	22.1 (50%)	7.3 (40%)	106.6 (59%)	9.7 (66%)	8.1 (70%)	0.29	0.08
Raw Materials*	73 (3%)	15 (3%)	14.7 (11%)	14.4 (11%)	7.4 (19%)	11.2 (26%)	2.5 (14%)	57.8 (32%)	3.7 (25%)	3.0 (26%)	0.50	0.05
Manufacturing*	773 (32%)	157 (28%)	57.1 (41%)	55.3 (41%)	13.5 (35%)	10.8 (25%)	4.7 (26%)	48.5 (27%)	6.0 (41%)	5.2 (45%)	0.24	0.11

Source: SZSYB (1998: 129-133), own calculations;

*Farm: using farm products as raw materials; Non-Farm: using non-farm products as raw materials, Raw Materials: raw materials industry; Manufacturing: manufacturing industry

Tab. 45: Economic Indicators of Main Sectors 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Foreign Capital [bill. US-\$]	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Electronic and Telecomm. Equipment	373 (21%)	145 (26%)	61.5 (45%)	59.1 (44%)	13.3 (35%)	8.1 (18%)	3.3 (18%)	43.2 (24%)	5.6 (38%)	4.7 (41%)	0.22	0.11
Sports Goods	102 (6%)	79 (14%)	2.7 (2%)	2.6 (2%)	1.08 (3%)	1.4 (3%)	0.69 (4%)	4.7 (3%)	0.3 (2%)	0.3 (2%)	0.40	0.06
Garments and Fiber Products	262 (15%)	63 (11%)	4.3 (3%)	4.2 (3%)	1.32 (3%)	1.8 (4%)	0.73 (4%)	4.3 (2%)	0.1 (1%)	0.1 (1%)	0.31	0.02
Plastic Products	185 (10%)	39 (7%)	3.5 (3%)	3.5 (3%)	1.16 (3%)	1.5 (3%)	0.70 (4%)	4.1 (2%)	0.3 (2%)	0.2 (2%)	0.33	0.05
Leather, Furs	85 (5%)	35 (6%)	1.8 (1%)	4.2 (3%)	0.48 (2%)	0.7 (2%)	0.34 (2%)	1.7 (1%)	0.9 (6%)	0.1 (1%)	0.27	0.06
Electric Equipment and Machinery	145 (8%)	32 (6%)	5.9 (4%)	5.7 (4%)	1.60 (4%)	1.8 (4%)	1.21 (7%)	5.7 (3%)	0.4 (3%)	0.3 (3%)	0.27	0.05
Instruments and Office Machinery	157 (9%)	21 (4%)	5.0 (4%)	5.2 (4%)	0.97 (3%)	1.5 (3%)	1.06 (6%)	5.5 (3%)	0.2 (1%)	0.2 (1%)	0.19	0.04

Source: SZSYB (1998: 129-133), own calculations;

This corresponds to the 83% in sales value and 78% in value added. This is then translated into 73% of the pre-tax profits and 76% of net profits. This reveals that although the foreign-funded enterprises enjoy tax holidays and tax breaks, they still pay a great share of the total taxes (over 3 bill. Yuan in 1997) although they pay still relatively less than the domestic enterprises in Shenzhen (there is not a big difference because their share only increased from 73% to 76%). From the rates of value added to the gross output value it becomes clear that foreign-firms use more intermediate inputs than state-owned and collective enterprises. One possible explanation for the extremely low ratio of 0.23 for the foreign enterprises of category I is that these enterprises use China only for simple assembly and processing which has then only a low value added. It is surprising that the enterprises from Hong Kong, Macao and Taiwan have a ratio which is very similar to the Chinese collective enterprises, because one would expect that these enterprises concentrate even more on such simple processes. The low value added would in itself not be a problem as long as these enterprises demand inputs from the host country. But in case of the foreign enterprises in the Chinese SEZs one must not forget the complaints of the Chinese representatives that the backward linkages from the foreign-funded firms in the zones to domestic suppliers are underdeveloped and that the companies receive most of their intermediates from abroad.

In respect to the net profit relative to total assets, SOEs have the worst performance, while collective enterprises have a much better performance even better than the foreign-funded enterprises from Hong Kong, Macao and Taiwan. The most profitable enterprises are those with foreign capital from other countries, which might be an indicator for their superior management and production technology.

The structure of heavy and light industry has, as was mentioned above, changed during the reform period and the result is shown in Tab. 44. Almost two third of all enterprises in 1997 were in the light industry. In respect to the gross output value, the sales value, the value added and total capital, the two sectors are more or less equal. But light industry has received 50% more FDI than heavy industry. A very surprising fact of the data is that although the gross output value is almost the same, a major difference in the profits exists. Heavy industry not only has two thirds of the pre-tax profits, its share even increases to 70% of the after-tax profit, which means that light industry pays a proportional higher tax than heavy industry. This translates into a larger ratio of net profits to total assets for heavy industry.

The dominant sector in Shenzhen's economy is the production of 'Electronic and Telecommunication Equipment' as Tab. 45 shows. The 373 firms made up 21% of all enterprises, employed in 1997 145,000 employees or 26% and generated a gross output value of over 6 bill. Yuan. Here the dominating position becomes very clear, because this output value is 45% of the total of Shenzhen. In respect to the sales value and value added, the electronic industry dominates the Shenzhen economy

with a share of 44% and 35%, respectively. Very surprising is the fact that electronic industry has a much lower share in capital (18%), foreign capital (18%) and total assets (24%). Its share in pre-tax profit and net profit are in the range of the GOVI and the sales value. Interesting is that electronic industry pays 1.1 bill. Yuan in taxes, but that the share of the industry in net profits is larger than the share in pre-tax profits.

This means that the enterprises producing electronic goods pay on average less taxes than the other industries. This is especially surprising, because not so much foreign capital is used in this sector so that tax holidays for foreign investors cannot be the reason for this effect. Enterprises in this sector with domestic capital must have special privileges. In respect to the ratio of value added to production value, the electronic industry does not have a very favourable ratio with 0.22, while the sports goods production has a ratio of 0.4. Because of the large share in net profit and not so much assets it is not surprising that the electronic industry has with 0.11 a very large ratio of net profit to total assets. This ratio is 50% lower for the other industries, or even more. Other major employers are the sports goods and the garment and fiber production. But in respect to other variables the other industries do not show a large variation. Of the total capital of 8.1 bill. Yuan, 3.3 bill. Yuan are foreign investments.

To summarise, Shenzhen has developed between 1979 and 1997 from a small village into a large modern city with several million inhabitants. Shenzhen has rapidly gained a dominating position in China's international trade, although its role as location for foreign capital has decreased in the 1990s. A major structural change has taken place in Shenzhen, especially in the 1980s.

5.2 The Zhuhai SEZ

Zhuhai SEZ was established in August 1979 with a size of only 6.7 sq. km. In 1982 the size was extended to 9.5 sq. km, in mid 1983 to 14.1 sq. km, and in 1984 to 15.2 sq. km. Finally, in 1988 the zone grew to 121 sq. km, after the political decision-makers had realised that the small size was an impediment for the development of the SEZ. Zhuhai was chosen for a similar reason as Shenzhen for establishing a SEZ. Zhuhai is adjacent to Macao, the Portuguese colony which has returned to China in December 1999 and Zhuhai has as well a long tradition in international relations and was therefore an obvious choice.

In August 1980 the Zhuhai Development Co. was founded. Its responsibility is as of all the other development corporations (as described in section 2.3.3) the development of basic infrastructure and the support of the creation of joint ventures. In 1990 the Zhuhai Development Co. owned 33 enterprises, besides it had constructed apartment buildings, production buildings, harbours and other basic infrastructure (Dinter 1993: 58).

Population

Already in 1979, when part of the city was declared a SEZ, the city had a population of over 360,000 inhabitants. In 1997, this number has increased to over 1.1 mill. people, as is presented in Tab. 46:

Tab. 46: Total Population [mill.]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Population	0.36	0.37	0.41	0.75	0.81	0.81	0.92	1.03	1.05	1.05	1.17
Permanent Residents	0.36	0.37	0.41	0.50	0.52	0.55	0.57	0.61	0.63	0.65	0.67
Employment Share	53%	54%	61%	52%	54%	63%	62%	58%	60%	60%	59%

Source: ZHSY (1998: 97), own calculations

In 1997, over 670,000 or 58% of the total population were permanent residents in Zhuhai, while 42 % were only temporary residents. In the early years until the mid 1980s, only the number of permanent residents increased. In later years this group increased only slowly, while the total population increased very fast which reflects the large number of migrant workers who came to Zhuhai temporary. The employment share, the share of employed people in the total population has been 53% at the beginning of the reforms. It had increased to 61% in 1985. In the second half of the 1980s, it then dropped to about 50%, but to increase in the 1990s to around 60%. This reflects the fact, that almost one third of the population is only in the SEZ for a temporary period of time.

Gross Domestic Product

The structural change of the economy can be seen in the changes of the real GDP figures as summarised in Tab. 47 and Tab. 48. The primary industry was with 41% in 1979 the largest sector at the beginning of the reforms. Already in the middle of the 1980s, the secondary and tertiary industries had both surpassed the primary industry and had reached a real GDP which was 60% higher for the tertiary and even 100% higher for the secondary industry than that of the primary industry. This tendency continued until 1997 and although the primary sector had tripled its value added during the reforms, this was by far not as impressive as the growth of the value added of the other two sectors. The share of the primary sector fell consequently from 41% in 1979 to just 5% in 1997, while the secondary and tertiary industry increased their shares to 52% and 43%, respectively.

Tab. 47: Real GDP of three Sectors [bill. Yuan, prices of 1978]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	0.07	0.08	0.15	0.21	0.21	0.20	0.16	0.18	0.19	0.20	0.21
Secondary Industry	0.05	0.07	0.29	0.64	0.93	1.54	1.80	1.68	1.80	1.85	2.04
Tertiary Industry	0.05	0.07	0.25	0.62	0.99	1.40	1.41	1.35	1.40	1.52	1.68
Total	0.17	0.22	0.69	1.47	2.1	3.1	3.4	3.2	3.4	3.6	3.9

Source: ZHSY (1998: 82)

Tab. 48: Real GDP shares of three Sectors

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	41%	36%	22%	14%	10%	6%	5%	6%	6%	6%	5%
Secondary Industry	29%	32%	42%	44%	44%	49%	53%	52%	53%	52%	52%
Tertiary Industry	29%	32%	36%	42%	46%	45%	42%	42%	41%	43%	43%

Source: ZHSY (1998: 82) own calculations

Comparing 1985 with 1997, the real GDP of agriculture has increased from 150 mill. to 210 mill. Yuan, an increase of 40% (2.8% per year), while the cultivated area has decreased from 0.59 mill. Mu⁸⁰ to just 0.38 mill. Mu, a reduction of over 35% (-3.3% per year), as shown in Tab. 49.

Tab. 49: Cultivated area [mill. Mu]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Cultivated Area	0.59	0.58	0.57	0.56	0.57	0.56	0.48	0.43	0.41	0.41	0.38

Source: ZHSY (1998: 119)

This means that agricultural production has increased its efficiency in production. Until the early 1990s, as long as the cultivated area decreased only slowly, real GDP increased. After 1991, when the area decreased rapidly (by 33%), the real GDP decreased, but were able to reach its old level in 1997.

Gross Output Value of Agriculture and Industry

Tab. 50 and Tab. 51 demonstrate that the real gross output value of agriculture gives a slightly different picture. The real GOVA has increased by over 400% between 1980 and 1990 from 170 mill. Yuan to 890 mill. Yuan. In the 1990s, the production value increased much slower to reach 1.05 bill. Yuan in 1997. Comparing the data for GDP of the primary sector in Tab. 47 with the GOVA in Tab. 50 we see that the ratio first increased from 47% in 1979 to 65% in 1985, but then rapidly decreased to just 20% in 1997. In industry, the same happened, only that the reduction was even more dramatic from 49% in 1985 (38% in 1979) to just 6% in 1997. Because of the fast expansion of the industrial production, the share of agriculture in the gross output value decreased from 54% in 1979 to just 2% in 1997. Already until 1990, the share of agriculture in the total output value fell below 15% and continued to decent in the following year.

Although heavy industry has been developed rapidly, the light industry is still the major part of the industry. With an increase of the real gross output value from 20 mill. Yuan to over 11 bill. Yuan (an annual increase of almost 42%), heavy industry has increased its share of the total gross output value from 7% to 26%. At the same time, light industry increased its output value from 110 mill. Yuan to over 31 bill. Yuan (an annual increase of almost 37%), which resulted in an increase in its share from 39% to 72%. Until the mid 1980s the light industry has developed the fastest. Since then the heavy industry has developed even faster and increased its share in the total output value.

Tab. 50: Real GOVA and GOVI [bill. Yuan, prices of 1980]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
GOVA	0.15	0.17	0.23	0.89	0.93	0.97	0.82	0.91	0.95	1.00	1.05
GOVI	0.13	0.17	0.59	5.58	9.44	13.08	17.13	23.05	30.36	34.26	32.72
Heavy Industry	0.02	0.02	0.07	1.00	1.82	2.58	3.90	4.88	8.96	8.59	11.36
Light Industry	0.11	0.15	0.52	4.58	7.62	10.50	13.23	18.17	21.40	25.67	31.36

Source: ZHSY (1998: 67, 125, 172)

Tab. 51: Shares in Real Gross Output Value

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
GOVA	54%	50%	28%	14%	9%	7%	5%	4%	3%	3%	2%
GOVI	46%	50%	72%	86%	91%	93%	95%	96%	97%	97%	98%
Heavy Industry	7%	6%	9%	15%	18%	18%	22%	20%	29%	24%	26%
Light Industry	39%	44%	63%	71%	73%	75%	74%	76%	61%	65%	72%

Source: ZHSY (1998: 67, 125, 172), own calculations

Tab. 52 and Tab. 53 concentrate on the gross output value of the industry. They indicate, as was already mentioned above, that the light industry is with 74% still the dominant sector in the industrial gross output value, although heavy industry has increased its share in the 1990s very fast from 18% to 26%. It is interesting to note, that although light industry which uses non-farm inputs and heavy industry manufacturing make up together 78% of the real gross output value in 1997, those light industry enterprises which process farm products still make up 20%. In the first years after the reforms started, light industry which uses farm products was rapidly growing so that it increased its share from 25% in 1979 to 46% in 1985. In later years, although this sector still increased its production value, its share declined.

Tab. 52: Real Gross Output Value [bill. Yuan]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Light Industry	0.11	0.16	0.60	4.5	7.6	10.5	13.2	18.1	21.4	25.6	31.4
Farm*	0.03	0.06	0.30	2.0	3.0	3.5	4.2	5.1	5.6	7.1	8.6
Non-Farm*	0.08	0.10	0.30	2.5	4.6	7.0	9.0	13.0	15.8	18.5	22.8
Heavy Industry	0.01	0.01	0.05	1.0	1.7	2.5	3.7	4.7	8.8	8.3	11.0
Raw Materials*			0.01	0.3	0.6	0.9	1.0	1.0	1.0	0.9	0.7
Manufacturing*	0.01	0.01	0.04	0.7	1.1	1.6	2.7	3.7	7.8	7.4	10.3

Source: ZHSY (1998: 172)

*Farm: using farm products as raw materials; Non-Farm: using non-farm products as raw materials, Raw Materials: raw materials industry; Manufacturing: manufacturing industry

Tab. 53: Shares in Real Gross Output Value

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Light Industry	92%	94%	92%	82%	82%	81%	78%	79%	71%	76%	74%
Farm*	25%	35%	46%	36%	32%	27%	25%	22%	19%	21%	20%
Non-Farm*	67%	59%	46%	45%	49%	54%	53%	57%	52%	55%	54%
Heavy Industry	8%	6%	8%	18%	18%	19%	22%	21%	29%	24%	26%
Raw Materials*	0%	0%	2%	5%	6%	7%	6%	4%	3%	3%	2%
Manufacturing*	8%	6%	6%	13%	12%	12%	16%	16%	26%	22%	24%

Source: ZHSY (1998: 172), own calculations

*Farm: using farm products as raw materials; Non-Farm: using non-farm products as raw materials, Raw Materials: raw materials industry; Manufacturing: manufacturing industry

Another structural change in the economy of Zhuhai is the changed shares of enterprises with different sizes in the production value as summarised in Tab. 54 and

⁸⁰ Definition see footnote 76.

Tab. 55. At the beginning of the reforms, small enterprises produced almost three quarter of the industrial output value, while large and middle enterprises each had a share of 14%. This changed rapidly in the following years so that in 1992 large enterprises produced about one third, middle enterprises about one fifth, while the share of the small enterprises fell below 50%. Only in the years 1993 to 1995, this development was reversed and the small enterprises extended their share again to the level of 1979. But in the following years the development returned to the trend of the earlier years. No information could be found about the reasons for these dramatic changes. It is well-known that the visit of Deng Xiaoping in 1992 has increased the support for the SEZ development, but it is not clear how this could have an effect on the small enterprises. It can be assumed that local policy changes had a strong influence.

Tab. 54: Real Gross Output Value by Enterprise Size [bill. Yuan]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Large Enterprises	0.02	0.03	0.07	1.4	2.6	4.5	1.8	3.8	6.4	12.6	15.7
Middle Enterprises	0.02	0.03	0.05	1.0	2.0	3.0	3.9	2.7	2.6	6.9	10.2
Small Enterprises	0.10	0.12	0.46	3.2	4.8	5.6	11.5	16.5	21.3	14.7	16.8

Source: ZHSY (1998: 171)

Tab. 55: Shares in Real Gross Output Value by Enterprise Size

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Large Enterprises	14%	12%	25%	25%	27%	34%	11%	17%	21%	37%	37%
Middle Enterprises	14%	9%	18%	18%	21%	23%	22%	12%	9%	20%	24%
Small Enterprises	71%	79%	57%	57%	51%	43%	67%	72%	70%	43%	39%

Source: ZHSY (1998: 171), own calculations

Other changes in the economy of Zhuhai are reflected in Tab. 56 and Tab. 57 which look at the influence of the ownership structure in the GOVI. At the beginning of the reforms, two thirds of the output value was produced by SOEs, while collective enterprises produced about one third. Until the mid 1980s this did not change, but at the beginning of the 1990s, foreign-funded enterprises already controlled almost half of the production value, which they continuously increased to reach an astonishing 86% in 1997. This already proves the extensive role of foreign investors in the Zhuhai economy, as we will see again later-on.

Tab. 56: Real Gross Output Value by Ownership [bill. Yuan]⁸¹

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	0.09	0.11	0.36	2.28	3.18	3.31	2.71	2.33	1.97	1.77	2.23
Collective Enterprises	0.05	0.06	0.19	0.72	1.11	1.72	1.84	1.86	2.10	2.14	2.50
Foreign-Funded Enterprises				2.51	5.03	7.28	9.22	14.37	20.98	23.29	28.91

Source: ZHSY (1998: 171)

⁸¹ Enterprises below county level are not included in this statistics. Therefore, the total figure is less than the output value in the tables above.

Tab. 57: Shares in Real Gross Output Value by Ownership

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	65%	65%	66%	41%	34%	27%	20%	13%	8%	7%	7%
Collective Enterprises	35%	35%	34%	13%	12%	14%	13%	10%	8%	8%	7%
Foreign-Funded Enterprises				46%	54%	59%	67%	77%	84%	86%	86%

Source: ZHSY (1998: 171), own calculations

This development is also reflected in the number of firms as presented in Tab. 58. At the beginning of the reform process, the collective enterprises had with 219 the largest number of firms. Although they increased this number until 1997 to over 400, they are not the biggest group anymore.

Instead the number of foreign-funded enterprises has exploded in the 1990s. With 912 enterprises in 1997, foreign investors had interests in firms more than double the number of collective enterprises. Interesting is that the number of SOEs has increased tremendously during this period, which means that although the aim of the establishment of the SEZs was to create areas of a stronger market system, the SOEs are still playing their role.⁸²

Tab. 58: Number of firms

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	59	60	90	187	204	172	130	122	165	187	172
Collective Enterprises	219	215	219	414	395	390	390	371	390	452	401
Foreign-funded Enterprises				237	349	417	536	601	861	955	912

Source: ZHSY (1998: 167)

Both, SOEs and collective enterprises have increased their working capital tremendously (see Tab. 59). SOEs had in 1979 a real working capital of 27 mill. Yuan and increased it until 1990 to 138 mill. Yuan (an annual increase of 16%) and doubled it till 1997 to 280 mill. Yuan (10% per year). Collective enterprises invested much less in working capital, showed an annual increase of 11% over the whole period and had therefore in 1997 less than 25% of the total working capital of SOEs. The other enterprises which include the foreign-funded enterprises gained some importance in the mid 1980s and invested then heavily in working capital so that they had an annual increase of over 30% and reached in 1997 almost the level of the SOEs. These differences in the investment figures explain as well the changes in the shares in the production value, which have been described above.

Tab. 59: Real Working Capital [bill. Yuan, in prices of 1978]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	0.03	0.03	0.08	0.14	0.18	0.21	0.22	0.23	0.25	0.29	0.28
Collective Enterprises	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.06	0.06	0.06
Others			0.01	0.04	0.06	0.08	0.15	0.15	0.21	0.22	0.26

Source: ZHSY (1998: 339), own calculations

⁸² This is of course not necessarily a contradiction, because as we have discussed in chapter 2, also the SOEs behave more and more like private enterprises, especially in the highly competitive SEZs.

Employment

The changed position of state-owned and collective enterprises in the Zhuhai economy can also be seen in the number of their employees as presented in Tab. 60 and Tab. 61. Although the development in respect to employment has not led to such a dramatic decline of the role of the state-owned enterprise. Notwithstanding have the SOEs lost very much of their position as employer during the reform period, although they have doubled the number of their employees from 60,000 in 1979 to over 120,000 in 1997. Their share in total employment dropped by over 40 percentage points from 85% to just 42%. The collective enterprises kept more or less their share in total employment, but they fell back to the third position. They increased their labour force during the reform period from under 10,000 to over 30,000. The other enterprises had in 1985 just 6,000 employees, but increased this number to over 130,000 in 1997 and were thereby the main employer with a share of 47%.

Tab. 60: Employment [mill.]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	0.06	0.06	0.07	0.12	0.13	0.13	0.13	0.12	0.12	0.12	0.12
Collective Enterprises	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.03	0.03
Others			0.01	0.03	0.04	0.05	0.08	0.08	0.12	0.12	0.13
Total	0.07	0.07	0.10	0.17	0.19	0.21	0.24	0.23	0.28	0.27	0.28

Source: ZHSY (1998: 106)

Tab. 61: Employment Shares

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	85%	86%	75%	72%	68%	62%	54%	50%	44%	44%	42%
Collective Enterprises	15%	14%	19%	12%	12%	15%	13%	14%	13%	12%	11%
Others	0%	0%	6%	16%	21%	23%	33%	36%	43%	44%	47%

Source: ZHSY (1998: 106), own calculations

Especially impressive is the change in the capital labour ratio for the SOEs. In 1979, the SOEs had a capital labour ratio of 500 Yuan per worker, while the collective enterprises had 1,000 Yuan. In 1997, SOEs had increased the capital labour ratio to over 2,300 Yuan per worker. Collective enterprises and the other enterprises had a capital labour ratio of just 2,000 Yuan. This demonstrates again how intensively the SOEs have invested in their capital formation.

International Trade and Foreign Investment

The aim of expanding the foreign trade was very successful for Zhuhai. Imports and exports increased both from less than 10 mill. US-\$ to over 2.5 bill. US-\$ in 1997 (see Tab. 62). Just between 1990 and 1997, exports increased by almost 30% annually and imports by even 50%. Tab. 62 displays that the most volatile changes in foreign trade happened in the 1980s. Until 1985, the trade volume had increased from about 10 mill. to about 140 mill. US-\$ and a trade deficit of 80 mill. US-\$ had developed. In 1990, the trade volume had increased to 650 mill. US-\$, with an trade

surplus of 330 mill. US-\$. Besides 1996, the trade surplus fluctuated in the following years between 300 and 400 mill. US-\$, but the trade volume increased continuously to reach over 5.5 bill. US-\$ in 1997.

Tab. 62: Imports and Exports [bill. US-\$]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Exports	0.01	0.01	0.03	0.49	0.7	0.92	1.06	1.49	2.12	2.46	2.97
Imports		0.01	0.11	0.16	0.43	0.6	0.75	1.1	1.69	2.49	2.56
Trade Volume	0.01	0.02	0.14	0.65	1.13	1.52	1.81	2.59	3.81	4.95	5.53
Trade Balance	0.01	0.00	-0.08	0.33	0.27	0.32	0.31	0.39	0.43	-0.03	0.41

Source: ZHSY (1998: 69), own calculations

Tab. 63 shows that Zhuhai has increased its share in national foreign trade in respect to imports and exports, but that it is not very essential for the whole of China.

Tab. 63: Shares of Exports and Imports in China's Total Foreign Trade

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Exports	0%	0%	0%	1%	1%	1%	1%	1%	1%	2%	2%
Imports	0%	0%	0%	0%	1%	1%	1%	1%	1%	2%	2%

Source: ZHSY (1998: 69), CSY (1998: 620), own calculations

Zhuhai has succeeded in attracting increasing volumes of foreign capital into the SEZ as presented in Tab. 64. FDI has increased from just 11 mill. US-\$ in 1980 to over 616 mill. US-\$ in 1997, an annual increase of 27%.

Tab. 64: Total Foreign Direct Investment [bill. US-\$]

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Foreign Direct Investment	0.01	0.05	0.07	0.13	0.20	0.44	0.51	0.54	0.60	0.62

Source: ZHSY (1998: 248), own calculations

Only limited information is available on the source countries of the foreign capital over the years. The only available data are for the years 1996 and 1997 as summarised in Tab. 65. In 1997, 543 mill. US-\$ of the total foreign capital inflow came from Hong Kong (53%), 81 mill. (8%) from Japan, 101 mill. from the USA (10%), 47 mill. from Macao, and 13 mill. from Taiwan. Hong Kong is by far the largest source for foreign capital inflow into Zhuhai.⁸³ The scarcity of data on the source countries is of course a great limitation for the interpretation of the changes of Zhuhai as a destination of foreign capital in time. But it is definitely surprising that Hong Kong is the source of over 50% of the foreign capital inflow, while Macao, which is geographically even closer, has just a share of 5% in 1997, even less than Japan and the USA. This reveals the dominating economic position of Hong Kong in the region.

Tab. 65: Source Countries Shares in FDI

	Hong Kong	Japan	USA	Macao	Taiwan	Korea
1996	59%	11%	6%	8%	1%	3%
1997	53%	8%	10%	5%	1%	0%

Source: ZHSY (1998: 258) own calculations

⁸³ On the data problems of the foreign investment from Hong Kong see the discussion on page 65.

Only very limited information were available for the choice of the legal form for different years. In 1996 most foreign investors chose the equity joint venture. But one year later, most capital was invested in WFOEs (see Tab. 66).

Tab. 66: Indicators of Enterprises with Foreign Capital 1997 [bill. US-\$]

	Equity Joint Ventures	Contractual Joint Venture	Wholly Foreign-owned
Foreign Capital 1996	0.38 (45%)	0.20 (24%)	0.28 (32%)
1997	0.13 (23%)	0.18 (32%)	0.26 (46%)
GOVI	1.20	2.10	24.60
Value Added	0.74	0.66	4.89

Source: ZHSY (1998: 257), own calculations

The available data for the two years only illustrate that the shares can vary extremely fast and no general conclusion is possible. By far the most foreign capital flew into industry with 882 mill. US-\$ in 1997, 74 mill. US-\$ were invested in real estate and 16 mill. in commerce (ZHSY 1998: 257). All other categories, including agriculture, construction and transportation had much less investment. The role of the international market for the economy of Zhuhai can be seen from the share of the export value in the gross industrial output value which was only 12% in 1988 and increased in only three years to reach 50% in 1991. It stayed in this range in the following years.

Firm Structure in 1997

Tab. 67 demonstrates again what we have already seen above that the foreign-funded enterprises clearly dominate the Zhuhai economy. In 1997, 63% of all enterprises were with foreign capital, they employed 47% of the labour force and produced an astonishing 84% of the gross output value. This high output value directly translates into large shares in sales value (83%) and value added (78%). Looking at the ratio of total assets to the number of employees it is obvious that the foreign-funded enterprises use the most capital-intensive production technology. Logically from their dominating position in the other variables, the foreign-funded enterprises produced 84% of the pre-tax profits which even increased to a share of 90% in the net profits, induced by the tax privileges.

The net profits of the SOEs were even negative in 1997, while the tax payment of the collective enterprises was 62% and that of the foreign-funded enterprises 60% of the pre-tax profits. Here we see the effect of the various tax incentives for foreign investors. But it is surprising that the collective enterprises only pay slightly more on average in taxes than the foreign enterprises, which means that they must have privileges which are similar to those of foreign investors.

In respect to the ratio of value added to the output value, the foreign enterprises have a very bad performance, but as we have already discussed above, foreign enterprises often import all inputs and use China only for the assembly so that a small ratio is not a surprise. In respect to the ratio of net profit to total assets it is also not surprising

that the foreign-funded enterprises are the most profitable ones. But it is surprising how badly the collective enterprises perform in relation, with only one sixth of the ratio of the foreign enterprises.

Tab. 68 throws light on two different aspects, on the one hand it summarises the main indices for light and heavy industry and on the other hand presents these indices according to the size of the enterprises. The shares of light and heavy industry clearly show the dominating position of light industry. We have seen in Tab. 50 that light industry had this position already at the beginning of the reforms with a share of 83% in the GOVI. While it increased until the mid 1980s to 88%, it decreased afterwards to 73% in 1997, which is an interesting development, because normally we would have expected that in a modernising economy light industry should have the greater potential for a rapid development.

In most variables, light industry has a share of two thirds to three quarters, only in the pre-tax profit this is fundamentally different. Here light industry has a share of even 94%. It paid 900 mill. Yuan in taxes which corresponds to an average tax rate of 53%. Heavy industry had to transfer in 1997 so much taxes that its net profit was even negative. In respect to the ratios of value added to output and of net profit to total assets, the two industries do not display major differences.

This is different with the size of the enterprises. While small enterprises are absolutely dominating the Zhuhai economy in respect to the number of enterprises, they do not have such a absolute position in respect to the other variables, although they have the largest shares in most other variables. Only in respect to profits they do not perform very well. They only have a share of 17% in the total pre-tax profit and even have a negative after-tax profit. The middle and large enterprises have a much better cost structure, which we did not expect. Especially large enterprises in Zhuhai are very cost effective and have therefore a share of 61% in the pre-tax profit. They pay on average less taxes (43%) than the middle enterprises (89%). In respect to the ratio of value added to production value it is surprising that large and small enterprises perform much better than the middle enterprises. Looking at the ratio of net profit to total assets, all enterprises have a very disappointing performance.

The two dominating sectors in the Zhuhai economy are the production of (1) electric equipment and machinery, and (2) of electronic and telecommunication equipment (see Tab. 69). Although only 16% of all firms produce in these sectors, they employ about one third of the labour force and control one third or more of the output value, the sales value and the value added. Although the electronic goods sector has the larger share in total assets, its share in respect to profits is very small. The electric goods sector has with 28% a major share in the total profit, which becomes a share of even 43% in the net profit, which means that this sector must have a much more preferential tax treatment than the other sectors. Besides, it is surprising that the textile industry has even a pre-tax deficit. In respect to the two ratios the different

sectors have great variations, while the instruments and office machinery productions only adds 8% of value in the production value, it is 27% for the transport equipment production.

To summarise, Zhuhai SEZ has developed rapidly, but has not reached the same speed as Shenzhen. In Zhuhai, agriculture is still playing a small role and especially the process of farm products has a share of 20% in the gross output value of industry. In Zhuhai the secondary industry has with over 50% clearly the largest GDP share. Light industry is about three times as important as heavy industry. With a share of 86% in the total gross output value, foreign-funded enterprises have become absolutely dominating in Zhuhai.

Tab. 67: Economic Indicators of Different Legal Forms 1997* [bill. Yuan]

	Number	Employees ['000]**	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
State-owned	150 (10%)	121 (42%)	2.7 (8%)	3.1 (10%)	0.7 (11%)	3.9 (21%)	0.08 (6%)	-0.05	0.26	-0.01
Collective	384 (27%)	31 (11%)	2.4 (7%)	2.0 (6%)	0.7 (11%)	1.6 (9%)	0.13 (10%)	0.05 (10%)	0.29	0.03
Foreign-funded	896 (63%)	133 (47%)	27.8 (84%)	25.7 (83%)	4.9 (78%)	12.7 (70%)	1.10 (84%)	0.44 (90%)	0.18	0.18

Source: ZHSY (1998: 108, 205-210 own calculations;

* on county level or above, township and village enterprises not included; ** these figures are not for the same sample,

Tab. 68: Economic Indicators of Light and Heavy Industry 1997 [bill. Yuan]

	Number	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Light Industry	987 (65%)	28.3 (72%)	25.8 (70%)	6.0 (74%)	10.0 (65%)	33.2 (68%)	1.7 (94%)	0.8	0.21	0.02
Heavy Industry	530 (35%)	11.2 (28%)	10.8 (30%)	2.1 (26%)	5.4 (35%)	15.5 (32%)	0.1 (6%)	-0.1	0.19	-0.01
Large Enterprises	26 (2%)	12.4 (31%)	11.8 (32%)	3.0 (37%)	4.9 (32%)	17.3 (36%)	1.1 (61%)	0.6 (86%)	0.24	0.03
Middle Enterprises	59 (4%)	10.8 (27%)	10.9 (30%)	1.8 (22%)	3.6 (23%)	13.9 (29%)	0.5 (28%)	0.1 (14%)	0.16	0.01
Small Enterprises	1,432 (94%)	16.2 (41%)	14.0 (38%)	3.3 (41%)	7.0 (45%)	17.5 (36%)	0.3 (17%)	-0.1	0.20	-0.01

Source: ZHSY (1998: 201-203 own calculations;

Tab. 69: Economic Indicators of Main Sectors 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Electric Equipment and Machinery	88 (6%)	15 (10%)	8.2 (21%)	6.9 (19%)	2.0 (24%)	4.2 (9%)	0.5 (28%)	0.3 (43%)	0.24	0.07
Electronic and Telecomm. Equipment	151 (10%)	30 (20%)	6.8 (17%)	5.8 (16%)	1.3 (16%)	6.5 (13%)	0.05 (3%)	-0.01	0.19	0
Instruments and Office Machinery	40 (3%)	8 (5%)	3.8 (10%)	4.1 (11%)	0.3 (4%)	2.8 (6%)	0.2 (11%)	0.2 (29%)	0.08	0.07
Transport Equipment	82 (5%)	4 (3%)	2.2 (6%)	1.6 (4%)	0.6 (7%)	1.5 (3%)	0.2 (11%)	0.04 (6%)	0.27	0.03
Textile	68 (4%)	10 (7%)	1.9 (5%)	1.6 (4%)	0.3 (4%)	2.3 (5%)	-0.01	-0.02	0.15	-0.01
Food Processing	33 (2%)	8 (5%)	1.7 (4%)	1.6 (4%)	0.3 (4%)	1.7 (3%)	0.1 (6%)	0.04 (6%)	0.18	0.02
Plastic Products	105 (7%)	6 (4%)	1.6 (4%)	1.6 (4%)	0.4 (5%)	1.9 (4%)	0.2 (11%)	0.1 (14%)	0.25	0.05

Source: ZHSY (1998: 111, 201-204), own calculations;

5.3 The Shantou SEZ

Shantou was one of the two SEZs which had an established industrial centre at the beginning of the reforms of which parts were transformed into a SEZ. Shantou had in 1979 already a population of over 2.8 mill. people which increased to over 4.1. mill. in 1997, an annual increase of over 2%. It covers an area of more than 2,000 sq. km, of which 234 sq. km belong to the SEZ. A special reason for choosing Shantou for establishing a SEZ was its key role as the home of many Chinese emigrants who migrated to countries all-over the world. Many of these migrants came from Shantou or close-by areas.

Population

Since the reforms started in Shantou in 1979 the share of people employed in the total population has increased slightly from 45% to 50%. As in the other SEZs, this is the result of the migration of temporary workers into the SEZ only that in Shantou the migration was not very important. But in contrast to the other zones, this share is lower. The main reason for this is that Shantou was a developed city already at the beginning of the reforms so that whole families were living in the city and not only one of the parents moved in as temporary worker.

Tab. 70: Employment Share in Total Population

	1978	1979	1980	1985	1990	1991	1992	1995	1996	1997
Population	2.87		2.97	3.27	3.70			4.01	4.07	4.13
Employment Share		45%	45%	51%	51%	51%	52%	51%	51%	50%

Source: STSYB (1998: 33)

STSYB (1998: 33) lists data for the migration in and out of Shantou. In the years between 1980 and 1997 immigration was between 30,000 and 40,000 persons annually, with the main share coming from Guangdong province. Between 25,000 and 35,000 persons emigrated from Shantou in these years, again the major share to other parts of Guangdong province. The net migration into Shantou is therefore quite small. In 1997, for example, it was a net immigration of about 7,000 persons. In the same year, 70,000 children were born and about 20,000 people died. This demonstrates that the natural population growth in Shantou was much more important for the population changes than migration.

Gross Domestic Product

In terms of real GDP in 1979 the secondary industry was with 320 mill. Yuan the largest sector, but only slightly larger than the tertiary sector (see Tab. 71 and Tab. 72). Already in 1980 the tertiary industry became the largest sector. Although both industries grew rapidly, the tertiary sector stayed the largest until 1995. Then the secondary industry expanded even faster to reach 47% of total GDP in 1997, while the tertiary sector, although expanding its absolute GDP, had a reduced share of

42%. The agriculture, while expanding its real GDP from 220 mill. Yuan to 780 mill. Yuan was not growing at the same speed as the other sectors so that its share in the total was reduced from 26% in 1979 to 11% in 1997.

Tab. 71: Real GDP in Sectors [bill. Yuan, in prices of 1978]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	0.22	0.23	0.43	0.56	0.59	0.60	0.56	0.63	0.68	0.72	0.78
Secondary Industry	0.32	0.32	0.52	0.91	1.14	1.32	1.67	1.78	2.24	2.63	3.25
Tertiary Industry	0.31	0.38	0.73	1.17	1.44	1.66	1.83	2.04	2.33	2.59	2.88
Total	0.85	0.93	1.69	2.64	3.17	3.59	4.07	4.45	5.24	5.94	6.91

Source: STSYB (1993: 62) and STSYB (1998: 26)

Tab. 72: GDP Shares

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	26%	25%	25%	21%	19%	17%	14%	14%	13%	12%	11%
Secondary Industry	38%	34%	31%	34%	36%	37%	41%	40%	43%	44%	47%
Tertiary Industry	36%	41%	44%	44%	45%	46%	45%	46%	44%	44%	42%

Source: STSYB (1993: 62) and STSYB (1998: 26), own calculations

As in the other SEZs the agriculture became much more efficient, as can be seen from the fact that the GDP increased while at the same time the cultivated area was reduced from 1.06 mill. Mu to just 0.72 mill. Mu (see Tab. 73).

Tab. 73: Cultivated Area [mill. Mu]

	1978	1980	1985	1990	1991	1992	1995	1996	1997
Cultivated Area	1.06	1.02	0.89	0.83	0.82	0.8	0.74	0.73	0.72

Source: STSYB (1998: 39)

Gross Output Value of Agriculture and Industry

Tab. 74 and Tab. 75 show that agriculture has lost relative to the other sectors in respect to the real gross output value, but although its growth (11.2% per year) was not as fast as the industrial growth (20.3% per year), it still has an output value of almost 90% of heavy industry and 43% of light industry. Light industry increased its output value from 270 mill. to 6.95 bill. Yuan (an annual increase of almost 20%) and increased its share in the total output value from 33% in 1979 to 55% in 1997, while heavy industry increased its share during the reforms from 10% to 25% with an annual growth rate of its output value of 22%.

Comparing the data for the output value in Tab. 74 and of value added for agriculture in Tab. 71 over time reveals that in 1979 value added was 49% of the output value. It increased till 1985 to 74%, but then fell till 1997 to just 29%. For industry the development was slightly different. In 1979 the share was 89% and decreased to 25% in 1992, but then increased again to reach 33% in 1997.

Tab. 74: Real GOVA and GOVI [bill. Yuan, in prices of 1978]

	1979	1980	1985	1990	1991	1992	1995	1996	1997
Agriculture	0.45	0.44	0.58	0.84	0.92	1.00	2.27	2.52	2.67
Industry	0.36	0.47	0.87	3.13	4.22	5.26	7.55	8.40	9.98
Light Industry	0.27	0.30	0.49	1.78	2.43	2.83	5.05	5.64	6.95
Heavy Industry	0.08	0.09	0.23	0.64	0.93	1.22	2.50	2.76	3.02

Source: STSYB (1993: 54) and STSYB (1998: 39)

Tab. 75: Real Gross Output Value Shares of Agriculture and Industry

	1979	1980	1985	1990	1991	1992	1995	1996	1997
Agriculture	55%	48%	40%	21%	18%	16%	23%	23%	21%
Industry	45%	52%	60%	79%	82%	84%	77%	77%	79%
Light Industry	33%	33%	34%	45%	47%	45%	51%	52%	55%
Heavy Industry	10%	10%	16%	16%	18%	19%	25%	25%	24%

Source: STSYB (1993: 54) and STSYB (1998: 39), own calculations

Tab. 76 and Tab. 77 contain the distribution of GOVI according to the ownership. Collective enterprises produced at the beginning of the reforms with 54% the largest share of the overall output value. SOEs have increased its output value most of the years, but collective enterprises and the other enterprises have expanded after 1985 faster so that the share of SOEs in the overall output value has decreased from 46% to only 12%.

Tab. 76: Real GOVI in different Legal Forms [bill. Yuan, in prices of 1978]

	1979	1980	1985	1990	1991	1992	1995	1996	1997
State-owned Enterprises	0.06	0.06	0.13	0.26	0.35	0.38	1.26	0.91	1.15
Collective Enterprises	0.07	0.08	0.13	0.34	0.38	0.47	2.98	3.63	4.29
Others	0.00	0.00	0.00	0.28	0.50	0.62	3.31	3.86	4.54

Source: STSYB (1993: 54) and STSYB (1998: 85)

Tab. 77: Real GOVI shares in different Legal Forms⁸⁴

	1979	1980	1985	1990	1991	1992	1995	1996	1997
State-owned Enterprises	46%	45%	50%	29%	28%	26%	17%	11%	12%
Collective Enterprises	54%	55%	49%	39%	31%	32%	39%	43%	43%
Others	0%	0%	1%	32%	41%	42%	44%	46%	45%

Source: STSYB (1993: 54) and STSYB (1998: 85), own calculations

The collective enterprises experienced another development. In the early years of the reforms until the first half of the 1990s, they increased their absolute output value, but not very fast so that their share decreased. Afterwards they expanded much faster so that they could regain part of their total share to reach 43% in 1997. The main gainers in the 1990s are the other enterprises, mainly foreign-funded enterprises. In 1985, they had just 1% of the overall output value, but in 1997 they controlled 45% of the total, an annual increase of almost 50% between 1990 and 1997.

Employment

The number of employees in the primary industry has decreased from 860,000 to 710,000 during the reforms, while the labour force in the secondary and tertiary industry expanded by 5.7% and 7.7% per year, respectively (from 280,000 to 760,000 and from 160,000 to 610,000). Although the population grew fast and the demand for labour in agriculture decreased, the labour demand of the other sectors was expanding so fast, that in total the overall employment share increased (see Tab. 70).

⁸⁴ Figures do not necessarily add up to 100% because of rounding errors.

Tab. 78: Employment [mill.]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	0.86	0.85	0.81	0.74	0.74	0.72	0.71	0.69	0.70	0.70	0.71
Secondary Industry	0.28	0.30	0.48	0.66	0.68	0.72	0.77	0.77	0.77	0.77	0.76
Tertiary Industry	0.16	0.18	0.38	0.48	0.50	0.53	0.56	0.57	0.59	0.61	0.61
Total	1.3	1.33	1.67	1.88	1.92	1.97	2.04	2.03	2.06	2.08	2.08

Source: STSYB (1998: 217)

Tab. 79: Employment Shares

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	66%	64%	49%	39%	39%	37%	35%	34%	34%	34%	34%
Secondary Industry	22%	23%	29%	35%	35%	37%	38%	38%	37%	37%	37%
Tertiary Industry	12%	14%	23%	26%	26%	27%	27%	28%	29%	29%	29%

Source: STSYB (1998: 217), own calculations

After 18 years of reforms, agriculture still employs one third of the total labour force in Shantou. While the secondary industry is clearly the largest employer, the tertiary industry is catching up and it is only a question of time before agriculture becomes the smallest sector in respect to employment.

International Trade and Foreign Investment

The data about the imports of Shantou is quite limited. For earlier years, only export figures are available. In 1979, Shantou exported goods with a value of 200 mill. US-\$. This increased till 1985 to 300 mill. and till 1990 to 800 mill. US-\$. The exports quadrupled in these 11 years, the same took place in the following seven years between 1990 and 1997 (see Tab. 80). Overall, the exports increased by 17% per year and one can assume that imports had a similar development.

Tab. 80: Exports and Imports [bill. US-\$]

	1979	1980	1985	1990	1991	1992	1996	1997
Exports	0.2	0.3	0.3	0.8	1.1	1.6	2.7	3.5
Imports							2.5	3.4

Source: STSYB (1993: 340) and STSYB (1998: 18, 163)

Very impressive is the development of the share of foreign-funded enterprises in the total exports. In 1985, only goods with a value of 9.4 mill. of a total of 257 mill. US-\$ were exported by those enterprises. In 1997, their export value has increased to 932 mill. US-\$ of a total of 3.5 bill. US-\$, which means an increase of their share from less than 4% to almost 27% (STSYB 1998: 163).

Tab. 81: Shares of Exports and Imports in China's Total Foreign Trade

	1979	1980	1985	1990	1991	1992	1996	1997
Exports	1.5%	1.7%	1.1%	1.3%	1.5%	1.9%	1.8%	1.9%
Imports							1.8%	2.4%

Source: STSYB (1993: 340) and STSYB (1998: 18, 163), CSY (1998: 620), own calculations

The role of Shantou as an exporter and importer in the whole of China has not changed very much. From the beginning of the reforms, between 1.5% and 1.7% of China's total exports were exported from Shantou. In respect to exports, this figure did not cross the level of 2%. The limited data on imports prevents conclusions on

the development of the role of Shantou as an importer, but Tab. 81 displays that in 1997 the role of Shantou in the whole of China as an importer was more relevant than as an exporter.

Tab. 82 demonstrates that in the early years, the inflow of foreign capital was not very fast. The foreign investors were still cautious about the possible developments and political changes in China. In the early 1990s, this trend changed and huge amounts of foreign capital were transferred into the country and into Shantou in a short period of time. In the second half of the nineties, this trend was reversed again and the increase slowed down in the last years. One reason for this is for sure the many other investment alternatives inside the country, because the increase in the foreign capital in Shantou (8.4% per year between 1995 and 1997) falls short of the increase of the national FDI (9.9%).

Tab. 82: Foreign Direct Investment [mill. US-\$]

	1980	1981	1985	1990	1991	1992	1995	1996	1997
Contractual Joint Ventures	2	3	5	36	52	84	158	212	279
Equity Joint Ventures	0	0	7	18	36	39	32	39	34
Wholly Foreign-owned Enterprises	0	0	2	45	75	96	329	311	320
Total	2	3	14	99	163	219	519	562	633

Source: STSYB (1993: 340) and STSYB (1998: 163)

The decision of the foreign investors about the legal form of their engagement is different in Shantou from other SEZs (see Tab. 83). In the early years of the reforms only contractual joint ventures were founded (definition see footnote 51). In the mid 1980s all types were chosen by foreign investors, with equity joint ventures being the majority. In the 1990s, contractual joint ventures and WFOEs developed rapidly while equity joint ventures stagnated more or less. The WFOEs became the preferred entry mode into the Shantou economy for foreign investors in the 1990s with over 51% of the invested capital in 1997.

Tab. 83: Foreign Direct Investment Shares [bill. US-\$]

	1980	1981	1985	1990	1991	1992	1995	1996	1997
Contractual Joint Ventures	100%	100%	36%	36%	32%	38%	30%	38%	44%
Equity Joint Ventures	0%	0%	50%	18%	22%	18%	6%	7%	5%
Wholly Foreign-owned Enterprises	0%	0%	14%	45%	46%	44%	63%	55%	51%

Source: STSYB (1993: 340) and STSYB (1998: 163), own calculations

Only very limited information are available about the source countries of the foreign capital. In 1997, almost 92% in terms of number of projects with foreign capital were reported to come from Hong Kong.⁸⁵ 72% of all foreign capital invested came from Hong Kong, while Macao, Taiwan, Singapore, Thailand and Japan each had a share of just 2% or 3% (see Tab. 84). With 57% the major share of all FDI was invested in industry. In the real estate sector, the second largest target for foreign capital, had only a share of just 11% (STSYB 1998: 170).

⁸⁵ On the data problems of the foreign investment from Hong Kong see the discussion on page 65.

Tab. 84: Source Countries of FDI 1997 [mill. US-\$]

	Realized FDI	Shares
Hong Kong	730	72%
Macao	26	3%
Taiwan	23	2%
Singapore	35	3%
Thailand	17	2%
Japan	18	2%
Total	1,011	

Source: STSYB (1998: 170), own calculations

Firm Structure in 1997

The development of the number of firms in Shantou is different from the other SEZs. Tab. 85 contains the number of firms on and above county level, which were 1,676 of the total of 15,622 firms.⁸⁶ The number of SOEs has first increased until the early 1990s, where it reached its peak. Then the number decreased again from 323 in 1992 to only 260 in 1997. The collective enterprises, while losing part of their share in the overall output value, increased their number in the beginning much faster, from 643 in 1979 to 996 in 1990. In the 1990s they decreased their number again as did the SOEs. After 1985, the other enterprises, which are especially foreign-funded enterprises expanded continuously over the following years to reach 40% of the total firms in 1997. For 1997 additional information on the source countries of the foreign capital is available, 432 firms were financed with capital from Hong Kong, Macao or Taiwan and 186 foreign investors from other countries were involved. Therefore, 618 of the 652 firms, or almost 95% of all enterprises in the position 'others' were with foreign participation. These figures manifest the key role of the investors from Hong Kong, Macao and Taiwan in Shantou's economy.

Tab. 85: Number of Firms

	1979	1980	1985	1990	1991	1992	1997
State-owned Enterprises	186	190	217	319	316	323	260
Collective Enterprises	643	662	891	996	990	902	744
Others			24	254	316	438	652

Source: STSYB (1993: 188-192) and STSYB (1998: 86)

The same is reflected in Tab. 86. The state-owned and the other enterprises (now not containing the foreign-funded enterprises, but the collective) controlled in 1997 over 50% of the total imports of Shantou. The foreign-funded enterprises controlled the second half, especially the WFOEs which imported one quarter of all imports into Shantou. Surprising is that the equity joint ventures which have received only a very small share in the foreign investment as seen in Tab. 82 have a relative large share in the imports, although it is still the smallest share.

⁸⁶ The other 13,946 enterprises which are not included in Tab. 85 belong to the category of township and village enterprises.

Tab. 86: Import Shares in 1997 [bill. US- $\$$]

	Imports	Shares
State Owned Enterprises	1.26	37%
Others	0.47	14%
Contractual JV	0.57	17%
Equity JV	0.32	9%
Wholly Foreign-owned	0.81	24%
Total	3.43	

Source: STSYB (1998: 165)

Tab. 87 contains information on heavy and light industry in Shantou in 1997. It discloses that light industry is more influential in the Shantou economy than heavy industry. One quarter of the firms are in heavy industry, they employ 30% of the industrial labour force and they produce 30% of the gross output value. Light industry has more than three times the number of firms than heavy industry. The average firm of light industry is 25% smaller in respect to employees and in respect to the gross output value. Very interesting is the fact that the labour productivity, shown by the gross output value per employee, is almost identical between heavy and light industry.

Tab. 87: Economic Indicators of Heavy and Light Industry 1997

	Number of Firms	Employees ['000]	GOVI [bill. Yuan]	Employees per Firm	GOVI per Firm [mill.]	GOVI per Employee [mill.]
Light Industry	1,269 (76%)	19.1 (70%)	20.2 (70%)	15	15.9	1.05
Heavy Industry	407 (24%)	8.3 (30%)	8.6 (30%)	20	21.1	1.04

Source: STSYB (1998: 86)

The statistics on Shantou are much more limited than the information on the other Chinese SEZs. Tab. 88 and Tab. 89 summarise the available information on the different legal forms and the main sectors in Shantou. Collective enterprises have with 44% the major share in the number of enterprises, but they have a much lower labour force per firm (about 210 employees) than the SOEs (over 1,000). In respect to sales value, value added and total capital collective enterprises have again a much larger share. The employment of the foreign-funded enterprises, which is included in the position 'others', is very small in comparison to the labour force of the state-owned and collective enterprises. But foreign-funded enterprises produce with 43% the largest share of the output value and 43% of the value added (here the data were distinguished). Interesting is that the enterprises with foreign capital from other countries than Hong Kong, Macao and Taiwan are more relevant for the Shantou economy.

Puzzling is that, although the foreign-funded enterprises have the largest share in the sales value, they have the lowest pre-tax profits - only 38% of the profits of the collective enterprises. After tax the foreign enterprises (at least according to these statistics) have even a negative net profit. In respect to the ratio of the value added to the output value the different enterprises are almost identical.

In respect to the different sectors only statistics on the number and the production value were available. Tab. 89 demonstrates that most enterprises in Shantou were involved in the production of garments, fibre products and of textiles (together 23%) and of plastic products (9%). The sectors had with 24% and 9% almost the same shares in the output value as in the number of firms.

To summarise, Shantou has still a number of characteristics which can be understood by its longer development as an industrial centre. With over 10%, agriculture has a relative large share in total GDP and with 34% of the labour force it is still a major employer. In respect to its output value it is only slightly smaller than heavy industry. In Shantou, collective enterprises play a relative important role, like the SOEs, they increased their number between 1979 and 1990 rapidly, but then the number decreased rapidly. In the 1990s, only the number of foreign-funded enterprises expanded rapidly.

Tab. 88: Economic Indicators of Different Legal Forms 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value**	Value Added	Total Capital**	Total Assets **	Pre-Tax Profit**	Net Profit	Value Added / GOVI	Net Profit / Total Assets
State-owned	260 (16%)	276 (55%)	3.2 (11%)	5.0 (18%)	0.68 (11%)	1.6 (26%)	4.19 (42%)	0.24	0.04	0.21	0.01
Collective	744 (44%)	157 (31%)	11.8 (41%)	11.2 (41%)	2.57 (42%)	2.9 (45%)	3.76 (38%)	0.61	0.22	0.22	0.06
Foreign-funded I*	186 (11%)		7.1 (25%)	11.3 (41%)	1.58 (26%)	1.9 (30%)	1.94 (20%)	0.23	-0.06	0.22	0
Foreign-funded II*	432 (26%)		5.1 (18%)		1.04 (17%)					0.20	
Others	54 (3%)	66 (13%)									
Total	1,676	499	28.9		6.11						

Source: STSYB (1998: 110-114, 222), own calculations;

* Foreign Funded I – Investments from other countries than Hong Kong, Macao and Taiwan; Foreign Funded II – Investments from Hong Kong, Taiwan and Macao.

** Foreign Funded Enterprises I and II

Tab. 89: Economic Indicators of Main Sectors 1997 [bill. Yuan]

	Number	GOVI [bill. Yuan]
Electronic and Telecommunications Equipment	54 (3%)	1.5 (5%)
Sports Goods	42 (3%)	0.3 (1%)
Garments and Other Fiber Products	253 (15%)	3.9 (13%)
Plastic Products	149 (9%)	2.7 (9%)
Leather, Furs, Down and Related Products	37 (2%)	1.0 (3%)
Electric Equipment and Machinery	77 (5%)	1.2 (4%)
Instruments and Office Machinery	27 (2%)	0.2 (1%)
Textile Industry	137 (8%)	3.1 (11%)

Source: STSYB (1998: 92, 96), own calculations;

5.4 The Xiamen SEZ

Xiamen was the only location which was chosen as a SEZ in Fujian province, west of the Taiwan Strait. Besides its tradition as a trading port, its links to Taiwan through family ties was one of the major reasons to choose this location. The families of more than 70% of the population of Taiwan come from Southern Fujian province, where Xiamen is located as well. The construction of Xiamen SEZ started in October 1981 and the Xiamen municipality consists of Xiamen Island, the Gulangyu Islet, the coastal part of the northern bank of the Jiulong River, and Tong'an County, with a total area of 1,516 sq. km and a population of 1.25 mill. (at the end of 1997) (Luo 1997). The SEZ covers an area of 130 sq. km (XSY 1998).

Population

Already in 1978, when the reform policy started in China, Xiamen had a population of over 900,000 people. During the years of reform, the city population increased by 1.8% per year to reach 1.25 mill. In 1997. But the major change was the tremendous increase in the employment share as presented in Tab. 90. In 1978, 49% of the population was employed, but in 1997 this share has increased to 77%.

Tab. 90: Population and Employment

	1978	1980	1981	1985	1990	1995	1996	1997
Population	0.91	0.93	0.95	1.03	1.12	1.21	1.23	1.25
Employment	0.45	0.48	0.49	0.59	0.68	0.91	0.95	0.96
Employment Share	49%	52%	52%	57%	61%	74%	76%	77%

Source: XSY (1998: 242), own calculations

No figures on temporary workers in Xiamen were available, but this large increase in the participation rate is indicating that as in the SEZs of Shenzhen and Zhuhai the number of temporary residents has increased very fast, as has been discussed above.

Gross Domestic Product

By far the largest sector in respect to its GDP was already in 1980 the secondary industry (see Tab. 91 and Tab. 92). 58% of the total GDP was produced in this sector and it demonstrates that Xiamen was already at the beginning of the reform process a much more industrialised town than the other locations for SEZs. The tertiary industry in Xiamen was almost as large as the primary industry in terms of real GDP. While the GDP of the primary industry grew during the reform process (6.5% p.a.), it did not by far grow as fast as that of the secondary and tertiary industry (14.5% and 20.5%, respectively) so that its share decreased from 22% in 1980 to just 6% in 1997. Especially, the tertiary industry grew extremely fast in the early 1980s so that it increased its share in total GDP from 20% in 1980 to 34% in 1985. It continued this growth to reach a maximum share of 48% in 1993, after which the secondary industry expanded so fast that the share of the tertiary industry decreased again to

48% in 1997. The secondary industry expanded fast enough to have a share of about 50% in the 1990s, but in contrast to the tertiary industry it was not able to increase its share.

Tab. 91: Real GDP in three Sectors [bill. Yuan, in prices of 1978]

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	0.13	0.17	0.20	0.21	0.24	0.23	0.27	0.29	0.36	0.38
Secondary Industry	0.35	0.59	0.86	1.08	1.22	1.49	1.90	2.40	2.85	3.49
Tertiary Industry	0.12	0.39	0.62	0.72	0.87	1.61	1.73	1.91	2.25	2.86
Total	0.60	1.15	1.68	2.01	2.32	3.33	3.90	4.60	5.45	6.73

Source: XSY (1995: 352), XSY (1998: 244)

Tab. 92: GDP Shares of Three Sectors

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	22%	15%	12%	10%	10%	7%	7%	6%	7%	6%
Secondary Industry	58%	51%	51%	54%	52%	45%	49%	52%	52%	52%
Tertiary Industry	20%	34%	37%	36%	37%	48%	44%	42%	41%	42%

Source: XSY (1995: 352), XSY (1998: 244), own calculations

The Gross Output Value of Agriculture and Industry

The same development can be seen from the real gross output value. Already in the early 1980s, agriculture had with 200 mill. Yuan only 18% of the total output value. In 1997, although agriculture had increased its output value to over 600 mill. Yuan (an increase of almost 7% p.a.), it has lost more than 10 percentage points in its share. It is interesting to see that from the beginning of the reforms, light industry was much larger than heavy industry and that it stayed this way. Both industries increased their real gross output value tenfold (an increase of about 15% per year) so that heavy industry increased its share in total output value from 25% to 30% and light industry from 57% to 64% between 1980 and 1997.

Tab. 93: Real Gross Output Value [bill. Yuan, prices of 1978]

	1980	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Agriculture	0.20	0.24	0.25	0.32	0.34	0.36	0.40	0.42	0.47	0.57	0.62
Industry	0.88	0.93	1.41	2.26	3.53	4.08	4.68	5.20	6.07	7.17	9.11
Heavy Industry	0.27	0.28	0.44	0.62	1.05	1.22	1.30	1.66	2.00	2.24	2.91
Light Industry	0.61	0.65	0.97	1.64	2.48	2.86	3.38	3.55	4.06	4.93	6.20

Source: XSY (1995: 356), XSY (1998: 244)

Tab. 94: Real Gross Output Value Shares

	1980	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Agriculture	18%	21%	15%	13%	9%	8%	8%	7%	7%	7%	6%
Industry	82%	79%	85%	87%	91%	92%	92%	93%	93%	93%	94%
Heavy Industry	25%	24%	27%	24%	27%	27%	26%	29%	31%	29%	30%
Light Industry	57%	56%	59%	64%	64%	64%	67%	63%	62%	64%	64%

Source: XSY (1995: 356), XSY (1998: 244), own calculations

Comparing Tab. 91 and Tab. 93 gives the ratio of value added to output value in agriculture and industry. For agriculture this ratio was 65% in 1980 and ranged from

58% to 68% during the reform period to be at 61% in 1997. The ratio for industry does not show very much variation, only that it started at 40% in 1980 and fluctuated between 30% and 42% to reach 38% in 1997. One explanation for these small variations is the difference in the initial conditions in Xiamen. The reforms and the establishment of the SEZ had much less influence on the structure of the production process, because a large degree of the production had been reorganised already in earlier years.

Employment

As already revealed in Tab. 90, the employment has increased tremendously during the reform period. It more than doubled from 450,000 in 1979 to over 960,000 in 1997. The overall employment as well as the shares of different sectors have changed substantially. In the mid 1980s, the primary industry had the largest share in employment with 46% and 270,000 employees. During the reform process, the absolute number stayed more or less the same, but because of the expansion of the other two sectors, the share of the primary industry is reduced in 1997 by almost 20 percentage points to just 27% (Tab. 95 and Tab. 96). The secondary and tertiary industry on the other hand increased their labour force from 16,000 to 38,000 and from 15,000 to 32,000, respectively so that in 1997 the secondary industry has the largest employment share with 40%. The tertiary industry lies with 33% between the primary and secondary industry. Especially, in the 1990s the secondary industry expanded its labour force much faster than the tertiary industry which produced the differences in their shares. But it is interesting to note that at the same time the secondary industry was not able to expand its GDP much faster than the tertiary industry as was included in Tab. 93 and Tab. 94.

Tab. 95: Employment [mill.]⁸⁷

	1978	1980	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry				0.27	0.28	0.28	0.27	0.27	0.27	0.26	0.27	0.26
Secondary Industry				0.16	0.20	0.22	0.25	0.30	0.34	0.37	0.38	0.38
Tertiary Industry				0.15	0.20	0.22	0.24	0.25	0.27	0.28	0.30	0.32
Total	0.45	0.48	0.49	0.59	0.68	0.72	0.76	0.82	0.88	0.91	0.95	0.96

Source: XSY (1998: 242)

Tab. 96: Employment shares

	1985	1990	1991	1992	1993	1994	1995	1996	1997
Primary Industry	46%	41%	39%	36%	33%	31%	29%	28%	27%
Secondary Industry	27%	29%	31%	33%	37%	39%	41%	40%	40%
Tertiary Industry	25%	29%	31%	32%	30%	31%	31%	32%	33%

Source: XSY (1998: 242), own calculations

⁸⁷ For the years before 1980 no sectoral shares were available.

International Trade and Foreign Investment

Exports of Xiamen increased from 140 mill. US-\$ in 1980 to 4.25 bill. US-\$ in 1997, an annual increase of over 20% (between 1990 and 1997 even an annual increase of over 27%). Imports increased from 1 mill. in 1980 to 3.51 bill. US-\$ in 1997, an annual increase of about 40%. Tab. 97 demonstrates that the trade balance of Xiamen was positive over the whole reform period. In respect to the role of Xiamen as an exporter and importer in the whole of China, the city has mainly developed in the 1990s. In both, exports and imports, Xiamen had a share of over 2% of the whole trade of China (Tab. 98).

Tab. 97: Exports and Imports [bill. US-\$]

	1980	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Exports	0.14	0.14	0.17	0.78	1.15	1.77	2.36	3.39	3.48	3.70	4.25
Imports	0.001	0.01	0.28	0.37	0.58	1.08	1.74	2.26	2.55	2.94	3.51

Source: : XSY (1995: 360), XSY (1998: 250)

Tab. 98: Shares of Exports and Imports in China's Total Foreign Trade

	1980	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Exports	0.8%	0.6%	0.6%	1.3%	1.6%	2.1%	2.6%	2.8%	2.3%	2.4%	2.3%
Imports	0.0%	0.0%	0.7%	0.7%	0.9%	1.3%	1.7%	2.0%	1.9%	2.1%	2.5%

Source: XSY (1995: 360), XSY (1998: 250), CSY (1998: 620), own calculations

The realised FDI increased from 10 mill. US-\$ in 1981 to 1.65 bill. US-\$ in 1997, an annual increase of over 37% (see Tab. 99). Until the end of the 1980s the absolute volume of the foreign capital inflow was not very large, but after 1991, it has increased almost tenfold. For the sectoral distribution, only the figures for the planned investment for the years 1991 to 1997 are available. Industry and real estate were the major aims for the planned investments. In 1992 and 1993, when the planned investment in industry were relatively low, the planned investments in real estate were still quite stable. The effects of the real estate bubble and the austerity policy of the Chinese government in 1993 had their effects in the following years on the willingness of foreign investors to engage in the real estate and consequently the share of real estate fell from over 50% in 1992 and 1993 to just 15% in 1997.

Tab. 99: Sectoral Distribution of FDI [bill. US-\$]

	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Realised Investment	0.01	0.05	0.17	0.18	0.62	1.04	1.24	1.32	1.35	1.65
Planned Investment		0.26	0.57	0.58	1.70	2.40	1.86	2.06	1.65	1.66
Agriculture*				0.06	0.01	0.01	0.01	0.02	0	0
Industry*				3.10	0.66	0.94	0.89	1.14	0.88	1.17
Transportation*				0.01	0.01	0.01	0.03	0	0.05	0.02
Construction*				0.01	0	0.01	0.02	0	0	0
Commerce*				0.11	0.09	0.12	0.32	0.45	0.15	0.21
Real Estate*				1	0.90	1.3	0.60	0.39	0.57	0.25

Source: XSY (1998: 507)

*figures for 1991 are cumulated with the years before.

Tab. 100: Shares of Foreign Direct Investment

	1981	1985	1990	1991	1992	1993	1994	1995	1996	1997
Agriculture*				1%	1%	0%	1%	1%	0%	0%
Industry*				72%	39%	39%	48%	55%	53%	70%
Transportation*				0%	1%	0%	2%	0%	3%	1%
Construction*				0%	0%	0%	1%	0%	0%	0%
Commerce*				3%	5%	5%	17%	22%	9%	13%
Real Estate*				23%	53%	54%	32%	19%	35%	15%

Source: XSY (1998: 507), own calculations

The main source for the planned FDI in Xiamen is Hong Kong with over 50% (see Tab. 101, on the data problem see the discussion on page 65). Taiwan, which was the main target for establishing the Xiamen SEZ has a big share (14% to 30%) in the official figures, which is in reality even greater, because many Taiwanese investors take the way through Hong Kong to avoid the Taiwanese investment regulations. Especially surprising is the large share of the USA in 1997. It was not possible to find information on which investment projects the American enterprises planned to reach such a high share with 31% in the investments.

Tab. 101: Shares of Source Countries of Planned FDI

	1991	1992	1993	1994	1995	1996	1997
Hong Kong	53%	67%	60%	55%	53%	59%	42%
Taiwan	30%	17%	22%	14%	17%	22%	14%
Singapore	3%	2%	3%	4%	2%	4%	4%
USA	2%	1%	2%	2%	6%	3%	31%
Japan	0%	0%	2%	3%	4%	2%	1%

Source: XSY (1998: 507), own calculations

By the end of 1997, 3,448 foreign-funded enterprises were in operation in Xiamen. These enterprises produced 79% of the total industrial output of Xiamen (XFIEC 1998: 3). The key role of the foreign-funded enterprises for the economy of Xiamen can also be seen from Tab. 102. While SOEs have still an important role to play in international trade, especially in exports with 48%, foreign-funded enterprises are even more significant. Especially interesting in this table are the major differences in the trade balance. While the SOEs produce a trade surplus of 660 mill. US-\$, the foreign-funded enterprises produce a surplus of just 70 mill. US-\$, including a trade deficit of joint ventures in 1997. The WFOEs produced a trade surplus as well, but only 18% of the surplus of the SOEs.

Tab. 102: Exports and Imports by ownership [bill. US-\$]

	Exports	Imports	Balance
State-owned Enterprise	2.2 (48%)	1.5 (39%)	0.7
Contractual Joint-Venture	0.0 (0%)	0.1 (1%)	-0.1
Equity Joint-Venture	0.4 (9%)	0.5 (13%)	-0.1
Wholly Foreign-Owned	1.7 (38%)	1.6 (41%)	0.1
Others	0.2 (4%)	0.2 (6%)	0.0

Source: XSY (1998: 504), own calculations

Very interesting is the changed structure of the individual industries (Tab. 103). In 1978, SOEs in Xiamen employed almost 100,000 people and had a working capital of 590 mill. Yuan. In the same year the collective owned enterprises had 82,000 people employed and a capital value of 390 mill. Yuan so that the capital-labour ratio in the SOEs with 620 Yuan per head was more than 20% over the 503 Yuan per head of the collective-owned enterprises. In 1985, the first year data for the foreign owned enterprises are available, they had only a small labour force and only a small amount of working capital. But until 1997, they rapidly increased their shares in both variables.

In 1997, the SOEs were still the largest employer with over 207,000 employees (45%); the collective enterprises contracted to only 63,000 employees in 1997 (14%), while the main number of new jobs, with almost 195,000 were created by the foreign-funded enterprises (42%) which invested the most in working capital, 3.8 bill. Yuan between 1985 and 1997. The SOEs, starting from a higher level, invested 3.3 bill. Yuan in the same period. Although the foreign-funded enterprises had the highest capital labour ratio in 1985, in all the other years the SOEs had a higher capital intensity.

Tab. 103: Employment, Working Capital and Capital Labour Ratios
[’000, bill. Yuan in prices of 1978, Yuan per head]

	1978	1985	1990	1997
State-owned enterprises	99 / 0.59 (620)	152 / 1.29 (849)	174 / 1.87 (1,073)	207 / 4.65 (2,249)
Collective-owned enterprises	82 / 0.39 (503)	81 / 0.63 (781)	81 / 0.67 (826)	63 / 1.09 (1,732)
Foreign-funded enterprises		8 / 0.08 (968)	41 / 0.42 (1,026)	195 / 3.82 (1,958)

The first figure gives the number of employees in mill., the second number is the real working capital in bill. Yuan in prices of 1978 and the figure in brackets is the capital per head.
Source: XSY (1998: 259), own calculations

Firm Structure in 1997

Tab. 104 illustrates that in 1997 the foreign-funded enterprises were the absolute dominating group in the economy of Xiamen. 57% of all enterprises were with foreign capital. The distribution in this group is of special interest. While the investors from Taiwan, Hong Kong and Macao had a share of 42%, the other foreign investors only constituted 15%. In respect to the other indices this relation becomes even more pronounced. This shows again that the SEZs were not such an attractive location for western investors, but more so for Asian investors.

Foreign-funded enterprises employ 68% of the total labour force, produce 81% of the output value, control 80% of the sales value, produce 79% of the value added and have 71% of the total assets. In all these variables the investors from Taiwan, Hong Kong and Macao are again absolutely dominating with shares of 50 to 60% in the total, two to three times the values of the investors from other countries. In respect to the pre-tax profit, the foreign-funded enterprises are with 60% dominating, but after taxes they are even more dominating with 79%. Although they pay absolutely more

taxes than the state-owned and collective enterprises, their average tax payment is lower, a result of the tax incentives for foreign investors. It demonstrates that the complaint that tax holidays and the possibility of transfer pricing would deprive the host country of all tax revenue is tenable. Of course, these policies might lower the total tax income, but it has to be asked which positive effects are induced.

In respect to the ratio of value added to output value, the collective enterprises perform best, with the foreign-funded enterprises about 20% below the value of the collective firms and the SOEs in between. Surprising is that all these enterprises have an extremely low ratio of net profit to total assets and have almost no variation.

The key sector in Xiamen with 12% of employment and 17% in the output value is 'electronic and telecommunication equipment' (see Tab. 105). Especially striking is the treatment of this sector in respect to tax payment. While it has a share in the pre-tax profit of 18% which is in accordance with its shares in the other variables, its after tax profits are even a share of 36%. This means that this sector pays one third of its pre-tax profits as taxes, while the other sectors have to transfer two thirds on average. Other sectors which belong to the more important ones for Xiamen are partly treated preferentially so that the smaller sectors must obviously carry the main tax burden. Tab. 105 discloses that in respect to the ratios of value added to production value and of net profit to total assets the different sectors have great variations. The electronic and telecommunication sector adds the largest share of value added and has with 0.05 the best ratio of net profit to total assets.

Tab. 106 presents the role of SOEs in different sectors. The most striking result of this statistic is that SOEs have in no sector an absolute dominating position. In most variables they have a share of below 10%. Surprising is their role in the tobacco and the electronic sector. While the SOEs produce below 10% of the output value, they have over 50% of the pre-tax profit. We do not see any reason why this share is so large only that the data means that the total costs in tobacco processing are relatively small in relation to the sales revenue, which could be the case because of the tobacco monopoly. As the SOEs in other sectors, the SOEs in the tobacco sector have to transfer the major share of their pre-tax profits to the state. But even the after tax profits of the tobacco SOEs are quite high. The other surprising fact is the profit of the SOEs in the electronic sector. Their pre-tax profit share of 13% corresponds to their share in output value of 12%. But their net profit share is 27% which means that the SOEs in this sector enjoy more preferential treatment than in other sectors. The ratios of value added to output value are relatively high for the SOEs in almost all sectors. Three of the listed six sectors even have a ratio of 0.39. Comparing Tab. 105 and Tab. 106 reveals that SOEs have in respect to the ratio of net profit to total assets a quite average performance.

Light industry in Xiamen has in all variables listed in Tab. 107 about two thirds of the total while heavy industry has one third. We have seen from Tab. 94 on page 135 that heavy industry had at the beginning of the reforms only a share of one fourth, but then increased over the years to one third. Interesting is that the light industry which is processing farm products has a very strong position. In respect to the number of firms and the employees the farm product processing enterprises are even dominating. In the ratio of value added to the output value and of net profit to total assets light industry and heavy industry do not have major differences.

Luo (1997: 71) discusses how foreign capital in Xiamen was used to restructure the domestic economy and he emphasises that the success of the Xiamen government was only very limited in this point. One major problem was the limited link to domestic enterprises. In 1994 the electronics sector in Xiamen imported 93% of its inputs and exported 83% of its output. The same problem arises with the Taiwanese firms which imported in 1990 over three quarters of their inputs from Taiwan and exported 85% of their products. Luo mentions that the inter-linkages between the foreign firms and the domestic industry was often very limited: "Some midstream factories even invested with upstream and/or downstream factories and formed a self-sufficient operational system, almost wholly independent of the local economy." (Luo 1997: 73)

Tab. 108 demonstrates that the foreign-funded enterprises have a distribution of their interests between light and heavy industry which is similar to the distribution of the overall economy of Xiamen. Including foreign enterprises, light industry has in most variables a share of about two thirds. In respect to the two ratios the foreign enterprises have a relatively poor performance. Especially surprising is that the foreign enterprises in the raw material industry only add 18% value, while the average in Xiamen is 49%.

To summarise, Xiamen has very different characteristics than the other SEZs. Xiamen had already at the beginning of the reforms an economic structure which was clearly dominated by industry. The restructuring between 1979 and 1997 was therefore not as far-reaching as in the other SEZs, SOEs in Xiamen still have a share of about 10% in the economy, but in 1997 the foreign-funded enterprises were absolutely dominating.

Tab. 104: Economic Indicators of Different Legal Forms 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
State-owned	199 (10%)	45 (11%)	4.9 (11%)	4.9 (12%)	1.3 (12%)	13.1 (21%)	0.86 (30%)	0.15 (16%)	0.27	0.01
Collective	480 (23%)	26 (9%)	1.9 (4%)	1.7 (4%)	0.6 (6%)	2.3 (4%)	0.17 (6%)	0.04 (4%)	0.32	0.02
Foreign-funded I*	312 (15%)	42 (15%)	9.7 (22%)	8.9 (21%)	2.4 (22%)	12.2 (19%)	0.55 (19%)	0.18 (19%)	0.25	0.01
Foreign-funded II*	878 (42%)	147 (53%)	26.2 (59%)	25.0 (59%)	6.2 (57%)	33.1 (52%)	1.17 (41%)	0.58 (60%)	0.24	0.02
Total	2,069	278	44.5	42.1	10.9	63.5	2.86	0.96		

Source: XSY (1998: 414-419), own calculations

* Foreign Funded I – Investments from other countries than Hong Kong, Macao and Taiwan; Foreign Funded II – Investments from Hong Kong, Taiwan and Macao.

Tab. 105: Economic Indicators of All Enterprises in Different Sectors 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Electronic and Telecom. Equipment	144 (7%)	33 (12%)	7.4 (17%)	7.4 (17%)	2.2 (20%)	6.8 (11%)	0.51 (18%)	0.34 (36%)	0.30	0.05
Electric Equipment	91 (4%)	20 (7%)	3.5 (8%)	3.4 (8%)	0.8 (7%)	3.5 (6%)	0.19 (7%)	0.11 (12%)	0.23	0.03
Food Processing	99 (5%)	8 (3%)	3.1 (7%)	3.0 (7%)	0.5 (5%)	2.3 (4%)	0.03 (1%)	-0.02	0.16	-0.01
Transport Equipment Other	80 (4%)	9 (3%)	2.5 (6%)	2.5 (6%)	0.5 (5%)	4.5 (7%)	0.09 (3%)	-0.06	0.22	-0.01
Manufacturing Chemical Fibre	177 (9%)	31 (11%)	2.3 (5%)	2.3 (5%)	0.6 (5%)	2.6 (4%)	0.11 (4%)	0.06 (6%)	0.25	0.02
	9 (0%)	3 (1%)	2.3 (5%)	2.3 (5%)	0.2 (2%)	3.8 (6%)	0.13 (5%)	0.08 (9%)	0.07	0.02
Total	2,069	278	44.5	43.5	10.9	63.5	2.86	0.94		

Source: XSY (1998: 414-419), own calculations

Tab. 106: Economic Indicators of State-Owned Enterprises in Different Sectors 1997 [bill. and mill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit [mill. Yuan]	Net Profit [mill. Yuan]	Value Added / GOVI	Net Profit / Total Assets
Tobacco Processing	2 (1%)	1.3 (3%)	0.38 (8%)	0.96 (20%)	0.15 (11%)	0.9 (7%)	452 (52%)	31 (21%)	0.39	0.03
Chemical Products	12 (6%)	4.7 (10%)	0.43 (9%)	0.37 (8%)	0.11 (8%)	2.7 (21%)	0 (0%)	0 (0%)	0.26	0
Electric Equipment	11 (6%)	5.1 (11%)	0.42 (9%)	0.40 (9%)	0.09 (7%)	0.7 (5%)	30 (3%)	12 (8%)	0.21	0.02
Food Processing	30 (15%)	2.4 (5%)	0.38 (8%)	0.39 (8%)	0.15 (11%)	0.4 (3%)	3 (0%)	-7	0.39	-0.02
Rubber Products	2 (1%)	3.0 (7%)	0.26 (5%)	0.25 (5%)	0.07 (5%)	0.3 (2%)	32 (4%)	8 (5%)	0.27	0.03
Electronic and Telecom. Equipment	7 (4%)	2.5 (6%)	0.62 (2%)	0.26 (6%)	0.24 (18%)	2.1 (16%)	110 (13%)	40 (27%)	0.92	0.02
Total	199	45	4.90	4.7	1.35	13.1	863	150		

Source: XSY (1998: 422-429), own calculations

Tab. 107: Economic Indicators of Heavy and Light Industry 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Light Industry	1,369 (66%)	184 (66%)	28.5 (66%)	28.9 (66%)	7.0 (64%)	16.3 (62%)	2.0 (69%)	0.7 (64%)	0.24	0.04
Farm*	776 (38%)	88 (32%)	10.4 (24%)	12.4 (28%)	3.0 (27%)	7.1 (27%)	1.1 (38%)	0.2 (18%)	0.29	0.03
Non-Farm*	593 (29%)	97 (35%)	18.1 (42%)	16.5 (38%)	4.0 (36%)	9.2 (35%)	0.9 (31%)	0.4 (36%)	0.22	0.04
Heavy Industry	700 (34%)	93 (34%)	14.6 (34%)	14.7 (34%)	4.0 (36%)	9.8 (38%)	0.9 (31%)	0.3 (27%)	0.27	0.03
Raw Materials*	87 (4%)	12 (4%)	1.6 (4%)	3.0 (7%)	0.8 (7%)	2.3 (9%)	0.1 (3%)	-0.1	0.49	-0.04
Manufacturing*	608 (29%)	81 (29%)	13.0 (30%)	11.7 (27%)	3.2 (29%)	7.5 (29%)	0.8 (28%)	0.4 (36%)	0.25	0.05

*Farm: using farm products as raw materials; Non-Farm: using non-farm products as raw materials; Mining: mining and quarrying; Raw Materials: raw materials industry; Manufacturing: manufacturing industry. Source: XSY (1998: 414-419), own calculations

Tab. 108: Economic Indicators of Foreign-Funded Enterprises in Heavy and Light Industry 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
Light Industry	838 (70%)	135 (71%)	24.1 (67%)	23.8 (68%)	5.7 (67%)	26.0 (57%)	1.21 (72%)	0.62 (73%)	0.24	0.02
Farm*	426 (36%)	59 (31%)	8.9 (25%)	8.7 (25%)	2.1 (25%)	9.4 (21%)	0.51 (30%)	0.20 (24%)	0.24	0.02
Non-Farm*	412 (35%)	7 (4%)	15.2 (42%)	15.1 (43%)	3.6 (42%)	16.6 (37%)	0.70 (41%)	0.42 (49%)	0.24	0.03
Heavy Industry	352 (30%)	55 (29%)	11.7 (33%)	11.4 (32%)	2.8 (33%)	19.3 (43%)	0.48 (28%)	0.13 (15%)	0.24	0.01
Raw Materials*	39 (3%)	5 (3%)	2.2 (6%)	2.2 (6%)	0.4 (5%)	6.3 (14%)	-0.06	-0.15	0.18	-0.02
Manufacturing*	313 (26%)	50 (26%)	9.5 (27%)	9.2 (26%)	2.4 (28%)	13.0 (29%)	0.54 (32%)	0.28 (33%)	0.25	0.02
Total Foreign	1,190	190	35.8	35.2	8.5	45.3	1.69	0.75		

*Farm: using farm products as raw materials; Non-Farm: using non-farm products as raw materials; Mining: mining and quarrying; Raw Materials: raw materials industry; Manufacturing: manufacturing industry. Source: XSY (1998: 434-439), own calculations

5.5 The Hainan SEZ

Hainan Island is located between the south-western Chinese and the north-eastern Vietnamese coast. The island has almost the size of Taiwan (34,000 sq. km, 2,000 less than Taiwan, Feng and Goodman 1995: 15) and because of its favourite climate it has a comparative advantage in many agricultural products. Some of these agriculture commodities cannot be produced in any other part of China. Before the reforms started, Hainan was used only as a source for natural resources. No processing industry was established and no infrastructure was build so that no automatic industrialisation process was possible. Eight years after the other SEZs, Hainan island, earlier an integral part of Guangdong province, was established as an independent province and a SEZ. The incentives for foreign investors in Hainan were even more beneficial than in the other SEZs (Schäfer 1992: 31). Hainan island was chosen as a location for the fifth SEZ for a number of reasons. First of all, the island's economic structure with its large share of agriculture, has more similarities with the structure of the whole of China. Therefore, reform experiments on the macro level which are conducted in Hainan are more relevant for the domestic economy than the reforms in the urban and industrial centres of the other SEZs.

Already in 1984, when the open door policy of China was extended, it was discussed that Hainan should become a SEZ. Deng Xiaoping made several remarks in this respect, he especially compared the development of the island of Hainan with the successful development of Taiwan. Because of the similarities a duplication of the Taiwanese experiences seemed to be possible. But the slow pace of economic growth in Hainan was a massive loss of face, which had to be corrected if the future reunification with Taiwan should have a chance.⁸⁸ Due to different political reasons and because of a large scale corruption scandal, it took until 1988, before Hainan was transformed into a province and a SEZ. On April 13th 1988, the National People's Congress passed the resolution to establish Hainan Province and to set up Hainan SEZ (Gao and Chi 1997: 3).

The early years until 1992/93 saw a rapid development and huge amounts of domestic capital were invested in Hainan. But most of the investment went into highly speculative ventures in real estate and was therefore not intended for a long term development of the SEZ. On the contrary, the investors, often SOEs from other Chinese provinces were more interested in fast and larger returns to their investment.

In 1993, when it became clear that this kind of investment only fuelled the bubble economy, but did not contribute to a comprehensive economic development, the Chinese central government restricted the inflow of capital into the real estate sector of Hainan. Many of the skyscrapers which were started with the speculative capital were never finished, which is still visible in the cities. This had an overall depressing

effect on the development of the Hainan economy. Many of the better educated people, who have been moving into the SEZ from other regions of the country, now moved out again and were looking for better opportunities in Shenzhen, Shanghai or other fast developing areas.

Population

The total population of Hainan Island has increased from 5.4 mill. in 1979 to 7.2 mill. in 1997 (see Tab. 109), an annual increase of 1.6%, a relatively low growth rate in relation to the development of the other SEZs, which is not too surprising because of the larger original size of Hainan. In the nine years before the establishment of the Hainan SEZ (1979-1988) and in the nine years after (1988-1997) the population increased by 900,000. The employment share has increased, from 42% to 48%, but is not as high as in the other SEZs. This is not surprising because the number of migrated temporary workers does not play such an important role in Hainan as in other SEZs.

Tab. 109: Total Population and Employment Share [mill.,%]

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
Population	5.4	5.5	6	6.3	6.6	6.7	6.8	6.9	7	7.1	7.2
Employment Share	42%	42%	45%	46%	48%	48%	49%	52%	48%	47%	48%

Source: HNSYB (1998: 37, 46), own calculations

Gross Domestic Product

In the early years of the Chinese reform period, until 1988, when Hainan was not yet transformed into a SEZ, the primary industry was the dominant sector with over 50% of the overall real GDP (almost 1 bill. Yuan, see Tab. 110 and Tab. 111). After the establishment of the SEZ, the primary sector lost much of its share, not because of a decrease of its absolute GDP (it increased from almost 2 to over 3 bill. Yuan), but because especially the tertiary industry expanded extremely fast. In 1979, the tertiary industry had not even half the size of the primary industry. When the SEZ was established, the tertiary sector was still over one third smaller than the primary sector. This changed totally till 1992. In just four years, from 1988 to 1992, the tertiary industry increased its GDP from 1.2 bill. to 3.1 bill. Yuan and reached a GDP which was 50% larger than that of the primary sector. The tertiary sector's share in total GDP grew from 32% to 49%. Since then, the tertiary industry stayed the largest sector in terms of real GDP although it lost about 6 percentage points while the primary sector gained again 7 percentage points in the same period.

The secondary industry was and still is the smallest sector in the Hainan economy. It has increased until 1994 with an annual rate of 12% (primary industry: 7%; tertiary industry: 14%), but then decreased in the following years, which resulted in a decrease of the share of the secondary industry from 25% in 1994 to 20% in 1997.

⁸⁸ Personal interview with a representative of the Hainan government, October 1998.

Tab. 110: Real GDP in the Three Sectors [bill. Yuan, in prices of 1978]

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
Primary Industry	0.91	0.99	1.57	1.92	1.89	1.88	2.18	2.48	2.71	2.90	3.08
Secondary Industry	0.37	0.33	0.67	0.71	0.93	1.33	1.86	1.93	1.63	1.68	1.68
Tertiary Industry	0.43	0.45	0.88	1.21	1.72	3.10	3.20	3.22	3.20	3.33	3.58
Total	1.72	1.77	3.12	3.84	4.55	6.31	7.23	7.63	7.54	7.92	8.35

Source: HNSYB (1998: 17), own calculations

Tab. 111: GDP Shares of the Three Sectors

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
Primary Industry	53%	56%	50%	50%	42%	30%	30%	33%	36%	37%	37%
Secondary Industry	22%	19%	21%	18%	20%	21%	26%	25%	22%	21%	20%
Tertiary Industry	25%	25%	28%	32%	38%	49%	44%	42%	42%	42%	43%

Source: HNSYB (1998: 17), own calculations

In contrast to the other SEZs, the cultivated area in Hainan did not decrease so much, because agriculture is one of the central elements of the economic structure. In the whole reform period the total cultivated area decreased by less than 5% (or -0.3% p.a.) as included in Tab. 112.

Tab. 112: Cultivated Area [mill. Mu]

	1979	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Cultivated Area	44.85	44.6	43.6	43.51	43.73	43.57	43.14	42.87	42.92	42.93	42.68

Source: HNSYB (1998: 236)

Output Value of Agriculture and Industry

It can be seen from the output values in Tab. 113 and Tab. 114 that agriculture still has a large role to play in Hainan (this will not change in the near future, because of the specific comparative advantages of Hainan). Although industry has since 1993 the major share in the total output value, agriculture still has over 40% which is much larger than in other SEZs.

The industry expanded very fast. In 1979, light industry produced almost 60% of the industrial output value, heavy industry 40%. Until the beginning of the 1990s, light industry increased its share to 70%, to fall back to 65% in 1997. For the Hainan economy, light industry is now almost as important as agriculture.

Comparing the development of output value and GDP, we see that for the years 1994 to 1997 there is a data problem for the primary industry. It is obvious that the overall production value has to be larger than the value added, but this is not the case in the official statistics. It is puzzling that the GDP figures report a growth of 7% per year since the reforms started while the output value increased rapidly in the beginning, but decreased in later years so that the overall effect is relatively small. We could not find any additional information on how these differences can be explained. Therefore, we do not want to continue interpreting these figures, because the reliability is questionable.

Tab. 113: Real Gross Output Value of Agriculture and Industry [bill. Yuan]*

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
GOVA	2.27	2.17	3.32	2.76	2.62	2.76	2.48	2.33	2.35	2.42	2.68
GOVI	1.15	1.00	1.60	1.82	2.03	2.51	2.89	2.71	2.80	3.20	3.56
Heavy Industry	0.48	0.38	0.51	0.52	0.61	0.76	0.98	0.94	1.05	1.07	1.21
Light Industry	0.67	0.62	1.09	1.30	1.42	1.74	1.91	1.76	1.75	2.13	2.36

Source: HNSYB (1998: 27), own calculations

* in prices of 1979

Tab. 114: Gross Output Shares of Agriculture and Industry

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
GOVA	66%	68%	67%	60%	56%	52%	46%	46%	46%	43%	43%
GOVI	34%	32%	33%	40%	44%	48%	54%	54%	54%	57%	57%
Heavy Industry	14%	12%	10%	11%	13%	14%	18%	19%	20%	19%	19%
Light Industry	19%	20%	22%	28%	31%	33%	36%	35%	34%	38%	38%

Source: HNSYB (1998: 27), own calculations

Employment

The primary sector is especially important for the employment, where it still dominates (Tab. 115). While in 1979, 80% were employed by the primary industry, in 1997 still 59% were working in this sector. The secondary industry has not increased its employment share very much, which corresponds to its stable share in GDP. The tertiary industry on the contrary has increased its employment rapidly to reach 29% in 1997, from just 14% in 1979.

Tab. 115: Employment Shares of the Three Sectors

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
Primary Industry	80%	80%	74%	71%	69%	67%	63%	58%	61%	61%	59%
Secondary Industry	7%	7%	9%	9%	10%	11%	11%	11%	12%	12%	11%
Tertiary Industry	14%	13%	17%	20%	22%	23%	26%	26%	28%	28%	29%

Source: HNSYB (1998: 46), own calculations

The absolute level of the employment in SOEs has not changed very much since the establishment of the SEZ in Hainan (see Tab. 116). Before 1988, the employment has increased from 770,000 to 940,000, but then it only grew further until 1992. Since then the labour force of the SOEs contracted again. A very similar development happened to the collective enterprises, only that they never had more than 10,000 employees. The largest share, which was increasing all the time is the rural employment. More than 2 mill. people are now employed in rural areas, which are mostly small TVEs. The other enterprises had another large increase, containing especially the foreign-funded enterprises, employing 360,000 people or 10% of the whole labour force in 1997.

Tab. 116: Employment by Ownership [mill.]

	1979	1985	1988	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	0.77	0.90	0.94	0.99	1.00	0.99	0.97	0.94	0.89	0.88
Collective Enterprises	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.09	0.08
Rural Employment	1.42	1.64	1.81	1.95	1.96	1.99	2.01	2.03	2.06	2.10
Others	0.00	0.05	0.08	0.16	0.17	0.26	0.50	0.29	0.30	0.36
Total	2.26	2.68	2.92	3.18	3.22	3.33	3.56	3.34	3.33	3.42

Source: HNSYB (1998: 46)

Tab. 117: Employment Shares by Ownership

	1979	1985	1988	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	34%	34%	32%	31%	31%	30%	27%	28%	27%	26%
Collective Enterprises	3%	3%	3%	3%	3%	3%	2%	3%	3%	2%
Rural Employment	63%	61%	62%	61%	61%	60%	56%	61%	62%	61%
Others	0%	2%	3%	5%	5%	8%	14%	9%	9%	10%

Source: HNSYB (1998: 46), own calculations.

International Trade and Foreign Investment

Before the establishment of the SEZ in Hainan, exports and imports were minor. As was described in the introduction, Hainan had the function of a resource base for the rest of China, but lacked international relations. As Tab. 118 reveals this changed very fast, when Hainan was equipped with especially preferential conditions for foreign investors and foreign trade. The imports increased rapidly in the early 1990s, which had a negative effect on the trade balance of the province (a maximum trade deficit of 770 mill US-\$ in 1993) and discredited the reform policy.

Tab. 118: Imports and Exports of Hainan [bill. US-\$]

	1979	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
Exports	0.02	0.02	0.08	0.29	0.67	0.88	0.90	0.99	0.83	0.84	0.89
Imports				0.37	0.68	0.81	1.67	1.71	1.44	1.45	1.06

Source: HNSYB (1998: 494)

A similar development has taken place with the inflow of foreign capital. The volume of FDI was extremely low before 1988, although some investment had already taken place (e.f. 30 mill. US-\$ in 1985, see Tab. 119). In the early 1990s, Hainan slowly managed to attract larger volumes of foreign capital. Only in 1993 and 1995 the inflow of foreign capital had a volume of over 1 bill. US-\$. Already in 1996 and 1997 the volume decreased again. This reflects that Hainan had managed to become a more attractive destination for foreign investors in 1992, but that the austerity policy of the central government in 1993 had a negative effect on the foreigners. The special characteristic of the investment decision of foreigners in Hainan is that they almost never chose the alternative of contractual joint venture (see Tab. 119). They either co-operate in the form of equity joint ventures (20-40% of the invested capital) or they control their business fully in a WFOEs (40-70% of the investments).

Tab. 119: Foreign Direct Investment in Different Enterprise Forms [bill. US-\$]

	1980	1985	1988	1991	1992	1993	1994	1995	1996	1997
Equity Joint Venture	0.00	0.01	0.02	0.04	0.19	0.48	0.24	0.32	0.34	0.28
Contractual Joint Venture	0.00	0.02	0.02	0.03	0.05	0.02	0.02	0.07	0.08	0.02
Wholly Foreign Owned	0.00	0.00	0.07	0.11	0.21	0.54	0.61	0.67	0.38	0.37
Total	0.00	0.03	0.11	0.18	0.45	1.04	0.87	1.06	0.79	0.71

Source: HNSYB (1998: 502)

Over the years, Hong Kong was clearly the largest source country (Tab. 120).⁸⁹ Until the first half of the 1990s, the investors from Hong Kong were absolutely dominating. In the mid 1990s, the investors from Japan and Taiwan, in some years also from the USA had a large share, although their combined investments never exceeded the investments from Hong Kong. Already in 1993 the overall foreign investment was over 1 bill. US-\$.

Tab. 120: Source Countries of Foreign Direct Investment [mill. US-\$]

	1985	1990	1992	1993	1994	1995	1996	1997
Hong Kong	20.5	93	292	773	544	564	377	386
Japan	0.6	67	53	93	218	190	147	172
Taiwan		6	53	94	100	79	80	62
Germany						20	29	44
USA		4	29	42	67	136	113	37
Macao	0.8		3	6	4	3	4	17
Total	26.4	190	532	1,286	1,264	1,455	1,190	1,121

Source: HNSYB (1988: 531), HNSYB (1998: 505)

Tab. 121: Source Countries of Foreign Direct Investment [%]

	1985	1990	1992	1993	1994	1995	1996	1997
Hong Kong	78%	49%	55%	60%	43%	39%	32%	34%
Japan	2%	35%	10%	7%	17%	13%	12%	15%
Taiwan	0%	3%	10%	7%	8%	5%	7%	6%
Germany	0%	0%	0%	0%	0%	1%	2%	4%
USA	0%	2%	5%	3%	5%	9%	9%	3%
Macao	3%	0%	1%	0%	0%	0%	0%	2%

Source: HNSYB (1988: 531), HNSYB (1998: 505)

Firm Structure in 1997

Tab. 122 shows that the changes in Hainan in respect to the number of enterprises since the Hainan SEZ was established have a clear tendency. Between 1978 and the mid 1990s the number of SOEs increased from almost 900 to over 1,000. In the following years it decreased again by almost 10%. The collective enterprises started at a relatively high number of more than 750 enterprises and decreased during the reform process. At the beginning of the 1990s, the number of these enterprises had reached just 450. It fluctuated in the following years between 450 and 550. The main change in the 1990s was the major increase in the number of foreign-funded enterprises which have now 223 of the total of 1,642 or 14%.

⁸⁹ On the data problems of the foreign investment from Hong Kong see the discussion on page 65.

Tab. 122: Number of Firms

	1978	1979	1985	1990	1991	1992	1993	1994	1995	1996	1997
State-owned Enterprises	896	901	937	962	992	983	1005	914	1055	958	916
Collective Enterprises	753	717	559	466	453	488	484	557	470	457	503
Wholly Foreign-owned Enterprises				48	85	108	196	218	234	221	223

Source: HNSYB (1998: 320)

It is surprising that although the number of the collective enterprise has decreased by almost one third, the number of employees has been more or less the same (see Tab. 116).

In Hainan in 1997, SOEs are still dominating the economy (see Tab. 123). 51% of all enterprises are state-owned which employ 69% of the industrial labour force. The employment figures for the foreign-funded enterprises were not available, but as in the other SEZs, the position 'others' which is included in Tab. 123 gives at least a hint for the size of the foreign-funded enterprises. It is interesting that these enterprises, although they are only 12% of all firms, have a share of over 20% in all variables, mostly close to 25%. The data displays that in Hainan there is no major differences between the investors from Hong Kong, Taiwan and Macao on the one hand and the investors from other countries on the other. The only striking exemption is that the investors from other countries have invested 50% more capital in less enterprises in 1997, which means that the investment per enterprise is over 50% higher for this group.

In respect to the profits, the foreign-funded enterprises from all other countries are the only group for which the pre-tax profit is already negative. After taxes are paid, only the collective enterprises still have a positive profit, all other enterprises are in deficit, with the SOEs most heavily taxed. The SOEs change from a pre-tax profit of 150 mill. Yuan to a deficit of 440 mill. Yuan. At the same time, they produce a relatively large share of value added in output value, which is larger than the ratio of the foreign-funded and collective enterprises. The ratio of net profit to total assets is not informative, because most net profits are negative.

The distribution between light and heavy industry in Hainan has specific characteristics (see Tab. 124). In respect to number, employees and total capital they have more or less the same size. But in output value, sales value, value added and foreign capital, the light industry has a share of two thirds. Very extreme is the difference in profits. While light industry produces a large overall positive pre-tax profit, heavy industry produces an overall loss. This does not stem from manufacturing which has a surplus, but instead from the raw material production. After taxes, all sectors are in deficit, with heavy industry transferring 360 mill. Yuan in taxes while light industry even transfers 830 mill. Yuan. In respect to the ratio of value added to output value, light and heavy industry are similar.

Tab. 125 summarises the main indicators for the largest sectors. Interesting is that electric power generation has clearly the largest share in respect to the number of

firms, total capital and fixed assets, but that in respect to the other variables it has not a similar position. With 12% it receives a relatively large share of foreign capital. Beverage production on the contrary, which has a share of 11% in output value and sales value has with 18% the largest share in foreign capital. Especially surprising is the role of the transport equipment production. With 15% shares in output value, sales value and value added, the sector is essential for the Hainan economy, but it is not clear how the sector is able to translate this into a pre-tax profit of 366 mill. Yuan which is a share of 67%. This is the only of the listed sectors which still has a positive profit after taxes.

To summarise, Hainan is a SEZ which is very different from the other four. It was founded later, but in a larger dimension. The economy of Hainan is still strongly influenced by agriculture, although industry has expanded continuously in the last years. In respect to employment, agriculture is still dominating with almost 60%. The state-owned sector is larger than in the other SEZs, but the foreign capital sector is not as large and relevant for the Hainan economy as it is the case for the other zones. Hainan in total is more similar in its economic structure to the whole of China than it is the case for the other SEZs.

Tab. 123: Economic Indicators of Different Legal Forms 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Foreign Capital [mill. US-\$]	Total Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Assets
State-owned	916 (51%)	118 (69%)	8.1 (43%)	7.7 (44%)	1.7 (50%)	4.24 (40%)	9 (1%)	20.9 (51%)	0.15	-0.44	0.21	
Collective	503 (28%)	17 (10%)	1.2 (6%)	1.0 (6%)	0.1 (3%)	0.57 (5%)	13 (1%)	1.1 (3%)	0.04	0.02	0.08	0.04
Foreign-funded I*	104 (6%)	37 (20%)	2.1 (11%)	1.9 (11%)	0.3 (9%)	1.48 (14%)	937 (55%)	5.4 (13%)	-0.03	-0.16	0.14	
Foreign-funded II*	117 (6%)		2.5 (13%)	2.4 (14%)	0.4 (12%)	1.00 (10%)	621 (37%)	5.2 (13%)	0.07	-0.01	0.16	
Total	1,805		18.7	17.6	3.4	7.29	1,689	41.1	0.62	-0.56		

Source: HNSYB (1998: 325, 326, 341), own calculations

* Foreign Funded I – Investments from other countries than Hong Kong, Macao and Taiwan; Foreign Funded II – Investments from Hong Kong, Taiwan and Macao. Employment figures is just 'Others'.

Tab. 124: Economic Indicators of Light and Heavy Industry 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Foreign Capital [mill. US-\$]	Fixed Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Capital
Light Industry	912 (51%)	90 (52%)	12.3 (66%)	11.5 (65%)	2.2 (65%)	5.31 (50%)	1,009 (60%)	9.5 (38%)	0.67	-0.16	0.18	0.13
Farm*			7.7 (41%)	7.2 (41%)	1.4 (41%)	3.04 (29%)	844 (50%)		0.40	-0.08	0.18	0.13
Non-Farm*			4.6 (25%)	4.3 (24%)	0.8 (24%)	2.26 (21%)	165 (10%)		0.27	-0.08	0.17	0.12
Heavy Industry	893 (49%)	83 (48%)	6.4 (34%)	6.0 (34%)	1.2 (35%)	5.21 (50%)	680 (40%)	15.5 (62%)	-0.05	-0.41	0.19	
Raw Materials*			3.5 (19%)	3.4 (19%)	0.7 (21%)	3.03 (29%)	253 (15%)		-0.09	-0.29	0.20	
Manufacturing*			2.7 (14%)	2.5 (14%)	0.5 (15%)	2.07 (20%)	394 (23%)		0.05	-0.10	0.19	
Total	1,805	173	18.7	17.6	3.4	10.52	1,689	25.0	0.62	-0.56		

Source: HNSYB (1998: 325, 326, 341), own calculations;

*Farm: using farm products as raw materials; Non-Farm: using non-farm products as raw materials, Raw Materials: raw materials industry; Manufacturing: manufacturing industry

Tab. 125: Economic Indicators of Main Sectors 1997 [bill. Yuan]

	Number	Employees ['000]	GOVI [bill. Yuan]	Sales Value	Value Added	Total Capital	Foreign Capital [bill. US-\$]	Fixed Assets	Pre-Tax Profit	Net Profit	Value Added / GOVI	Net Profit / Total Capital
Transport Equipment	87 (5%)		2.8 (15%)	2.7 (15%)	0.5 (15%)	1.4 (13%)	0.1 (6%)	1.4 (6%)	0.37 (67%)	0.1	0.18	0.29
Beverages	82 (5%)		2.0 (11%)	2.0 (11%)	0.2 (6%)	0.7 (7%)	0.3 (18%)	1.8 (8%)	0.01 (2%)	-0.06	0.10	
Chemical Products	105 (6%)		1.5 (8%)	1.5 (9%)	0.2 (6%)	0.4 (4%)	0.1 (6%)	2.4 (10%)	0.05 (8%)	-0.02	0.13	
Pharmaceutics	50 (3%)		1.5 (8%)	1.4 (8%)	0.2 (6%)	0.7 (7%)	0.1 (6%)	0.9 (4%)	0.04 (7%)	-0.05	0.13	
Electric Power	211 (12%)		1.2 (6%)	1.2 (7%)	0.3 (9%)	1.9 (18%)	0.2 (12%)	5.8 (25%)	-0.03	-0.15	0.25	
Total	1805		18.7	17.6	3.4	10.5	1.7	22.9	0.62			

Source: HNSYB (1998: 327, 328, 336, 341-376), own calculations;

5.6 The Five Zones in Comparison

In this section we are going to compare the five SEZs. Although no new information are added which haven't been presented in the preceding sections, this section will show more clearly the similarities and differences between the SEZs in China. This is interesting because most other studies use only the Shenzhen SEZ as an example for the SEZs, but it will become clear that Shenzhen is just one of the five zones and due to the differences not the most typical example.

Population

Tab. 126: Population in the SEZs 1979-1997 [mill.]

	1979	1980	1985	1990	1995	1996	1997
Shenzhen	0.31	0.33	0.88	2.02	3.45	3.58	3.80
Zhuhai	0.36	0.37	0.41	0.75	1.05	1.05	1.17
Shantou	2.87	2.97	3.27	3.70	4.01	4.07	4.13
Xiamen	0.91	0.93	1.03	1.12	1.21	1.23	1.25
Hainan	5.40	5.50	6.00	6.50	7.00	7.10	7.20
Total SEZ	9.85	10.10	11.59	14.09	16.72	17.03	17.55
Total China	963	987	1,059	1,143	1,211	1,224	1,236

Source: SZSYB (1998: 96), CSY (1998: 108), ZHSY (1998: 97), STSYB (1998: 33), XSY (1998: 242), HNSYB (1998: 37)

Tab. 127: Population Shares in the SEZs 1979-1997

	1979	1980	1985	1990	1995	1996	1997
Shenzhen*	3%	3%	8%	14%	21%	21%	22%
Zhuhai	4%	4%	4%	5%	6%	6%	7%
Shantou	29%	29%	28%	26%	24%	24%	24%
Xiamen	9%	9%	9%	8%	7%	7%	7%
Hainan	55%	54%	52%	46%	42%	42%	41%
Total China*	1%	1%	1%	1%	1%	1%	1%

Source: SZSYB (1998: 96), CSY (1998: 108), ZHSY (1998: 97), STSYB (1998: 33), XSY (1998: 242), HNSYB (1998: 37), own calculations

*The figures give the shares of the individual SEZ in the total of all SEZs, only the last row gives the share of the population of all SEZs in the total population of China.

Tab. 126 and Tab. 127 illustrate the dramatic changes which have taken place in the SEZs in respect to the population between 1979 and 1997. The combined population of the five SEZs has increased from almost 10 mill. 1979 to over 17.5 mill. in 1997. An increase of 78% in less than two decades or 3.3% per year. As the tables demonstrate the zones have had very different developments. The most striking change was in the population of Shenzhen which increased more than tenfold and thereby increased its share from 3% in 1979 to 22% in 1997. This corresponds to an annual increase in population by 15% per year. While Zhuhai's population grew by almost 7%, the population of the other zones grew by rates below 2% per year. This explains the changes in the shares as presented in Tab. 127.

The overall share of the SEZs in the population of China remains with just 1% very small over the years. This is essential to note in order to estimate the employment effect of the zones. It reveals that in total even if the whole population would be counted as new labour force (which would obviously be a large over-estimation), the effect on the Chinese labour market was small.

Gross Domestic Product

Tab. 128 and Tab. 129 reveal especially the rapid economic development of Shenzhen. In 1979, Hainan which was not yet a SEZ, had because of its pure size with 1.7 bill. Yuan the largest real GDP. Xiamen and Shantou, the two locations of SEZs with an existing industrial base were two to four times as large as the less developed Zhuhai and Shenzhen SEZs. But already in 1985, Shenzhen has passed the other cities and produced more than one quarter of the real GDP of all SEZs. Until 1990, Shenzhen's economy was still growing much faster than the other SEZs. With 35% Shenzhen had the largest share in real GDP and passed even Hainan. Zhuhai grew rapidly enough to increase its share, while Shantou, Xiamen and Hainan, although growing, were losing in shares.

After 1992, Shenzhen, Shantou and Xiamen were able to expand their shares, while Zhuhai and Hainan were losing. Over the whole reform period, Shenzhen grew 28% per year, Zhuhai by 18%, Xiamen 16%, Shantou 12% and Hainan only 9% annually. This demonstrates the huge differences in the growth performance of the different zone concepts. Overall, although the SEZs were growing rapidly, they increased their share in the real GDP of the whole of China only from 1% to 2%. It is noteworthy that the four cities despite this small overall size were able to produce 80% of this share.

Tab. 128: Real GDP in the SEZs 1979-1997 [bill Yuan]

	1979	1980	1985	1990	1991	1992	1995	1996	1997
Shenzhen	0.2	0.3	2.3	5.2	6.9	8.7	13.6	15.1	17.4
Zhuhai	0.2	0.2	0.7	1.5	2.1	3.1	3.4	3.6	3.9
Shantou	0.9	0.9	1.7	2.6	3.2	3.6	5.2	5.9	6.9
Xiamen	0.5	0.6	1.2	1.7	2.0	2.3	4.6	5.5	6.7
Hainan	1.7	1.8	3.1	4.0	4.6	6.3	7.5	7.9	8.4
Total SEZ	3.4	3.8	9.0	14.8	18.8	24.0	34.3	38.0	43.3
Total China	392	417	703	894	1,014	1,187	1,610	1,796	1,963

Source: SZSYB (1998: 110), CSY (1998), ZHSY (1998: 82), XSY (1998: 244), HNSYB (1998: 17)

Tab. 129: Real GDP Shares of the SEZs 1984-1997

	1979	1980	1985	1990	1991	1992	1995	1996	1997
Shenzhen*	6%	7%	26%	35%	37%	36%	40%	40%	40%
Zhuhai	5%	6%	8%	10%	11%	13%	10%	9%	9%
Shantou	25%	25%	19%	18%	17%	15%	15%	16%	16%
Xiamen	14%	16%	13%	11%	11%	10%	13%	14%	15%
Hainan	50%	47%	35%	26%	24%	26%	22%	21%	19%
Total China*	1%	1%	1%	2%	2%	2%	2%	2%	2%

Source: SZSYB (1998: 110), CSY (1998), ZHSY (1998: 82), XSY (1998: 244), HNSYB (1998: 17), own calculations

*The figures give the shares of the individual SEZ in the total of all SEZs, only the last row gives the share of the population of all SEZ in the total population of China.

Another indicator for the differences in the development of the five SEZs is the sectoral share in GDP (Tab. 130). For Shenzhen and Shantou, the tertiary industry was most important already in 1980. While for Shenzhen the primary sector was of second importance, in Shantou with its industrial base, the second sector had this position. Xiamen, with its developed industry was producing almost 60% of its GDP

in the secondary industry, while in Zhuhai and Hainan the primary sector was dominating.

Tab. 130: Sectoral Shares in GDP of the SEZs

	1980			1990			1997		
	Prim.	Sec.	Tert.	Prim.	Sec.	Tert.	Prim.	Sec.	Tert.
Shenzhen	37%	21%	42%	4%	45%	51%	1%	49%	49%
Zhuhai	41%	29%	29%	14%	44%	42%	5%	52%	43%
Shantou	25%	34%	41%	21%	34%	44%	11%	47%	42%
Xiamen	22%	58%	20%	12%	51%	37%	6%	52%	42%
Hainan	53%	22%	25%	45%	20%	35%	37%	20%	43%
Total China	30%	23%	10%	27%	42%	31%	19%	49%	32%

Source: SZSYB (1998: 110), CSY (1998), ZHSY (1998: 82), XSY (1998: 244), HNSYB (1998: 17), own calculations

In 1980, only in Xiamen and Shantou, the role of agriculture was smaller than in the whole of China. The most structural change had already taken place in Shantou, with its large tertiary sector. Until 1990, structural changes had taken place in the other SEZs, only in Hainan agriculture was still more important than in the national average. Even in 1997, agriculture played a key role in Hainan, while it was losing more and more in the other SEZs. In Shenzhen, the share of real GDP produced in agriculture has even fallen to just 1%.

In relation to the value added as share of the output value the SEZs show major differences. Only Shenzhen, Shantou and Xiamen can be included, because as has been discussed in section 5.3 and 5.5 the data for Zhuhai and Hainan are not conclusive. For the others the changes during the reforms are very interesting as illustrated in Tab. 131. In Shenzhen this ratio increased in agriculture in the beginning of the reforms from 50% to 57% and stayed in the range of 55% to 58% in the later years. In Shantou it increased during the early reform years much stronger from 52% to 74%, but declined in the later 1990s to just 29%. In Xiamen finally the ratio was much more stable and fluctuated on a relatively high level between 61% and 68%. These figures demonstrate the dramatic changes which have taken place in the production process, especially in Shantou. They show that the production processes are organised with major differences in the different zones.

Tab. 131: Share of Value Added in Total Production Value

		1980	1985	1990	1991	1992	1995	1996	1997
Agriculture	Shenzhen	50%	57%	58%	57%	57%	55%	58%	57%
	Shantou	52%	74%	67%	64%	60%	30%	29%	29%
	Xiamen	65%	68%	63%	62%	67%	62%	63%	61%
Industry	Shenzhen	70%	65%	35%	36%	35%	34%	33%	33%
	Shantou	68%	60%	29%	27%	25%	30%	31%	33%
	Xiamen	40%	42%	38%	31%	30%	40%	40%	38%

Source: SZSYB (1998: 110, 139), STSYB (1998: 39, 54, 62), XSY (1995: 352, 356), XSY (1998: 244)

In respect to the ratio for the industrial production, Xiamen shows again small fluctuations, which might be the result of the higher degree of industrialisation at the beginning of the reforms. Shenzhen and Shantou on the contrary start with ratios of about 70% in 1980, which fell at the beginning of the 1990s to about 30% which is a similar level as in Xiamen. These figures display the intensity of the restructuring

process in the 1980s in Shenzhen and Shantou. No data on the source of the other inputs were available so that it is not possible to estimate the effect of these changes on the Chinese economy. Two main possibilities are (1.) the inputs are imported from foreign countries, which would create an additional burden for China without any backward linkages to the domestic economy; (2.) the inputs are supplied by domestic producers so that the lower ratios are only a sign for the increase in the division of the production process.

Exports and Imports

Tab. 132 and Tab. 133 demonstrate the large changes which have taken place in the SEZs and in the whole of China with respect to international trade. Unfortunately, data concerning the imports are missing. Still a clear structure can be recognised. Absolutely dominating in respect to imports and exports with shares of 65% and 69%, respectively, is Shenzhen. It is especially surprising how dominating Shenzhen in the early 1990s was, with shares of 80% to 90%. Shantou and Xiamen which had the major share in 1980 in respect to exports were not able to use their advantages as industrial centres and lost their significance so that in the end they have a similar position as Zhuhai. Hainan is, especially after the more restrictive policies after 1993, totally unimportant for the international trade of the SEZs.

Tab. 132: Imports and Exports of the SEZs 1979-1997 [bill. Yuan]

	1980	1985	1990	1991	1992	1995	1996	1997
IMPORTS								
Shenzhen	0.010	0.74	7.6	9.60	11.6	18.2	17.9	19.5
Zhuhai	0.010	0.11	0.2	0.40	0.6	1.7	2.5	2.6
Shantou							2.5	3.4
Xiamen	0.001	0.28	0.4	0.58	1.1	2.6	2.9	3.5
Hainan			0.7		0.8	0.8	0.8	0.9
Total SEZ	0.021	1.13	8.9	10.58	14.1	23.3	26.6	29.9
Total China	20.000	42.00	53.0	64.00	81.0	132.0	138.0	142.0
EXPORTS								
Shenzhen	0.01	0.56	8.2	9.9	12.0	20.5	21.2	25.5
Zhuhai	0.01	0.03	0.5	0.7	0.9	2.1	2.5	3.0
Shantou	0.30	0.30	0.8	1.1	1.6		2.7	3.4
Xiamen	0.14	0.17	0.8	1.2	1.8	3.5	3.7	4.3
Hainan	0.02	0.08	0.7		0.9	0.8	0.8	0.9
Total SEZ	0.48	1.14	11.0	12.9	17.2	26.9	30.9	37.1
Total China	18.00	27.00	62.0	72.0	85.0	149.0	151.0	183.0

Source: SZSYB (1998: 110), CSY (1998), ZHSY (1998: 69), XSY (1998: 250), HNSYB (1998: 494)

Tab. 133: Import and Export Shares of the SEZs 1979-1997 [%]

	1980	1985	1990	1991	1992	1995	1996	1997
IMPORTS								
Shenzhen	48%	65%	85%	91%	82%	78%	67%	65%
Zhuhai	48%	10%	2%	4%	4%	7%	9%	9%
Shantou							9%	11%
Xiamen	5%	25%	4%	5%	8%	11%	11%	12%
Hainan			8%		6%	3%	3%	3%
Share	0%	3%	17%	17%	17%	18%	19%	21%
EXPORTS								
Shenzhen	2%	49%	75%	77%	70%	76%	69%	69%
Zhuhai	2%	3%	5%	5%	5%	8%	8%	8%
Shantou	63%	26%	7%	9%	9%		9%	9%
Xiamen	29%	15%	7%	9%	10%	13%	12%	12%
Hainan	4%	7%	6%		5%	3%	3%	2%
Share	3%	4%	18%	18%	20%	18%	20%	20%

Source: SZSYB (1998: 110), CSY (1998), ZHSY (1998: 69), XSY (1998: 250), HNSYB (1998: 494), own calculations

In respect to the share of the international trade of the SEZs in the exports and imports of the whole of China one should note that already at the beginning of the 1990s, the SEZs have reached a share of almost 20% and stayed at this level during the 1990s. As has already been noted earlier, these exports and imports are of course not all produced and consumed in the SEZs. It reveals that the Chinese idea of the SEZs as windows to the international market is reflected in the statistics.

Firm Structure

Tab. 134 discloses that in the SEZs major differences exist in respect to the ownership structure of the enterprises and their importance for the economies. In Shenzhen, Zhuhai and Xiamen the foreign-funded enterprises clearly dominate the economies in the number of firms with shares between 57% and 63% and in respect to employees and gross output value. Especially in respect to the last variable their position is absolutely dominating with shares of over 80%. Large differences are in the net profits which the foreign firms were able to produce in the different zones. In Shenzhen, the foreign firms produced by far the largest absolute net profit with 8.9 bill. Yuan. In Xiamen, foreign enterprises produced 760 mill. Yuan in net profits in 1997 and in Zhuhai still 440 mill. Yuan.

Tab. 134: Firm Characteristics by Ownership

		Number	Employees ['000]	GOVI	Net Profit
Shenzhen	State-owned	500 (22%)	53 (10%)	12.2 (9%)	1.16
	Collective	421 (20%)	143 (26%)	7.0 (5%)	1.09
	Foreign-funded	1,328 (58%)	345 (64%)	114.5 (86%)	8.89
Zhuhai	State-owned	150 (10%)	121 (42%)	2.7 (8%)	-0.05
	Collective	384 (27%)	31 (11%)	2.4 (7%)	0.05
	Foreign-funded	896 (63%)	133 (47%)	27.8 (84%)	0.44
Shantou	State-owned	260 (16%)	276 (55%)	3.2 (11%)	0.21
	Collective	744 (44%)	157 (31%)	11.8 (41%)	0.22
	Foreign-funded	618 (37%)	66 (13%)	12.2 (43%)	0.42
Xiamen	State-owned	199 (10%)	45 (11%)	4.9 (11%)	0.15
	Collective	480 (23%)	26 (9%)	1.9 (4%)	0.04
	Foreign-funded	1,200 (57%)	189 (68%)	35.9 (81%)	0.76
Hainan	State-owned	916 (51%)	118 (69%)	8.1 (43%)	-0.44
	Collective	503 (28%)	17 (10%)	1.2 (6%)	0.02
	Foreign-funded	221 (12%)	37 (20%)	4.6 (24%)	-0.17

In Shantou, the collective enterprises are most relevant in respect to the number of firms, but the SOEs are the largest employer, while the foreign firms produce the largest share in the gross output value. It is extremely surprising that the SOEs with 55% of the labour force are only able to produce 11% of the over-all production value. In Hainan, the SOEs are in all respects still dominating with 51% of the firms, 69% of the employees and 43% of the output value. It is noteworthy that Hainan is the only SEZ where foreign firms have a negative net profit.

Foreign Direct Investment in the SEZs

The following two tables reveal the dominant role Shenzhen plays in attracting FDI. Half of all FDI in the five SEZs in 1984 was invested in Shenzhen, followed by Zhuhai with 34%. The foreign capital inflows into Shantou and Hainan were negligible in this time. Shenzhen and Zhuhai lost their dominating position over the years, when the investment into the other zones increased faster. In 1992, Hainan even became the main destination for foreign investors, but only in this year. In 1997, Shenzhen and Xiamen were the main destination with shares of 29% and 24%, respectively. The other zones had shares of 18%, 17% and 12%.

Tab. 135: Foreign investment in the SEZs 1984-1997 [mill US-\$]

	1984	1985	1989	1990	1991	1992	1995	1996	1997
Shenzhen	184	176	271	349	335	450	1310	2050	1660
Zhuhai	127	91	169	108	170	327	681	908	1024
Shantou	8	28	58	131	105	160	896	987	1011
Xiamen	40	73	242	173	133	N.A.	1322	1350	1379
Hainan	12	21	107	101	176	452	1055	790	711
Total SEZ	371	389	847	862	919	1389	5264	6085	5785
Total China*	1.3	1.7	3.4	3.5	4.4	11.0	37.5	41.7	45.3

Source: CFES (1992), SZSYB (1998: 279), CSY (1998: 637), SZSYB (1998: 163), ZHSY (1998: 248), XSY (1998: 251), HNSYB (1998: 502)

* in bill. US-\$

Tab. 136: Foreign investment shares in the SEZs 1984-1997

	1984	1985	1989	1990	1991	1992	1995	1996	1997
Shenzhen	50%	45%	32%	40%	36%	32%	25%	34%	29%
Zhuhai	34%	23%	20%	13%	18%	24%	13%	15%	18%
Shantou	2%	7%	7%	15%	11%	12%	17%	16%	17%
Xiamen	11%	19%	29%	20%	14%	N.A.	25%	22%	24%
Hainan	3%	5%	13%	12%	19%	33%	20%	13%	12%
SEZ in China	29%	23%	25%	25%	21%	13%	14%	15%	13%

Source: CFES (1992), SZSYB (1998: 279), CSY (1998: 637), SZSYB (1998: 163), ZHSY (1998: 248), XSY (1998: 251), HNSYB (1998: 502), own calculations

The significance of the SEZs as a location for FDI is revealed by comparing the volume of foreign investment in the zones with the total FDI in the whole of China. In 1984, 371 mill. US-\$ of the total of 1.26 bill. US-\$ were located in the four SEZs. This is equivalent to 29%. In 1991, the volume of FDI in the five zones increased to 919 mill. US-\$, while the total FDI in China even increased to 4.4 bill. US-\$. Therefore, the share of the SEZs in the total foreign investment has decreased to 21%. This trend continued until 1997 to reach a share of just 13%.

Although, 29% of the total investment was attracted to the four SEZs in 1984, it is still surprising that they did not attract a larger share. The open-door policy had just been extended to the 14 coastal cities so that they were not institutionalised as major competitors for foreign capital. But as a matter of fact, foreign investors could negotiate preferential treatment there as well, at least unofficially.

One explanation for this small share of the SEZs is the attraction of investors from different countries to different destinations. Western investors were more attracted by the old industrial basis, because they were looking for a developed industrial structure with the necessary infrastructure and access to a labour market with qualified workers (Bolz, Lösch and Pissulla 1990: 152). In 1987, enterprises from Hong Kong and Macao agreed on investing 1.86 bill. US-\$ in China; 715 mill. US-\$, equivalent to 38.4%, of the total investment were agreements in Guangdong province. Until 1991, this share of agreements in Guangdong province even increased to 56.8%. This was different for example for the investors from Japan and the USA. Only 17% of the Japanese agreements were in Guangdong in 1987 as well as in 1991. In 1987 the major destinations for the Japanese investors were Liaoning and Beijing (68.2%) and later, in 1991, Liaoning and Shanghai (52.6%).

The American investors were in 1987 mainly attracted to the major cities of Beijing and Shanghai. The two cities alone made up 45% of the total American agreements. Guangdong province attracted only 17.9% of the American agreements. Until 1991, the American investors reduced their concentration on some destinations and were looking for investment opportunities in the whole of China. Only 21% of all the agreements were located in Beijing and Shanghai and only 13% in Guangdong.

This large share of foreign capital being invested in other parts of the country outside the SEZs demonstrates that China itself was an interesting location for foreign

investors and as we have argued above, it is not reasonable to assume that the foreign capital in the SEZs was only invested in China because of the SEZs.

The SEZs show some differences in respect to the source countries of the foreign capital. In all zones, the investors from Hong Kong and Macao are absolutely dominating with the largest shares in all cases, which can be as high as 70% or 80%. In Shenzhen, Shantou and Zhuhai these investors have a share of 60% to 70% in the late 1990s, while in Xiamen and Hainan they are in the range of 30 to 40%. Japanese and US-American investors have some role to play in Shenzhen, Zhuhai and Hainan where both groups have a share of about 10% each. Otherwise, no source country has a major share. A special case for obvious reasons as has been discussed is Xiamen, where investors from Taiwan had investment shares of 14 to 30% in the 1990s.

In this chapter we have described the development of the five Chinese SEZs as reflected in the official statistics. They show clear differences in respect to their structures and their developments. We come now in the following chapter to the theoretical part of this study and we ask what the existing models can say about the welfare effects of SEZs.

6 Theoretical Analysis of SEZs

The most fundamental question asked in economics in respect to economic policies is whether a policy can increase national welfare and under which conditions this is the case. It therefore does not come as a surprise that the economic models which analyse the effects of SEZs use as well this approach for their evaluation. The models try to answer the question whether or under which conditions SEZs can increase national welfare which is typically reduced to one variable like national income to make it treatable in the models. All models used so far in the analysis of SEZs are static. As we have already argued in chapter 1, this focus is from our point of view too limited and we will come back to this point in the discussion of the models.

One problem is the neglect of distribution aspects. The models assume at least implicitly a redistribution system with lump-sum transfer. Using national income as the welfare criterion and therefore the potential increase in consumption possibilities can only be an appropriate abstraction if an effective and efficient redistribution system exists. This might be a valid assumption for an established and well-functioning market economy. But transformation economies are facing different problems, including the absence of many institutions like social security systems. Distribution effects can therefore in this environment have a direct influence on the political future of the reform government, because new and heavy opposition might be created by the feeling of missing social justice (see for example the developments in Russia). Only the increase of the national income is in such a situation not enough if the government is struggling for its political survival and has not enough instruments for redistribution. The answer of a theoretical analysis that SEZs are able to increase national income would be therefore not enough to recommend their establishment, because the limitations of the institutions and the political consequences have to be taken into account as well.

The other major problem is the use of static models for a process which is as dynamic as a transformation process. The reasons for the use of static models are obvious (1) they are easier to handle; and (2) they produce clearer results. We do not want to argue that dynamic models (which haven't been developed so far for the analysis of SEZs) would produce any better results. We only want to emphasise that the use of the static models can give an insight into the mechanism of some effects of SEZs, but that at the same time this analysis is very limited as will be shown in this chapter.

It is of course an essential information to know under which conditions national income increases or decreases when a policy is realised. But we are not convinced that this will be the key information for the political decision-makers in transformation economies. They have a set of aims (depending on the actual situation

in the country) including short-term aims like raising the living standard of special groups to stay in power or long-term aims like to build up the fundamentals for a future development of the whole country. It therefore depends on which aim is the most important one at the moment so that the government can decide for a policy which might lower the overall national income, but serves its short-term aims.

The Chinese SEZs have for example been used to introduce new laws before they were introduced in the rest of the country. This experimental procedure might produce larger costs by increasing the distortions in the country (having a planned economy and a more market economy in the same country), but the government has chosen this policy notwithstanding, because it increased the chances of introducing the law in the whole country, because it reduced the opposition in the rest of the country. From our point of view it is not reasonable to expect a Yes or No answer – ‘Yes, SEZs are beneficial’ or ‘No, they are not’ - which is also reflected in the design of our analysis and in the formulation of the summary.

In this chapter 6 we concentrate on the mathematical models which analyse some static effects of the establishment of SEZs. It has already been discussed before in more detail that SEZs may have major functions to play which are beyond the effects that can be analysed in these mathematical models.

We start our analysis by reviewing the received literature. The most important characteristic of all the former papers is that most of them use calculus in their models so that strictly speaking they can only answer the question what the effects of the enlargement (an infinitesimal enlargement of course) of a SEZ is. But as we will see they cannot answer the question why a government establishes a SEZ in the first place and what the rationale behind such a policy could be? We will come back to this question later-on.

6.1 The Modelling of Special Economic Zones

A major problem in modelling the Chinese SEZs is the extremely complex institutional setting (we have discussed the design and the aims of SEZs in more detail in chapter 2 and have mentioned Shantou SEZ, containing for example a bonded area, a high-tech industrial development zone and a development and experiment zone). Another problem is the fast institutional change inside the zones and in the rest of the country. It is therefore not surprising that these characteristics cannot be all included into the models, but we will notwithstanding ask in how far the theoretical SEZs have similarities with the special zones in reality.

As usual in model building, different approaches are possible. In the literature on SEZs (most authors use the term duty-free zone instead) which started with the article of Hamada (1974), four classes of models can be distinguished:

- (1) Hamada (1974) uses a two sector model with both sectors producing positive quantities in the DZ and in the SEZ and in which foreign capital is restricted to the SEZ.⁹⁰ Domestic labour is mobile between sectors and zones while capital is mobile between sectors but not between the zones. The second characteristic of a SEZ besides the foreign capital is the validity of world market prices of final goods. This means that no tariffs are raised on exports or imports of final goods in the SEZ, while the tariff wall remains around the DZ.
- (2) Young (1987) on the other hand allows in either zone only the production of a single good which is in each case produced with labour which is mobile between the zones, with an imported intermediate input and sector-specific capital. The SEZ is represented by the sector with foreign capital, which is restricted to only one sector as being sector-specific. Tariffs are levied on the intermediate good but not on the final goods. The tariff on the intermediate input is in this model the policy instrument. The characteristics of the SEZ are therefore the foreign capital and the tariff on the intermediate good, which is lowered with the establishment of a SEZ so that the price for the intermediate in the SEZ is lower than the price in the DZ.
- (3) Miyagiwa and Young (1986) use a three sector model. Without a policy intervention only two sectors produce positive quantities. The price of the third good does not cover the minimum cost so that the production of this good is zero. Miyagiwa and Young use a subsidy in this sector to represent the creation of the SEZ. The subsidy is sufficient to guarantee a production without losses. Capital only moves between the two zones so that no international capital movements can be analysed, but the model can still produce an interesting lesson for our question.
- (4) Finally, Copeland (1994) uses two characteristics of a SEZ. On the one hand following the approach of Hamada no tariff distortion is prevalent in the zone; on the other hand the SEZ is endowed with a share of the total immobile factors of the country (which are immobile between the zones but not between the sectors). Foreign capital is allowed in the SEZ.

The main features which characterise the differences of the various models are:

- number of goods and number of factors;
- elastic or inelastic factor supplies;
- foreign owned factors or only domestic factors;

⁹⁰ The whole literature on the effects of foreign capital inflow into a host country has of course to be kept in mind, because it is more or less the foundation on which the analysis of SEZs is based. We are not going to discuss this literature here, because it is beyond the scope of this analysis. We only want to emphasise that foreign capital inflow has both potential: to increase national welfare, but also to lower it. This was already clearly shown by Mundell (1977: 333), Minabe (1974: 1092), and Brecher and Diaz-Alejandro (1977: 321) just to mention a few of the papers which analyse the possibility of immiserising growth.

- foreign factors only in the SEZ or also in the DZ;
- intermediate goods or no intermediate goods;
- protection of final or intermediate goods;
- tariffs or quotas as protection;
- all goods traded or also non-traded goods;
- foreign factor incomes taxed or untaxed;
- public goods or no public goods.

The number and scope of these different features give an impression of how different SEZs can be designed in theory and practice. This is reflected in the great variety of the models. Most models put different emphasis on the various aspects so that they try to analyse different problems. The various papers give some interesting insights into the main mechanisms that can work if a SEZ is created. To emphasise this point, we do not understand the individual result as a comprehensive analysis of SEZs, instead we see them as building blocks of an overall analysis. They provide us with elements to understand the potential total effects.

Before we describe the individual models and analyse the strengths and weaknesses of these approaches we want to start by asking in which respect the characteristics of a real SEZ as described in chapter 2 can be found in the four classes of models discussed above.

(1) Hamada (1974) has for sure introduced from the beginning one of the major characteristics of real SEZs - the differences in the prices of final goods. The industries in the rest of the country are still protected by the old tariff wall, while the producers in the SEZ face world market prices (or at least prices which are closer to world market prices). But Hamada assumes that foreign capital can only move into the SEZ, not into the rest of the country. This assumption may be in accordance with the regulations in some countries, but it definitely does not fit the situation in China. From the beginning of the reforms, the Chinese government allowed foreign investment also in other parts of the country (see the Chinese Joint Venture Law 1979 and chapter 5 where the statistics illustrate that from the beginning the major part has been invested outside of the SEZs). As a result, foreign investors located both in the DZ and in the SEZ at the same time. This behaviour cannot be explained in the model of Hamada.

Hamada does not give any explanation why it should be in the interest of the country to restrict foreign capital to the SEZ. On the contrary his model produces an incentive for foreign investors to try to move into the rest of the country, because the return to capital in the DZ is higher than in the SEZ. The SEZs in China were set up

to create an incentive for foreign investors, who would not have come to China without this kind of an incentive.⁹¹

This is totally different in the model of Hamada. Here foreign investors locate in the SEZs not because this is the best choice for them, but only because of the additional constraint so that they are just not allowed to locate in the DZ. The location in the SEZ is therefore the only choice. The incentive for the capital movement is in this case not the existence of the SEZ, but it is the higher return to capital in the host country in relation to the world market which induces the foreign capital to flow. For that reason one has to say that in this model foreigners invest in the host country (more precisely in the SEZ) not because of the existence of the SEZ, but despite the existence of the zone. This does not correspond with the use of SEZs as a policy instrument to attract foreign investment.

(2) Even more fundamental problems has the second approach which is used for example by Young (1987). The establishment of a SEZ which is normally a whole set of different policy instruments is reduced to a single instrument. Young analyses the effects of the reduction of a tariff on the imported intermediate good which is used specifically in one of the two sectors. Although he calls this sector the SEZ it does not seem to correspond very much with the reality. Of course, tariff free imports of intermediate goods which are used in the production are often granted in special zones. But it seems to be absurd to equate any reduction of a tariff on an intermediate good with the establishment of a SEZ.

The question Young analyses is in fact which kind of effects the subsidisation of a specific sector has, by lowering the input costs through reducing the tariff rates, in a distorted economy when foreign capital is using this intermediate. The discussion of SEZs seems to be clapped on afterwards. Therefore, this approach is only able to shed light on the effects of a single very specific characteristic of SEZs.

(3) A similar limitation has the third approach which was first used by Miyagiwa and Young (1986). In their model the production of one good (in total the third produced good) becomes possible, because the government pays a production subsidy. Without the subsidy the minimum unit costs are not covered by the price. It is true that in SEZs many policy instruments are used which are subsidies or have the same effects. But in reality these instruments are not at all restricted to a single sector. Instead all sectors which locate in the special zone benefit from the beneficial environment.

⁹¹ Of course as described in section 3.5 one has to question whether the ethnic Chinese investors came to China because of the SEZs. It is definitely true that they intendedly chose the SEZs as locations although they had the possibility to locate also in other parts of the country. Therefore, the return to capital for them in the SEZs in the model should be higher than the return in the domestic zone. It is not clear whether the higher returns stem for them from the incentives or from the other advantages.

For these reasons the third approach has from our point of view also clear limitations for the analysis of the effects of SEZs. It can help to understand what happens if a new sector is subsidised in a tariff distorted economy. But it is not convincing to equate this special kind of a subsidy with the creation of a SEZ.

(4) Remains the fourth approach which was first used by Copeland (1994) and which was considerably extended by Schweinberger (1998). The new feature of this class of models is that the SEZ is on the one hand characterised by the world market prices and on the other hand by a specified factor endowment including immobile factors. The creation of a SEZ is in this context the partition of the domestic immobile factors between the DZ and the SEZ and the abolition of the tariff protection for the SEZ. While the immobile factors are then specific to the zones, mobile factors can move between the zone or can move in from abroad.

This approach covers more characteristics of real SEZs than the other three approaches. It can easily be extended to include other characteristics like for example the provision of public goods which is of great importance in reality for example in the form of infrastructure.

A reasonable assumption which is made in almost all the discussed papers is the restriction of the SEZs on production activities, not consumption. All the consumption takes place in the DZ. This corresponds to real SEZs. Even in the Chinese SEZs the major share of the factor income (especially labour income) is repatriated to other regions in China. Therefore, the assumption seems to be a good approximation of the reality. Sometimes, duty-free shops at airports are used as an example of consumption free zones, but this is not convincing because the purchase there is not for the immediate consumption. The goods are rather for the consumption in another country only that the refund of the value added tax is organised in another way.

More problematic is the use of calculus analysis in almost all of the papers [only exception is Schweinberger (1998)]. Although all the authors interpret their results as the effects of the establishment of a SEZ, this interpretation is not valid. The marginal analysis can only produce results about the inflow of foreign capital at the margin or the marginal change in the endowment of the SEZ with immobile factors (which is identical to an enlargement of the zone). But it is a fundamental difference whether one proves that a marginal change is welfare improving or that one shows how the establishment of a SEZ effects the welfare in the host country. As it is well known, local results do not easily translate into global results. Only Schweinberger (1998) is concerned with global results in his analysis by using global techniques. We look now in more detail at the individual models.

6.2 Two Sector Models

Because of its importance for the later research in the economic field, we start the discussion of the theoretical models with the model of Hamada (1974). Hamada uses a standard 2x2x2 Heckscher-Ohlin trade model with the two goods X_1 and X_2 , two factors of production (capital K and labour L) and two countries. The goods are produced with constant returns to scale technologies and there is perfect competition in goods and factor markets (e.f., the zero profit conditions are fulfilled). The host country is assumed to be small relative to the world market so that the country cannot influence the world market prices. The world market price of good X_2 is given by $p = p_2/p_1$ so that X_1 is the numeraire good. The import competing sector, industry X_2 is assumed to be the relative capital intensive one and that it is protected by an import tariff t_2 , the domestic price of good X_2 $q = q_2/q_1$ is therefore higher than the world market price p .

To define a reference point, Hamada first looks at the case in which foreign capital flows into a country without a SEZ. He assumes that foreign capital is only employed in the protected sector X_2 (producing X_2^*) so that the full employment condition for the factors can be written as:

$$a_{K1}X_1 + a_{K2}X_2 = K \quad \text{and} \quad (1)$$

$$a_{L1}X_1 + a_{L2}X_2 = L - a_{L2}^*X_2^* \quad (2)$$

$$a_{K2}^*X_2^* = K^* \quad (3)$$

where a_{ij} are the cost minimising input coefficient for factor i in industry j and all variables with a * are used in the production with foreign capital. Foreign and domestic technologies are assumed to be identical so that $a_{L2}^* = a_{L2}$ and $a_{K2}^* = a_{K2}$.

The zero profit conditions then are:

$$a_{K1}r + a_{L1}w = 1 \quad (4)$$

$$a_{K2}r + a_{L2}w = q \quad (5)$$

$$a_{K2}^*r + a_{L2}^*w = q \quad (6)$$

Solving the zero profit conditions gives the factor prices. As long as the country is incompletely specialised, the input coefficients can be treated as constants. Solving the full employment conditions (1) and (2) gives:

$$X_1 = \frac{a_{K2}(L - a_{L2}^*X_2^*) - a_{L1}K}{a_{K2}a_{L1} - a_{K1}a_{L2}} \quad (7)$$

$$X_2 = \frac{-a_{K1}(L - a_{L2}^*X_2^*) + a_{L1}K}{a_{K2}a_{L1} - a_{K1}a_{L2}} \quad (8)$$

Differentiating equations (7) and (8) with respect to X_2^* gives:

$$\frac{dX_1}{dX_2^*} = -\frac{a_{K2}a_{L2}^*}{a_{K2}a_{L1} - a_{K1}a_{L2}} = -\frac{a_{L2}^*k_2}{a_{L1}(k_2 - k_1)} < 0 \quad (9)$$

$$\frac{dX_2}{dX_2^*} = \frac{a_{K1}a_{L2}^*}{a_{K2}a_{L1} - a_{K1}a_{L2}} = \frac{a_{L2}^*k_1}{a_{L2}(k_2 - k_1)} > 0 \quad (10)$$

where the k_i are the capital-labour ratios of industry 1 and 2. In Hamada's model it is assumed that industry 2 is more capital intensive than industry 1 at any wage-rental ratio (no factor intensity reversals), so that $k_2 > k_1$, which gives the signs of the effects in equations (9) and (10). An expansion of the production of good 2 with foreign capital, X_2^* (which means an additional inflow of foreign capital - see eq. (3)) decreases the production of the labour intensive good X_1 (see eq. (9)) and expands in addition this part of the production of the capital intensive good X_2 which uses only domestic capital (10).

This is a mechanism which is in many papers on the effects of SEZs the driving force. The inflow of foreign capital increases the demand for labour in the SEZ, which has to migrate from the DZ. This migration then induces a standard Rybczynski effect (Rybczynski 1955) so that the labour-intensive sector X_1 declines and the relative capital-intensive production X_2 expands as shown in eq. (9) and (10).

Hamada demonstrates that the national income at domestic prices does not change when the foreign sector expands and foreign capital receives its marginal product as is reproduced in eq. (11) and (12). National income at domestic prices is defined as:

$$Y_D = X_1 + qX_2 + q(X_2^* - \frac{r}{q}a_{K2}^*X_2^*) \quad (11)$$

which is the sum of the value of production of goods X_1 , X_2 and X_2^* minus the factor income of foreign capital in terms of good X_1 . Differentiating (11) with respect to X_2^* and using equations (4), (5), (6), (9) and (10) gives:

$$\frac{dY_D}{dX_2^*} = \frac{-a_{K2}a_{L2}^* + qa_{K1}a_{L2}^*}{a_{K2}a_{L1} - a_{K1}a_{L2}} + (q - ra_{K2}^*) = 0 \quad (12)$$

An inflow of foreign capital and the resulting expansion of the production of good X_2^* therefore has no effect on national income at domestic prices, but which is of course not interesting in respect to national welfare. To get the effect of the expansion on the national income at world prices which is the better welfare criterion, the following expression (13) has to be differentiated with respect to X_2^* :

$$Y_I = X_1 + pX_2 + p(X_2^* - \frac{r}{q}a_{K2}^*X_2^*) \quad (13)$$

which gives:

$$\frac{dY_I}{dX_2^*} = (p - q)\frac{dX_2}{dX_2^*} + (p - q)\frac{wa_{L2}^*}{q} < 0 \quad (14)$$

Hamada reveals thereby that an inflow of foreign capital reduces national income at world market prices by increasing the distortion of the import tariff so that the inflow

of foreign capital in the SEZ reduces the welfare of the host country, because the consumption possibility has been reduced as is indicated by the decrease of national income at international prices. Hamada distinguishes two effects (1) the factor proportion effect and (2) the subsidisation effect, which correspond to the first and second term of equation (14), respectively. The first effect results from the reallocation of the factors (the standard Rybczynski effect). The foreign capital attracts domestic labour to move out of industry 1 so that to guarantee the new equilibrium, domestic capital has to move from industry 1 into industry 2, which expands its production (essential for this result is Hamada's assumption that factor prices do not change which means that the inflow of foreign capital is not so large to move the endowment vector out of the diversification cone). The second effect is caused by the difference between domestic and world market prices. The foreign capital is rewarded by a mix of good X_1 and X_2 . The higher the share of good 1 (the domestically cheaper good) in this bundle, the higher the value of the bundle at world market prices and the higher is the loss of the capital inflow for the domestic economy at international prices. Hamada has hereby reproduced the old result that a foreign capital inflow into a tariff distorted economy reduces welfare of the host country if the inflow increases the distortion of the tariff which is the case here, because the inflow of foreign capital results in an expansion of the production of the tariff protected good X_2 . Hamada uses this result as the reference point and proceeds by including a SEZ into the model.

The SEZ is characterised by the absence of any protection. In the SEZ only production takes place, no consumption. All income of domestic labour from employment in the SEZ when it is transferred into the DZ is treated in the same way as other imports so that the repatriation of income in the form of good X_2 has to pay import tax. Foreign capital is only employed in the SEZ so that the zero profit condition (6) has to be changed into:

$$a_{K2}^* r^* + a_{L2}^* w = p \tag{15}$$

The first effect of the establishment of a SEZ in this way is that the relative price of good 2 decreases in the SEZ from the level q to p . This leads to an increase in the production of good 1 (which price has relatively increased) and a decline of the production of good 2. Following the argument of Stolper and Samuelson (1941) and keeping in mind that good 2 is relative capital intensive, the price decrease results in a decrease in the return to capital r and an increase in the wage w . The return on capital in the SEZ r^{SEZ} is therefore lower than the return on capital in the DZ r^{DZ} while wages are higher in the SEZ. Labour is freely mobile so that the wage differential $w^{SEZ} > w^{DZ}$ functions as an incentive for migration from the DZ into the SEZ. The outflow of labour from the DZ and the thereby induced Rybczynski effect (Rybczynski 1955) results in a decline of the labour intensive industry in the DZ while the capital intensive industry expands at the same time. In the SEZ on the other

hand the labour intensive industry expands and the capital intensive industry declines.

It is straightforward to show that national income at domestic prices is again not affected by this change. But national income at international prices is now:

$$Y_I = X_1 + pX_2 + wa_{L2}^* X_2^* \quad (16)$$

so that:

$$\frac{dY_I}{dX_2^*} = \frac{dY_D}{dX_2^*} + (p - q) \frac{dX_2}{dX_2^*} = (p - q) \frac{dX_2}{dX_2^*} < 0 \quad (17)$$

(-) (+)

Hamada thereby demonstrates that an inflow of foreign capital into the SEZ reduces national welfare. Hamilton and Svensson (1983: 176) show with the tools of duality theory that in either case, inflow of foreign capital into the DZ or the SEZ domestic welfare is reduced. Comparing equation (17) and (14) displays that the negative effect of foreign capital inflow into the SEZ is smaller than the negative effect of such an inflow into a country without a SEZ. Hamilton and Svensson (1983: 176) on the other side show the opposite ranking. Wong (1986: 329) finds in a more general setting "that the policy ranking [FDI either in the SEZ or in the DZ, C.K.] depends on the following three factors: (a) which commodity is produced in the DFZ [duty free zone, C.K.]; (b) which commodity is used for factor income repatriation; and (c) whether factor income repatriation is taxed or subsidized." He demonstrates that this is the reason why Hamada (1974) and Hamilton and Svensson (1982) come to different conclusions in the evaluation of the stronger negative effect - they start from different assumptions as we will see in the next part when we discuss the model of Hamilton and Svensson (1982) in more detail. In the case of a SEZ only the negative consequences of an increased distortion through the Rybczynski effect which leads to an expansion of the protected sector can take place. There is no room for the subsidisation effect anymore, because foreign capital does not receive its income at tariff distorted domestic prices, but at international prices.

The main lesson we can learn from the model of Hamada for our research problem is that the inflow of foreign capital without a technology transfer and without any other effects besides the factor reallocation effect reduces unambiguously national welfare of the host country. But that this negative effect can be limited if the foreign investment is allowed only in a SEZ that is characterised by the absence of any tariff distortions. Hamilton and Svensson (1983: 179) demonstrate that this result changes if sector specific capital is assumed. For investments in the DZ Hamilton and Svensson (1983: 181) show that "... capital import into the protected import-competing sector decreases welfare, whereas capital import into the exporting sector increases welfare. [...] Capital import into the free zone may increase welfare, but it depends on in what physical form wages are paid."

If the Chinese government had decided to allow the inflow of foreign capital into the country, because it thought that the positive effects of foreign capital (which are outside of the model of Hamada) were needed for the further development of the country and its economy, it could have reduced the costs of this policy by establishing SEZs in case the assumption of no sector-specific capital is a good description of the reality. If sector-specific capital exists, the host country's government has even the possibility to raise welfare by allowing FDI in the DZ and restricting the investment possibilities to the export sector or by establishing a SEZ and taxing the wage income there in such a way that they pay the import tax on the protected good. Hamilton and Svensson (1983) have illustrated that in both these cases an inflow of foreign capital increases domestic welfare. Although one has to assume for this conclusion that no resources are used for the development of the SEZs. We will come back to this point later.

The limited value of Hamada's approach for our analysis is related to its disregard of some stylised facts:

- As we have already mentioned above, the SEZ in the model does not create an incentive for foreign capital to flow into the SEZ because $r^* < r$ so that the host country must be an attractive location for the foreign investor anyway. We have described in section 3.4 that from the beginning of the open door policy in China, foreign investors located in the SEZs and in the DZ. This behaviour cannot be explained in this model.
- Domestic capital is in the model not allowed into the SEZ although in many SEZs a major share of the total investment comes from domestic sources. Especially the establishment of joint ventures between domestic and foreign firms in the SEZs is expected to avoid the problem that the SEZs are pure enclaves with no interaction with the host country.
- Many potential positive effects of foreign capital inflow are left outside of the model.
- Hamada does not discuss what happens with the tariff revenue.

The last point is of special importance, because it explains the difference to the results of Hamilton and Svensson (1982), the next model we are going to discuss. As an intermediate step we look at what happens if we take the tariff income into account in the Hamada model. To do this, we do not use the same approach as Hamada, but we use duality theory as Hamilton and Svensson do (for an introduction into duality theory see Dixit and Norman 1980). The income expenditure equality of the situation in which foreign capital is invested in the host country which does not have a SEZ can be then written as:

$$E(q, u) = X_1 + qX_2 + t(C_2 - X_2) - rK^* \quad (18)$$

which means that the minimum expenditures to reach utility level u at domestic prices are equal to the value of production at domestic prices plus the tariff income (the tariff t on good X_2 multiplied with the net import $C_2 - X_2$) minus the factor income of foreign capital. Differentiating (18), holding domestic prices and the tariff constant gives:

$$E_u du = dX_1 + qdX_2 + t(dC_2 - dX_2) - rdK^* \quad (19)$$

Because foreign capital is paid its marginal product at domestic prices, we can use:

$$dX_1 + qdX_2 - rdK^* = 0 \quad (20)$$

Using $dC_2 = C_{2y} E_u du$ and solving (19) gives:

$$du = -E_u^{-1} (1 - tC_{2y})^{-1} t dX_2 \quad (21)$$

Equation (21) can now be used to calculate the welfare effect of an additional capital inflow by differentiating with respect to K :

$$u_{K^{DZ}} = -E_u^{-1} (1 - tC_{2y})^{-1} t X_{2K} < 0 \quad (22)$$

It is easy to show that with the used assumptions all elements of the right hand side of eq. (22) are positive so that the minus sign determines the sign of the effect. We have therefore reproduced Hamada's result, that in a country with an import tariff on the relative capital intensive good X_2 , an inflow of foreign capital reduces welfare by increasing the distortion of the import tariff. We look now at the second alternative - a country with a SEZ following Hamilton and Svensson (1982)⁹². An inflow of foreign capital into a SEZ induces domestic labour to move out of the DZ. Labour is paid a wage w^{SEZ} which is after tax equal to the domestic wage w^{DZ} because of perfect labour mobility. Labour receives a vector $g = (g_1, g_2)$ of goods X_1 and X_2 which is taxed as other imports when it is repatriated so that $w^{SEZ} = g_1 + qg_2 = w^{DZ} + tg_2$. This means that the wage in the SEZ is higher so that the repatriated income can pay the import tariff and the after tax income is equal to the domestic wage rate.

The budget constraint of the host country at international prices is given by:

$$C_1 + pC_2 = X_1 + pX_2 + (g_1 + pg_2)L^{SEZ} \quad (23)$$

Transforming this into domestic prices gives:

$$C_1 + qC_2 = X_1 + qX_2 + t(C_2 - X_2) + (g_1 + pg_2)L^{SEZ} - tg_2L^{SEZ} \quad (24)$$

The income expenditure equality in the case of labour migration into the SEZ is therefore given by (where w is now the domestic wage):

$$E(q, u) = X_1 + qX_2 + t(C_2 - X_2) + wL^{SEZ} - tg_2L^{SEZ} \quad (25)$$

⁹² We simplify the model somewhat, because Hamilton and Svensson include from our point of view too many features in their model, which does not produce any important insights.

so that differentiating (25) gives:

$$E_u du = dX_1 + qdX_2 + t(dC_2 - dX_2) + wdL^{SEZ} - tg_2 dL^{SEZ} \quad (26)$$

Because the factors are paid its marginal product the loss in value of production in the DZ is just equal to the increased wage income from the SEZ:

$$dX_1 + qdX_2 + wdL^{SEZ} = 0 \quad (27)$$

so that, using again $dC_2 = C_{2y} E_u du$ we get:

$$du = E_u^{-1} (1 - tC_{2y})^{-1} t(-dX_2 - g_2 dL^{SEZ}) \quad (28)$$

Using (28) to calculate the welfare implication of an additional foreign investment in the SEZ we get:

$$u_{K^{SEZ}} = u_{L^{SEZ}} L_{K^{SEZ}}^{SEZ} = \frac{1}{k^f} u_{L^{SEZ}} = \frac{1}{k^f} E_u^{-1} (1 - tC_{2y})^{-1} t(-g_2 - X_{2L^{SEZ}}) < 0 \quad (29)$$

The first equality holds because an inflow of foreign capital into the SEZs effects the host country through an outflow of labour from the DZ. The second equality holds, because we assume that the inflow of foreign capital is not too large so that the endowment vector of the SEZ does not move out of the diversification cone (k^f is the capital labour ratio of the foreign sector in the SEZ). For the last equality we just use eq. (28).

The total effect of an inflow of foreign capital in a SEZ is negative as can be seen from equation (29). g_2 and $X_{2L^{SEZ}}$ are both positive so that the last bracket is negative, which determines the overall effect. Comparing the welfare effects of an capital inflow in the DZ and in the SEZ, this means comparing equation (22) and (29) gives:

$$\frac{u_{K^{DZ}}}{u_{K^{SEZ}}} = \frac{-X_{2K}}{-g_2 - X_{2L}} k^f \quad (30)$$

Using that $X_{2L} = k_1 X_{2K}$ we get:

$$\frac{u_{K^{DZ}}}{u_{K^{SEZ}}} = \frac{X_{2K}}{X_{2K} + \frac{g_2}{k_1}} \frac{k^f}{k_1} = \alpha \frac{k^f}{k_1} \quad (31)$$

Because the term α on the right hand side is smaller than one, the relative welfare effects must be smaller than the relative factor intensities in the foreign sector and sector 1 in the DZ. From (31) follows that: $u_{K^{DZ}} > u_{K^{SEZ}}$ iff $\alpha k^f > k_1$.

Hamilton and Svensson develop a more complicated condition for the ranking of the welfare effects which we do not want to reproduce here, because it does not give us any additional insight. They analyse the more general case in which foreign capital is

allowed at the same time into the DZ and they assume a more general structure of import and export taxes. As a result, in their model not only the capital intensities of the foreign and the unprotected sectors are relevant for the welfare ranking, but also the intensity of the protected sector.

The interesting result of Hamilton and Svensson (1982) is that contrary to the result of Hamada they illustrate that an inflow of foreign capital into the SEZ has a larger negative welfare effect on the host country than an investment in the DZ, although they agree that the inflow will have a negative impact on the host country. From both models we can therefore draw the conclusion that it depends very much on the initial conditions in the country whether the costs of foreign investments in the one zone or the other are higher. This result is of course very disappointing, because it does not give any conclusion why so many countries establish special zones, because both models demonstrate that FDI in a country with SEZs reduces welfare (at least according to the welfare criterion these models use).

An interesting aspect of Hamada's analysis, but which is not interpreted in this way is the effect of the import tariff on the wages foreigners have to pay for domestic labour. As was discussed above, labour earns in the SEZ a higher pre-tax income than in the DZ. The after-tax wages are equalised between the two zones. In equilibrium, labour is indifferent between working in the SEZ or the DZ. For national welfare, it is therefore beneficial to have employment in the SEZ, because of the additional tariff income from the repatriated labour income. The higher the income share that is paid in terms of good X_2 , the higher is the positive welfare effect for the host country. But this is a source of conflict between the host country and the foreign investor, because it is obvious that the latter is interested in paying the whole wage in terms of good X_1 .

This conflict generating wage effect can be an important instrument for the host government. It can subsidise the wages to be paid by the foreign investors by lowering the shares of incomes to be paid in good X_2 . Hamilton and Svensson (1983: 168, footnote 4) conclude that the existence of the import tariff subsidises the wage in the SEZ, because via the Stolper-Samuelson effect, the protection of the relative capital-intensive sector increases the rate of return and lowers the wage. This lower wage level then benefits the foreign investors in the SEZ through the perfect labour mobility. But this result only holds and Hamilton and Svensson do not mention this, when the repatriated labour income has to pay the normal import duty, as assumed by Hamada, but which is not assumed by Hamilton and Svensson. They assume that labour income in the SEZ is untaxed so that wage income in the SEZ and the DZ are equal so that their remark is correct for the model of Hamada, but not for their own model.

Rodriguez (1976) makes an extension of the model of Hamada (1974) by assuming full factor mobility between the zones. He analyses the case in which the income is consumed at the point of its origin. Because of the differences in the goods prices between the SEZ and the DZ (caused by the import tariff), the factor prices should differ as well. But because of the assumption of perfect factor mobility this cannot be the case in equilibrium so that factor prices and goods prices have to be the same. This can only be the case [as demonstrated by Mundell (1957)] when the import tariff is not relevant because no trade takes place. Because of the free trade between the SEZ and the rest of the world, the goods prices in the SEZ and in the DZ have to be equal to the world market prices. This means that all producers and consumers face world market prices so that in this special case with the specific assumptions the partial trade reform with full factor mobility is in its effects equal to full trade reform.

In the final equilibrium the DZ is in autarky and the whole trade of the country is conducted by the SEZ. How relevant is this result for our questions? Not very much from our point of view, because Rodriguez assumes full factor mobility between the DZ and the SEZ. This is typically not the case. His results depend crucially on this assumption, otherwise factor prices and goods prices can differ in equilibrium, which is the case in the Chinese SEZs as described in chapter 3.

At least the model tells us that it would have been possible for the Chinese government to make a partial policy reform (establishing a SEZ) which increases domestic welfare without the inflow of foreign capital (which is not analysed in the model of Rodriguez). For this end, the Chinese government should have allowed for total factor mobility. The model of Rodriguez is unsatisfactory because of the special assumptions and because it gives no reason why the government should establish this kind of a zone. The effects on all variables and on all agents are the same as a full liberalisation. Only that in the case of the SEZ some factors have to migrate from one zone into another. Rodriguez mentions that this kind of a movement could create transaction costs. It is therefore not possible to explain from the model, why the government not directly fully liberalises the economy, which would bring about the same production and consumption structure without the transaction costs mentioned by Rodriguez.

6.3 An Extension

In this part we analyse the effects of an inflow of foreign capital into a SEZ if not only foreign capital is used in the SEZ as in the model of Hamada (1974), but joint ventures with domestic investors have to be established to produce good X_2^* . We follow the model of Marjit (1994), which will be discussed in detail below. Otherwise this model has the same characteristics as the model of Hamada (and therefore the same limitations). In Hamada's model only domestic labour has an

incentive to move into the SEZ, but domestic capital has no incentive to flow into the zone. In the Chinese SEZs, a huge share of the investments in infrastructure (which is outside of Hamada's model) and in working capital comes from domestic sources. The analysis of this kind of joint ventures is central, because technology transfer or other externalities have a greater probability the closer the co-operation between the foreign and domestic agents. We will come back to this point in section 7.3.

We assume that good X_2^* is produced with domestic labour, domestic capital and foreign capital.⁹³ To simplify the analysis we assume that domestic and foreign capital have respectively the fixed shares $(1-\alpha)$ and α in total capital. When the SEZs were established in China WFOEs were not allowed so that domestic capital had to take part in any venture although α was not fixed as we assume it here. The total amount of foreign capital K^* (which is in this simple case exogenous) therefore determines the produced volume of X_2^* and this again fixes the amount of domestic capital that moves into the SEZ. We assume further that foreign capital transfers advanced technology, so that the rate of return in the zone can be higher than in the DZ and the limited domestic capital mobility guarantees this. Wages are equalised because of perfect labour mobility.

The zero profit conditions are then:

$$a_{K_1} r + a_{L_1} w = 1 \quad (32)$$

$$a_{K_2} r + a_{L_2} w = q \quad (33)$$

$$a_{K_2}^* r^* + a_{L_2}^* w = p \quad (34)$$

The full employment conditions are given by:

$$a_{K_1} X_1 + a_{K_2} X_2 + (1-\alpha)a_{K_2}^* X_2^* = K \quad (35)$$

$$\alpha a_{K_2}^* X_2^* = K^* \quad (36)$$

$$a_{L_1} X_1 + a_{L_2} X_2 + a_{L_2}^* X_2^* = L \quad (37)$$

Eq. (35) describes that the domestic capital is used in the production of the two goods X_1 and X_2 alone and as a share $(1-\alpha)$ in the production of X_2^* . From (35) and (36) then follows (38) and from (37) follows (39):

$$a_{K_1} X_1 + a_{K_2} X_2 + \frac{(1-\alpha)}{\alpha} K^* = K \quad (38)$$

$$X_1 = \frac{1}{a_{L_1}} [L - a_{L_2}^* X_2^* - a_{L_2} X_2] \quad (39)$$

⁹³ This already shows the weakness of this analysis that we do not motivate the inflow of domestic capital into the SEZ, but just assume it to be exogenous. One motivation could be that the domestic joint venture partners might be more interested in the positive effects of such a co-operation like technology transfer or management techniques than they are interested in the direct rate of return. But this is obviously outside of the model.

Inserting (39) into (38) gives:

$$\frac{a_{K1}}{a_{L1}} [L - a_{L2} X_2 - a_{K2}^* X_2^*] + a_{K2} X_2 + \frac{(1-\alpha)}{\alpha} K^* = K \quad (40)$$

Solving (40) for X_2 gives:

$$X_2 = \frac{a_{L1}}{a_{L1}a_{K2} - a_{L2}a_{K1}} \left[K - \frac{(1-\alpha)}{\alpha} K^* - \frac{a_{K1}}{a_{L1}} L + \frac{a_{K1}}{a_{L1}} a_{L2}^* X_2^* \right] \quad (41)$$

From (37) follows :

$$X_2 = \frac{1}{a_{L2}} [L - a_{L2}^* X_2^* - a_{L1} X_1] \quad (42)$$

Inserting (42) into (38) gives:

$$X_1 = \frac{a_{L2}}{a_{L2}a_{K1} - a_{L1}a_{K2}} \left[K - \frac{(1-\alpha)}{\alpha} K^* - \frac{a_{K2}}{a_{L2}} L + \frac{a_{K2}}{a_{L2}} a_{L2}^* X_2^* \right] \quad (43)$$

so that:

$$\frac{dX_1}{dK^*} = -\frac{(1-\alpha)}{\alpha} \frac{a_{L2}}{a_{L2}a_{K1} - a_{L1}a_{K2}} + \frac{1}{\alpha a_{K2}^*} \frac{a_{K2}a_{L2}^*}{a_{L2}a_{K1} - a_{L1}a_{K2}} \frac{dX_2^*}{dK^*} \quad (44)$$

From (36) we know that:

$$\frac{dX_2^*}{dK^*} = \frac{1}{\alpha a_{K2}^*} \quad (45)$$

so that:

$$\begin{aligned} \frac{dX_1}{dK^*} &= -\frac{(1-\alpha)}{\alpha} \frac{a_{L2}}{a_{L2}a_{K1} - a_{L1}a_{K2}} + \frac{1}{\alpha a_{K2}^*} \frac{a_{K2}a_{L2}^*}{a_{L2}a_{K1} - a_{L1}a_{K2}} = \\ &= -\frac{(1-\alpha)}{\alpha} \frac{a_{L2}}{a_{L1}(k_1 - k_2)} + \frac{1}{\alpha k_2^*} \frac{k_2}{a_{L1}(k_1 - k_2)} = \\ &= -(1-\alpha)a_{L2} + \frac{k_2}{k_2^*} \end{aligned} \quad (46)$$

From (41) follows:

$$\begin{aligned} \frac{dX_2}{dK^*} &= -\frac{(1-\alpha)}{\alpha} \frac{a_{L1}}{a_{L1}a_{K2} - a_{L2}a_{K1}} + \frac{1}{\alpha a_{K2}^*} \frac{a_{K1}a_{L2}^*}{a_{L1}a_{K2} - a_{L2}a_{K1}} = \\ &= -\frac{(1-\alpha)}{\alpha} \frac{1}{a_{L2}(k_2 - k_1)} + \frac{1}{\alpha a_{K2}^*} \frac{k_1}{a_{L2}(k_2 - k_1)} = \\ &= -(1-\alpha)a_{L2}^* + \frac{k_1}{k_2^*} \end{aligned} \quad (47)$$

We see from eq. (44) and (45) that:

$$\frac{dX_1}{dK^*} > 0 \quad \text{iff} \quad k_2 > (1-\alpha)a_{L2}k_2^* \quad (48)$$

$$\frac{dX_2}{dK^*} > 0 \quad \text{iff} \quad k_1 > (1-\alpha)a_{L2}^*k_2^* \quad (49)$$

Condition (48) and (49) give us the conditions under which the sectors X_1 and X_2 expand after an inflow of foreign capital. But obviously, not both conditions can be fulfilled at the same time, because otherwise all three sectors would expand which is impossible. The case we had above that sector 2 expands and sector 1 contracts is given if the following equalities hold:

$$a_{L2} > \lambda k_2 > \lambda k_1 > a_{L2}^* \quad (50)$$

We therefore see that this is the case if the unit-labour-input of the foreign production is smaller than the share λ (which is equal to $1/(1-\alpha)k_2^*$) of the capital intensities of the two domestic sector and smaller of the unit-labour input coefficient of the domestic production. The second inequality holds, because we have assumed that sector 2 is the relative capital intensive sector. Is the labour input coefficient of the domestic production of good 2 relatively small and the input coefficient of sector 1 relatively large, then sector 1 expands while sector 2 contracts. In this case the following conditions must be fulfilled:

$$a_{L2} < \lambda k_2 \quad \text{and} \quad \lambda k_1 < a_{L2}^* \quad (51)$$

The last case, if both conditions (48) and (49) are not fulfilled, then only the foreign sector expands from an inflow of foreign capital.

What can be said about national income? National income at domestic prices cannot decrease because it was assumed that domestic capital was free to move into the SEZ, which will only happen if the rate of return r^* in the special zone is at least not lower than the rate in the DZ. This means that national income at domestic prices is given by:

$$Y_D = X_1 + qX_2 + r^* \alpha a_{K2}^* X_2^* + w a_{L2}^* X_2^* \geq rK + wL \quad (52)$$

Differentiating with respect to K^* gives:

$$\frac{dY_D}{dK^*} = \frac{dX_1}{dK^*} + q \frac{dX_2}{dK^*} + (r^* \alpha a_{K2}^* + w a_{L2}^*) \frac{dX_2^*}{dK^*} \quad (53)$$

National income at international prices on the other hand is given by:

$$Y_I = X_1 + pX_2 + p \frac{r^*}{q} \alpha a_{K2}^* X_2^* + p \frac{w}{q} a_{L2}^* X_2^* \quad (54)$$

Differentiating with respect to K^* gives:

$$\frac{dY_I}{dK^*} = \frac{dX_1}{dK^*} + p \frac{dX_2}{dK^*} + \frac{p}{q} (r^* \alpha a_{K2}^* + w a_{L2}^*) \frac{dX_2^*}{dK^*} \quad (55)$$

We have discussed before under which conditions which sector expands and which sector contracts as the result of a foreign investment. These conditions translate into

the conditions under which national income at domestic and international prices change. It is therefore in this case possible that national welfare increases or decreases, depending on the above conditions.

The next key question is which effect a change in the regulation of the participating share of domestic capital has. From equations (43) and (41) we get:

$$\frac{dX_1}{d\alpha} = \frac{K^*}{\alpha^2} \frac{a_{L2}}{a_{K1}a_{L2} - a_{K2}a_{L1}} = \frac{K^*}{\alpha^2} \frac{1}{(k_1 - k_2)a_{L1}} \quad (56)$$

$$\frac{dX_2}{d\alpha} = \frac{K^*}{\alpha^2} \frac{a_{L1}}{a_{K2}a_{L1} - a_{K1}a_{L2}} = \frac{K^*}{\alpha^2} \frac{1}{(k_2 - k_1)a_{L2}} \quad (57)$$

For $k_2 > k_1$ we have: $\frac{dX_2}{d\alpha} > 0$ and $\frac{dX_1}{d\alpha} < 0$

From equation (36) we have $\frac{dX_2^*}{d\alpha} = -\frac{K^*}{a_{K2}^* \alpha^2} < 0$

This means that the protected sector X_2 can be contracted by lowering the share of foreign capital which is allowed into the production of X_2^* . This is only the case as long as one assumes that the inflow of foreign capital is exogenous.

The policy of the government to limit the control of the foreign investor in the enterprises will typically be used by the investor as information about the investment environment. A smaller α (which means a smaller share of foreign capital and a more dominating position of the domestic partner) therefore may have a negative effect on the total amount of foreign capital K^* , which is invested in the host country. As can be seen from equation (49) a reduction in K^* only leads to a reduction in X_2 , when the condition $k_1 > (1 - \alpha)a_{L2}^*k_2^*$ is fulfilled. But a reduction in α makes it more and more unlikely that this condition is fulfilled so that a reduction in K^* results in an expansion of the production of X_2 . It is therefore not possible to say which effect dominates, the direct re-allocation-effect which reduces the amount of domestic capital that is available for the production of X_2 and X_1 or the indirect effect that the reduced inflow of foreign capital can result in an expansion of sector 2. To allow the foreign investors a larger share α in the joint venture might on the other hand increase the over-all volume of foreign capital, which again on the one hand has a contracting effect on sector 2, on the other hand it can have an expanding effect as well as included in equation (49). The total effect on national welfare is therefore ambiguous, but it is clear that the government can influence national welfare by changing the level α .

6.4 Multi-sector Models

Miyagiwa (1986) uses an alternative approach which has more of the characteristics that real world SEZ have. Instead of partitioning the domestic economy for setting up a SEZ, Miyagiwa assumes that the production of another good, which has not been produced before, is being subsidised with a subsidy s in such a way that production becomes profitable. Miyagiwa uses in his model a combination of a Heckscher-Ohlin and a Ricardo-Viner model.

The zero profit conditions of the model are given by:

$$c_1(w, r_A) = 1 \quad (58)$$

$$c_2(w, r_K) = q_2 = p_2(1 + t) \quad (59)$$

$$c_3(w, r_K) = p_3(1 + s) \quad (60)$$

with $c_i(\dots)$, $i=1,2,3$ as the unit cost functions of the three sectors, w, r_A, r_K the factor prices of the three factors labour L , land A and capital K , respectively. Sector 1 on the one hand and sector 2 and 3 on the other build the Ricardo-Viner part of the model, because land A is sector specific to sector 1 and capital K is specific to sector 2 and 3. Sector 2 and 3 at the same time create a Heckscher-Ohlin type of model. As equation (59) displays sector 2 is protected by an import tariff t as in the model of Hamada. Sector 3 is subsidised through the subsidy s .

The full employment conditions for the three factors are given by:

$$X_1 c_{1r} = A \quad (61)$$

$$X_2 c_{2r} + X_3 c_{3r} = K \quad (62)$$

$$X_1 c_{1w} + X_2 c_{2w} + X_3 c_{3w} = L \quad (63)$$

where c_{ij} are the derivatives of the unit cost functions with respect to the factors. These derivatives give the input coefficients. Miyagiwa's first major result is that if sector 3 is more capital-intensive than sector 2, the rates of return to capital and land in the potential host country increases and the wage decreases as a result of the establishment of a SEZ (before an actual inflow of foreign capital).⁹⁴ This means that the government can create an additional incentive for foreign capital to move into the host country if it chooses the relative capital-intensive industry for creating the SEZ which is equal to subsidising sector 3. This is, as Miyagiwa emphasises, in contrast to the policy of many governments in developing countries which prefer to locate relative labour-intensive industries in the SEZs with the aim of having a large employment effect. This is of course outside of the model (and is not discussed by

⁹⁴ For this result, eq. (58) and (60) have to be differentiated and applying Cramer's rule gives then the effect of changes in the subsidy on the factor prices. The sign of the effects depends on the relative capital-intensities of sector 2 and sector 3. We only quote the case in which sector 3 is more capital intensive. If sector 2 is more capital-intensive then all effects change their sign.

Miyagiwa), because for analysing the effects of an increase in employment a model with an exogenous labour supply is obviously not appropriate. The increase in the subsidy rate s implies that the output of sector 3 increases and the output of sector 2 decreases in any case and the output of sector 1 increases if sector 3 is relatively capital-intensive and decreases if this sector is labour-intensive.

Miyagiwa then extends his model to include FDI. Because of the more complicating setting of the model of Miyagiwa it is not surprising that the conditions for the welfare effects of an additional foreign capital inflow are more complicated than the one of Hamada. He uses the approach of the expenditure function which includes the assumption that national welfare can be represented by the utility level u of a representative agent. Miyagiwa determines for example that under tariff protection for industry 2, if industry 3 is more capital-intensive than industry 2 and $\frac{(1+s)}{s}\beta_3 > \frac{(1+t)}{t}\beta_2$, an inflow of foreign capital increases national welfare (where β_2 and β_3 are the income shares of labour in industry 2 and 3, respectively). If industry 3 is more labour-intensive the condition for a welfare increase has to be reversed.

From our point of view this condition is not very intuitive. But the condition of Miyagiwa can be transformed into: $\frac{L_3}{L_2} > \frac{sp_3X_3}{tp_2X_2}$, which has a much clearer meaning.

In this form the condition says that the relation between the labour employed in sector 3 to the labour force of sector 2 has (for a welfare improvement) to be larger than the ratio of the 'volume of protection' of sector 3 to sector 2 (which is the ratio of the subsidies paid in sector 3 relative to the increase in the consumption costs of good X_2 induced by the tariff).

In how far can this result be used for the analysis of the Chinese SEZs? First of all we must assume that the production in the SEZ can be aggregated and can be represented by one good, which is subsidised to be profitable. The SEZs definitely have effects on the production which are equivalent to subsidies, like reduced land fees, preferential access to raw materials or the provision of modern infrastructure at low costs. But the model assumes that the good is than available in the DZ at the low price p_3 , only that in China the goods have to pay a tariff as soon as they cross the boarder between the SEZ and the DZ (at least when they cross legally). This is not a serious argument against the model, only it is essential to take this into account when the condition for a welfare increase is interpreted, because then the price should be interpreted including the import tax.

Assuming that the protected sectors in China can be aggregated and that the production in the SEZs is more capital intensive than the protected production in the

DZ we are now in the position to look at the condition for a welfare improvement using Chinese data for 1997. The GDP in 1997 of the secondary and tertiary industry of the whole of China was 1,963 bill. Yuan, that of the SEZs was 43.3 bill. Yuan. We assume that the average tariff rate is 0.3 following the analysis of Jakubowicz (1999). Using this data and solving the above condition we see that s must be smaller than 70% so that the condition for a welfare improvement is fulfilled. It is obvious that 70% is a quite large subsidy and for the year 1997 in the Chinese SEZs this would mean that 70% of the GDP of 43.3 bill. Yuan, equalling 30.3 bill. Yuan would have to be paid in subsidies to the production in the SEZs. We can therefore conclude that with all our assumptions, Miyagiwa's model using the data for China of 1997 predicts that the additional inflow of foreign capital was welfare increasing. But this is only the result for one single year. To evaluate the whole period, every year would have to be calculated individually and then the present values should be added up to get the overall effect.

A clear improvement of the Miyagiwa model relative to the model of Hamada (1974) is the inclusion of quantity and price changes (Hamada assumed that factor prices are fixed). But Miyagiwa still has lots of effects not included in his model, so that the result of a positive or negative effect of the SEZs in China still has to be carefully interpreted. As in the other models all the effects are induced by the reallocation of the factors and can therefore be reduced to the Rybczynski effect.

Another three sector model is Marjit (1994), which still has many of the characteristics of the Hamada model. The main difference is that Marjit assumes that foreign capital has to take part in the production of good 3, although he allows for a participation of domestic capital as well (we have already used this idea of Marjit in section 6.3). His interpretation of this assumption is that it represents the possibility of joint ventures between foreign and domestic capital in which foreign capital controls the advanced technology and transfers part of this technology in the joint venture so that domestic capital gains the ability to produce good 3. With this assumption Marjit is able to introduce another policy instrument, because he assumes that the host country's government can determine the shares of foreign and domestic capital in the joint ventures as well as the total volume of foreign capital inflow. As in the Miyagiwa model the third sector represents the SEZ (the only difference is that while Miyagiwa uses a subsidy to make the production of this good possible, Marjit gives this role of a catalyst to foreign capital).

The general equilibrium of this model is given by the zero profit conditions:

$$c_1(w, r^{DZ}) = p_1 \tag{64}$$

$$c_2(w, r^{DZ}) = p_2(1+t) \tag{65}$$

$$c_3(w, r^{DZ}) = 1 \tag{66}$$

and the full employment conditions:

$$a_{L1}X_1 + a_{L2}X_2 + a_{L3}X_3 = L \quad (67)$$

$$a_{K1}X_1 + a_{K2}X_2 + \alpha a_{K3}X_3 = K \quad (68)$$

$$(1-\alpha)a_{K3}X_3 = K^*(1-\alpha) \quad (69)$$

where α is the share of good X_3 which is produced with domestic capital. Marjit determines that in this case the welfare implication of an increase of foreign capital depends on the relative factor intensities of the unprotected and the foreign sector. If the unprotected domestic sector is labour-intensive relative to the foreign sector, the government can choose an α so that an additional inflow of foreign capital will raise national welfare. As in the other models, this is the result of the Rybczynski effect which leads under these conditions to a contraction of the protected sector. An increase in α induces domestic capital to move out of the capital-intensive sector 2 which contracts, while the relative labour-intensive sector 1 expands.

Marjit introduces an interesting element in his analysis. The co-operation of domestic and foreign capital is in many economies one of the major aims of attracting foreign capital. It is expected that some of the positive effects of foreign investment only materialises, especially in the early stages of economic transformation, because in such a situation the linkages between the foreign producers and local suppliers are extremely underdeveloped.

Marjit then introduces unemployment in the form of Harris-Todaro, which we will analyse later-on in section 6.6.

Beladi and Marjit (1992) use like Miyagiwa (1986) a hybrid model of a Heckscher-Ohlin and a Ricardo-Viner model. Only that in their setting foreign capital and domestic capital are the specific factors; foreign capital in the sector which represents the SEZ, domestic capital to the other two sectors between which the capital is mobile. They demonstrate in this framework that an additional import of foreign capital into the SEZ is welfare decreasing if and only if the country imports the capital-intensive good and levies an import tariff on this good. If it imports the relative labour intensive good, welfare increases when capital flows into the SEZ. After the discussion of the former models this does not come as a surprise, it is the working of the Rybczynski effect which produces this result. The expansion of the SEZ which is in this model equal to an increase in foreign capital draws labour from the other sectors which either extends or contracts the protected sector depending on its factor intensities which directly translates into the welfare effect.

It seems to us only surprising that this paper is published 6 years after the paper of Miyagiwa (1986), but is in its results even less far-reaching than the results of Miyagiwa.

Copeland (1994) generalises the analysis to a large number of goods and factors. Although he analyses also situations without FDI, we concentrate our discussion on the part of the paper with foreign capital in the SEZ. It is definitely the most comprehensive theoretical analysis of the effects of SEZs. Copeland (1994: 20) uses the duality approach so that the income expenditure equality in the model we want to discuss is given by:

$$E(q, u) = R(q, v^{DZ} + v^{*DZ}, k^{DZ}) + R(p, v^{SEZ} + v^{*SEZ}, k^{SEZ}) - w^{DZ} v^{*DZ} - w^{SEZ} v^{*SEZ} - rk^* + tM \quad (70)$$

where $E(.)$ is the expenditure function (Copeland assumes that all conditions are fulfilled for $E(.)$ being well behaved) which gives the minimal expenditures which are necessary at the tariff distorted prices q to reach utility level u . $R(.)$ are the revenue functions with the prices (q as the tariff distorted domestic price vector; p are the world market prices) and the domestic and foreign factors (v as vector of the immobile factors, while the vector k represents the mobile factors) as arguments. The superscripts DZ and SEZ denote the zone in which the factors are located. All foreign factors, either in the DZ or in the SEZ are denoted with a '*'. Eq. (70) states that the minimal expenditures to reach utility level u equals in equilibrium the sum of the revenue in the DZ and the SEZ minus the factor incomes of the foreign factors plus the tariff revenue (w and r denote vectors of factor prices not necessarily related anymore to labour and capital, but to mobile and immobile factors). Copeland assumes in this model that some factors k are mobile between the DZ and the SEZ, but that other factors v cannot move between the zones. In the most general case, all these factors can move internationally so that foreigners can decide where they want to locate their resources.

The returns of the immobile factors in both zones are given by:

$$w^{DZ} = R_v^{DZ} \quad (71)$$

$$w^{SEZ} = R_v^{SEZ} \quad (72)$$

The returns of the mobile factors therefore are given by:

$$r = R_k^{DZ} = R_k^{SEZ} \quad (73)$$

where the whole endowment of mobile factors has to fulfil the full employment condition:

$$k^{SEZ} + k^{DZ} = k + k^* \quad (74)$$

with k as the initial endowment of the host country with mobile factors. The import vector M is given by:

$$M = E_q - R_q^{DZ} \quad (75)$$

Totally differentiating (70) gives:

$$E_u du(1-t\mu) = -v^{*DZ} dw^{DZ} - v^{*SEZ} dw^{SEZ} - k^* dr - t[R_{qv}^{DZ} dv^{*DZ} + R_{qk}^{DZ} dk^{DZ}] \quad (76)$$

where $\mu = E_{qu} / E_u$ is the vector of marginal consumption propensities. We know from (71), (72), and (73):

$$dw^{DZ} = R_{vv}^{DZ} dv^{*DZ} + R_{vk}^{DZ} dk^{DZ} \quad (77)$$

$$dw^{SEZ} = R_{vv}^{SEZ} dv^{*SEZ} + R_{vk}^{SEZ} dk^{SEZ} \quad (78)$$

$$dr = R_{kv}^{DZ} dv^{*DZ} + R_{kk}^{DZ} dk^{DZ} \quad (79)$$

Eq. (76) states that a sufficient condition for a welfare increase through an increase of foreign factors is that the payments to foreign factors decrease (the first three terms on the right hand side) and that the tariff revenue falls (the last term on the RHS).

Copeland then concentrates his analysis on the case in which foreigners only own immobile factors in the SEZ. We do not think that this is the most interesting case to analyse. We therefore concentrate on the case in which foreigners in addition only transfer fully mobile factors k^* so that (76), using eq. (77) to (79), simplifies to:

$$E_u du(1-t\mu) = -v^{*DZ} R_{vk}^{DZ} dk^{DZ} - v^{*SEZ} R_{vk}^{SEZ} dk^{SEZ} - k^* R_{kk}^{DZ} dk^{DZ} - tR_{qk}^{DZ} dk^{DZ} \quad (80)$$

Eq. (80) illustrates that in this simplified case four effects remain. The first two terms are the changes in the foreign factor income of the immobile factors in the DZ and in the SEZ. The third term is the induced change in foreign factor income of the mobile factors. Either in the Heckscher-Ohlin or in the Ricardo-Viner model the return to a factor decreases when its endowment increases so that $R_{kk}^{DZ} = r_k < 0$. This means that the third effect is positive when the volume of mobile factors used in the production of the DZ increases.⁹⁵ The last term on the RHS is the induced change in tariff income resulting from the changes in production (again the Rybczynski effect). If the protected good is intensive in the inflowing factor then this inflow leads to an expansion in the production of the good which obviously has a negative effect on welfare. Again, if it is not only one good flowing, but a vector then equation (80) has to be reinterpreted accordingly so that on average the effect take place as described before.

The special assumptions in this model obviously produce the result that the welfare effects of foreign investments are independent from where the foreigners locate, because only changes in the fully mobile factors are analysed so that these factors reallocate between the zones independently from where the foreign factors locate in

⁹⁵ This interpretation is obviously formulated under the assumption that only one factor is affected. The reinterpretation with vectors and average effects is straightforward and left to the reader.

the first place. The induced effects are identical whether the factors locate in the DZ or in the SEZ as long as the factors are fully mobile between the zones.

For the basic case of total factor immobility, Schweinberger (1998) reveals that the creation of a SEZ cannot be welfare deteriorating when the factor endowment of the SEZ is proportional to the factor endowment of the whole country for any number of factors and goods by using the trade expenditure function $B(\dots)$ as given below:

$$B(\hat{a}, u) = E(p, u) - R^{DZ}(q, (1 - \hat{a})v) - R^{SEZ}(p, \hat{a}p, -(q - p)[E_p(p, u) - x^{DZ}]$$

Schweinberger shows that the total expenditure for reaching a utility level u^0 is higher when α (the share of the total factor endowment in the SEZ) is equal to zero than when α is positive. This means shifting a share of the total factor endowment which is proportional to the endowment vector into a special economic will unambiguously increase the welfare of the country. The creation of the SEZ equals then a partitioning of the country into two countries where in one country the production is still tariff distorted (the DZ), while in the other country (the SEZ) the production is undistorted. The creation of the SEZ therefore reduces the production losses while the consumption losses are unchanged, because the consumers still face the tariff distorted prices. Allowing for consumption of the incomes where they are generated makes the reduction of the consumption losses possible. We will come back to the model of Schweinberger (1998) soon.

Tariff reform in a country with a special economic zone

The following model analysis the effects of a tariff reform in a country, in which part of the resources are in a SEZ. The model follows the approach of Copeland (1994) as described above. The SEZ has in this approach two characteristics. On the one hand the zone has a share λ of the immobile factor endowments of the whole country. On the other hand there are no tariff distortions inside the zone so that the world market prices p are relevant for the production decisions. As we will see in section 6.7 in the model of Miyagiwa and Young (1986), a tariff reform in a country with two zones which are represented by two utility functions (which means of course two representative agents) can be conflict generating. Here we are just looking at one agent so that no conflict about the distribution of costs and benefits of a policy change can arise between the zones. Consumption only takes place in the rest of the country (DZ). As before, the income expenditure equality is given by:⁹⁶

$$E(q, u) = R(q, v^{DZ}, k^{DZ}) + R(p, v^{SEZ}, k^{SEZ}) - r(k^{DZ} + k^{SEZ} - k) + tM \quad (81)$$

The third term on the right hand side is the income of the foreign factors ($k^{DZ} + k^{SEZ} - k$), which displays that we assume contrary to the general case of Copeland that only

factors which are mobile between the zones are transferred by the foreigners. The last term, the tariff revenue is assumed to be returned to the households in a lump-sum fashion. Because of the assumption that the consumption takes place only in the DZ and because of the taxation of the repatriated factor incomes from the SEZ; the imports are defined as:

$$M = E_q - R_q^{DZ} \quad (82)$$

Total differentiating eq. (81) (the distribution of the immobile factors and the total quantity of mobile factors are held fixed) leads to:

$$E_u du (1 - t\mu) = r^{DZ} dk^{DZ} + r^{SEZ} dk^{SEZ} + t(E_{qq} dt - R_{qq}^{DZ} dt - R_{qk}^{DZ} dk^{DZ}) \quad (83)$$

where $\mu = E_{qu} / E_u$ is the marginal propensity to spend. As discussed by Hatta (1977) the inverse of the import multiplier $(1-t\mu)$ has to be positive. From $k = k^{DZ} + k^{SEZ}$ it follows that $dk^{DZ} = -dk^{SEZ}$ and using the definition of shadow prices $r^{sDZ} = r^{DZ} - tR_{qk}^{DZ}$ equation (83) can be rewritten as:

$$\begin{aligned} E_u du (1 - t\mu) &= [r^{SEZ} - (r^{DZ} - tR_{qk}^{DZ})] dk^{SEZ} + t(E_{qq} - R_{qq}^{DZ}) dt = \\ &= (r^{SEZ} - r^{sDZ}) dk^{SEZ} + t(E_{qq} - R_{qq}^{DZ}) dt \end{aligned} \quad (84)$$

The second term reflects the well known consumption and production losses associated with an increase in tariffs or, which is more relevant with our question, consumption and production gains when tariffs are lowered. The first term is the effect of the induced redistribution of the mobile factors. This effect will be positive in case the market prices of the mobile factors in the SEZ is on average larger than the shadow prices for these factors in the DZ.

Wang and Tsai (1996) shed light on a related topic, which is interesting for our analysis although their model is not directly applicable to SEZs, because they assume a common tariff for the countries which form an economic region. They ask what the effects of an additional foreign capital inflow into an economic region is if capital is mobile between the countries in the region. Capital is assumed to be sector-specific to the sector producing the tariff-protected import good. Wang and Tsai demonstrate that each country in the region is affected by an foreign capital inflow independent of if it receives foreign capital itself. They show that the overall welfare effect on a country can be separated into three individual effects: (1) the tariff revenue effect, (2) the tax revenue effect and (3) the capital returns effect.

The key lesson of the paper of Wang and Tsai is that capital mobility between two countries which form an economic region (in our case this can be transferred to the

⁹⁶ For a description of the individual terms see the description of eq. (70) on page 184.

DZ and the SEZ) can have the effect that a country cannot protect itself against the negative effects of a foreign capital inflow (immiserising growth) on its own, but it needs the support of the other country in the region. To implement a prohibitive capital income tax alone is not enough, because the induced foreign capital inflow into the other country in the region can create the same negative effect, but now in an indirect way.

Schweinberger (1998) develops in his paper which has already been mentioned above a new approach that uses global methods in its analysis and produces thereby important new insights, especially concentrating on effects, which have been overlooked in the earlier analysis. He especially emphasises that SEZs are a discrete spatial instrument, which therefore cannot be fully analysed with calculus (local) techniques as has been done in all earlier analyses. Schweinberger distinguishes four different effects: (1) the partition gain or loss; (2) the production gain; (3) the mobile factor reallocation effect; and (4) the gains from factor trade effect. The overall welfare effect equals the sum of these four effects.

Schweinberger assumes as Copeland (1994) a country with two types of factors, mobile and immobile. The total factor endowment of the country is then partitioned into two parts, one representing the DZ, the other the SEZ. The first effect above, the partition gain or loss, is the change in the value of production valued at international prices, which is induced by the partitioning. The SEZ is then established by the factor endowment and the abolishment of all trade barriers so that world market prices are the basis for all production decisions, which is the source of the second effect, the production gain. This effect has to be non-negative because the value of production cannot decrease by the rationalisation of the prices. The establishment of the SEZ and an inflow of foreign capital leads to a reallocation of the mobile factor between the DZ and the SEZ. This is the mobile factor reallocation effect, which might be positive or negative. Finally, factor prices can change in the SEZ if foreign capital flows in, which can then increase or lower the value of production in the SEZ and the DZ at international prices, which is covered in the gains from factor trade effect.

"The key message of the present paper can be put very simply: foreign investment may have an immiserization effect but this does not imply that the establishment of a special economic zone is not desirable. The partition gain (loss) and the production gain could more than offset the immiserization effect of foreign investment." (Schweinberger 1998: 3)

Following from Hatta normality, Schweinberger is able to define an index F , which is increasing in utility u which is given by:

$$F = E(q, u) - (q - p)E_q(q, u) \quad (85)$$

Schweinberger then uses the trade expenditure functions as introduced by Lloyd and Schweinberger (1988) or Anderson and Neary (1992) to separate the different effects. For this end he looks at the three situation (1) the country without a SEZ; (2) the country with a SEZ, but no FDI and (3) the country with a SEZ and FDI. The three situations can be represented by the following three trade expenditure functions:

$$B^1(q, p, k, u^1) = 0$$

$$B^2(q, p, k^{DZ}, k^{SEZ}, u^2) = 0$$

$$B^3(q, p, k^{DZ} - \Delta k^{SEZ}, k^{SEZ} + \Delta k^{SEZ} + k^*, u^3) = 0$$

where k are the endowment vectors with mobile factors, of the whole country k , of the DZ and SEZ (k^{DZ} and k^{SEZ}) and of foreign ownership k^* . The vectors of immobile factors are not included in the presentation, while Schweinberger has both kinds of factors, mobile and immobile, combined in his vector v .

The above defined function F can then be extracted from all three trade expenditure functions with the residuals defined as F^1 , F^2 and F^3 . Because F is increasing in utility u , we have as necessary and sufficient condition for a welfare improvement:

$$F^1 < F^2 < F^3 \quad \Leftrightarrow \quad u^1 < u^2 < u^3$$

Schweinberger looks at each inequality individually, with first looking at $F^2 - F^1$ and then at $F^3 - F^2$, but we want to go directly to $F^3 - F^1$ which is, as Schweinberger discusses:⁹⁷

$$\begin{aligned} F^3 - F^1 = & \\ & p[x(q, k^{DZ}) + x(q, k^{SEZ})] - px(q, k) + \\ & p[x(p, k^{SEZ}) - x(q, k^{SEZ})] + \\ & p[x^{SEZ}(p, k^{SEZ} + \Delta k^{SEZ}) - x^{SEZ}(p, k^{SEZ})] + \\ & p[x^{DZ}(q, k^{DZ} - \Delta k^{SEZ}) - x^{DZ}(q, k^{DZ})] + \\ & (\tilde{r}^{SEZ} - r^*)k^* \end{aligned} \tag{86}$$

which represents the four above mentioned effects. **The partition gain** in the first row is the change in the production in the two zones at tariff distorted prices minus the production value before the partitioning, all valued at international prices. If the factor price equalisation theorem holds, then this effect is zero, because then

⁹⁷ To make the presentation consistent, we continue to use the vector p for the world market prices and q for the tariff distorted domestic prices, while Schweinberger (1998) uses just the reversed notation. We also follow Copeland that we use k for the mobile factors and not as Schweinberger the vector v .

$x(q, k^{DZ}) + x(q, k^{SEZ}) = x(q, k^{DZ} + k^{SEZ})$. Otherwise it can be either negative or positive. **The production gains** in the second row has to be positive, because it reflects the rationalisation of the production and it is of course one of the best-known results of trade theory that the value of production at undistorted prices cannot be less than at tariff distorted prices.

The third effect, **the mobile factor reallocation effect**, in the third and fourth row is the sum of the value of production in the SEZ and the value of production in the DZ which is induced by the reallocation of the mobile factors between the SEZ and the DZ, because of changes in good and factor prices. And finally in the last row, Schweinberger has **the gains from factor trade effect**, where $\tilde{r}^{SEZ} k^*$ represents the change in the revenue function when the foreign factor k^* are added so that \tilde{r}^{SEZ} are not actual prices, but shadow prices. $r^* k^*$ is the actual foreign factor income paid.

Schweinberger has thereby demonstrated that utility can only increase from the establishment of a SEZ with foreign factors when the difference $F^3 - F^1$ is positive, because F is from Hatta normality increasing in u . From eq. (86) follows that the difference is positive if the sum of the four aforementioned effects is larger than zero.

The paper of Schweinberger (1998) is in its modelling of the SEZ in the tradition of the earlier papers, although it clearly goes with its global approach beyond the earlier approaches using only local techniques. It is therefore not surprising that he gets more comprehensive results. We have already above discussed the disadvantages of this way of modelling SEZs, because from our point of view it concentrates on effects which does not seem to us to be the most central ones. The transfer mechanisms in this class of models are the changes in good and factor prices and the induced reallocation, which has then effects on the production structure (thereby influencing the costs of the tariff distortion) and on the income of foreign factors. But many relevant effects are not included in these models from our point of view so that we have to ask how a positive or negative welfare effect can be interpreted. We will come back to this question in chapter 8.

6.5 Special Economic Zones and Intermediate Inputs

Intermediate goods are an especially relevant topic for many producers in developing or transforming countries. Access to inputs besides cheap labour can be a key incentive for foreign producers. All too often the quality of the domestically produced inputs is too poor or the supply cannot be guaranteed continuously. Therefore, import is the only alternative if the technological level of the domestic suppliers cannot be upgraded fast enough. In many countries the import of such higher quality intermediates is restricted either by quotas or by import tariffs. These trade restriction increase the production costs for the foreign investor (and of course for the domestic producers only that they might have lower quality requirements,

because they produce for other market. In this case they can use the domestically produced intermediates which might not be effected by the tariff, because the prices might be fixed by the government as it was in the case in China). As is well known from the theory of effective rates of protection trade policies on intermediates can have a far-reaching effect on the competitive position of the final good, which means that the tariffs on the intermediate input can be a key policy instrument for attracting foreign capital, because by lowering the tariff rates the production costs can directly be influenced.

If the production costs are too high for the foreign producers because of the high costs of the intermediates it is not enough for the government to liberalise the investment regulations, but the production costs have to be influenced at the same time. One possibility which has been widely used in export processing zones in other countries as well as in the SEZs in China is the simultaneous liberalisation of the import of the intermediate goods. Typically, intermediates can be imported into these zones without paying import tariffs or at much lower tariff rates. This gives the foreign producers access to the needed inputs at reasonable prices while the domestic suppliers have the chance to upgrade their production so that they can become suppliers for the foreign producers in the zones in later years. This is of course an argument identical with the infant industry argument of protection with its well known limitations. It is known from trade theory that the upgrading will only work if the producers in the protected sector already know that they will loose the protection in the foreseeable future. From our point of view this is neglected in many countries so far. We came back to this point in chapter 8.

Because of the effects of changes in the tariffs on intermediate goods it is not surprising that this element was included in a number of models on SEZs. As an example for a model with an intermediate input we have already mentioned above Young (1987). We will come back to this model soon. But we want to start with the model of Din (1994) who concentrates his analysis on the backward linkages between the sector with foreign capital which is restricted to the SEZ and foreign capital being sector specific to this sector producing good X_3 and two domestic sectors, one producing another final good X_2 , the other producing a pure intermediate input X_1 , which is used in the production of both final goods. Din is not assuming any distortions from tariffs. As in the other models without intermediate inputs above the Rybczynski effect is driving Din's results. An inflow of foreign capital induces an expansion of the intermediate good producing sector and a contraction of the final good sector without foreign capital X_2 if and only if the intermediate sector is relative capital intensive in relation to the final good sector X_2 . The functioning of this effect is obvious. The increase in foreign capital induces an expansion of sector 3 and thereby the demand for domestic labour so that the supply of labour for the other two sectors is reduced so that the standard Rybczynski result applies. The relative capital-

intensive sector expands while the relative labour-intensive sector contracts. Therefore, if the intermediate good sector is capital-intensive relative to sector 2, it will expand, otherwise it will contract. National income does not change in this model, because the factor prices which are determined by the exogenous prices of the final goods do not change as a result of a foreign capital inflow. This result is only true for the case of a traded intermediate good so that its price is exogenous.

In the case of a non-traded intermediate good the analysis becomes much more complicated, because now the price of the intermediate good is endogenous and factor prices change as well. Din demonstrates that if the intermediate goods sector is labour-intensive relative to the domestic sector (final good X_2), an increase in foreign capital raises wages and lowers the return to domestic and foreign capital. The inflow of foreign capital increases the demand for the intermediate so that its price must rise. Because of the labour-intensity of the production of the intermediate and its resulting over-demand for labour, the wage rate must rise and the rate of return must fall. The rate of return to foreign capital must fall, because the wage and the price of the intermediate have increased so that the zero profit condition can only be fulfilled with a positive quantity of the good being produced if foreign capital receives a lower return. If the intermediate good is relative capital-intensive the overall effect on the factor prices is ambiguous. The Rybczynski effect results in a contraction of the intermediate sector, but the foreign sector on the other hand increases its demand for intermediate goods so that it depends on the relative strengths of the two effects.

Din shows that the overall quantity effect depends on the elasticity of supply of the intermediate good and the elasticity of demand for intermediate goods. He derives conditions under which an inflow of foreign capital increases the production of the intermediate good. Din emphasises that this analysis highlights that the positive effect of backward linkages should not be taken for granted. The increase in demand for domestic labour and the non-traded intermediate input and the resulting resource movement and price effects can lead to a contraction of the intermediate sector. In this case there would not be a positive stimulus for the domestic economy in the form of a backward linkage.

Important are Din's results in respect to the effect of the foreign capital inflow into the SEZ on national income. He explains that national income increases in such a situation when the intermediate good is non-traded and relatively labour-intensive. Din demonstrates that the upward pressure on wages, because of the increased labour-demand from the intermediate and the final good sector, is stronger than the effect on the falling capital returns so that the overall effect is an increase in national income. If the non-traded intermediate good is on the other hand relatively capital-intensive, the effect of foreign investment on national welfare depends on the labour to intermediate good ratios of the two final good sectors. If the labour to intermediate good ratio is larger in the foreign sector than in the domestic sector, national income

will increase from foreign investment. This result appears because the foreign capital inflow induces a fall in the price of the intermediate so that wages rise and the capital returns decline. Din demonstrates that in this case with the special assumptions the decline in capital income is smaller than the increase in wage income so that total national income rises.

We think that the paper of Din produces the very interesting insight that the inflow of foreign capital in an economy with an intermediate good sector must neither necessarily expand the production of the intermediate good (although the foreign sector increases its demand for the intermediate) nor is it guaranteed that national income is positively influenced. In the case of a traded intermediate, national income does not change at all. If the intermediate good is non-traded, then the induced changes of the factor prices can either raise or lower national income. Din illustrates thereby that backward linkages from the foreign sector are not necessarily positive, if a kind of a 'crowding out' effect exists. The surprising fact of Din's model is that he not even needs the additional distortion of tariffs to get this result. It is therefore no surprise that with the introduction of additional distortions in other models, positive effects are not guaranteed.

We have already criticised above in the model of Miyagiwa (1986) the fact that the sector with foreign capital stands for the SEZ. We do not think that this alone is a good characterisation of special zones. In addition, while Miyagiwa at least has included a tariff distortion in his model, Din does not have this central element of SEZs. We therefore come to the conclusion that the results of Din should be understood as the possible effects of foreign capital inflow, which is of course relevant for the analysis of SEZs, but his analysis is not specifically on SEZs.

Young (1987) investigates a similar situation only that he assumes that the intermediate good cannot be produced in the country. It is the only traded commodity and it is taxed by an import tariff. It is therefore a two sector model, one sector representing the DZ and one sector representing the SEZ. Both sectors use capital, labour and the imported intermediate in the production. Labour is assumed to be mobile between the two sectors while capital is immobile so that domestic capital and foreign capital are specific to the two sectors. The SEZ is modelled as a lower tariff on the intermediate input that has to be imported by assumption.

Young then analyses the effect of a lowering of the import tariff on the import of the intermediate input into the SEZ. He shows that the effect on national income of this policy depends on the changes of the demands of the two sectors for the intermediate good, which again depend on the change of relative factor prices and the resulting changes in the factor requirements. Young cannot then derive any more general results, so that he discusses some special examples, for which he has to make specific assumption about the substitution relation between the factors in the two

sectors. He demonstrates for example: the tariff reduction on the import of the intermediate input into the SEZ increases national income if (1) capital and intermediate are complements in the DZ; (2) capital and labour are substitutes in this zone and (3) labour and intermediates are substitutes in the SEZ. The change in the import tariff has an effect on the relative factor returns, which then induces a change in the demands for the intermediates in the two sector. The overall effect on national income is given by:

$$\frac{dY}{dt_2} = t_1 \frac{dM_1}{dq_2} + t_2 \frac{dM_2}{dq_2}$$

where M_1 and M_2 are the imports of the intermediate used in sector 1 and 2 and q_2 is the price of the intermediate in the SEZ. Under the above conditions (1) to (3) it is guaranteed that the increase in the imports of intermediates into the SEZ overcompensates the reduction in imports into the DZ.

Young assumes in a next step a Cobb-Douglas production function for both sectors to get more precise results. This leads him to a very interesting result. A tariff reduction on the imported intermediate good which is used in the SEZ tend to lower national welfare, if the labour income is a large share in the total costs in the SEZ and the payments to the intermediate is only a small share. The host country's government typically try to realise a large labour cost share, because it seems to indicate that a strong employment effect has been created, but following the results of Young this induces a decrease of overall national welfare. The reasoning behind this result is that the tariff reduction induces an increase in domestic wages which again leads to a contraction of the domestic sector. For China this model would predict an increase in national income as the effect on the reduction of the tariff on the import of intermediates into the SEZ if the DZ employs a share in the total labour force which is close enough to 1, which is in China the case, because the SEZs are very small in relation to the rest of the economy so that the wage effect in the DZ is only minimal.

We see a number of problems related to this model of Young. First of all it is the assumption that the goods in the DZ and in the SEZ can each be aggregated into a single good for which in the one case domestic capital is specific, in the other case foreign capital is specific. We do not believe that this is an appropriate assumption for China, because both kinds of capital are used in major shares in both zones. This will have the effect that the changes in the import tariff will influence the relative factor prices in a much more complicated fashion so that the above results cannot be applied anymore. Another, although not so relevant point is the assumption of perfect labour mobility between the zones so that the wages are equalised which is obviously not the case in China.

Marjit and Beladi (1996) also use a model with an intermediate input, but they neither concentrate on the backward linkages from a final good sector to the sector of the intermediate good when foreign capital flows into the final good producing sector as Din, nor do they analyse the welfare effects of a tariff reduction on the imported intermediate input. They do not pretend to analyse the effects of SEZs, they are only interested in the effects of a foreign capital inflow. They assume the foreign capital to be specific to the sector of the intermediate input which is protected by an import tariff and that this input is only used in a single final good sector. Marjit and Beladi comes to the conclusion that in this setting the change in real national income is identical to the change in tariff income from the intermediate. As Young and Miyagiwa (1987: 400)⁹⁸ show this is the case because two other effects, they call them (1) the factor income effect and (2) the fall in tariff revenue at the initial volume of imports, just cancel out so that only the volume of trade effect remains.

Marjit and Beladi derive a condition (the demand share of the imported input must exceed a lower boundary that depends on the factor shares in the three sectors) under which the inflow of foreign capital is welfare improving. Marjit and Beladi assume that the sector using the intermediate input in its production is relative capital-intensive so that the inflow of foreign capital results in an expansion of this sector (via the Rybczynski effect again). If this expansion creates a larger demand for intermediates than can be supplied by the growing intermediate sector, national income increases, because the distortion of the import tariff is reduced. The major result of the paper of Marjit and Beladi is that the inflow of foreign capital into the distorted sector can be welfare increasing even if no other distortion exists.

6.6 SEZ and Unemployment

All the models so far deduct their results with the assumption of full employment. But many developing and transforming countries typically have a major unemployment problem and one of the aims of the host governments in establishing SEZs is the increase in employment. Young and Miyagiwa (1987) analyse how a SEZ can influence national welfare of a country with unemployment.

They assume three sectors, one producing with labour and sector-specific capital, one with labour (at a fixed wage rate), sector-specific capital and an intermediate input and the third sector - the SEZ - uses foreign capital, domestic labour and another intermediate input. The zero profit conditions for this model are given by:

$$1 = c_1(w, r_1) \tag{87}$$

$$1 = c_2(\bar{w}, r_2, p_2 + t_2) \tag{88}$$

$$1 = c_3(w, r_3, p_3 + t_3) \tag{89}$$

⁹⁸ We will describe this paper in the next section.

where c_i are the unit cost functions of the three sectors, \bar{w} is the fixed wage rate (creating the unemployment in the Harris-Todaro framework), r_i are the returns to the sector specific factors and the domestic prices of the intermediate are given by the world market prices plus the import tariffs. The tariff t_3 is the policy instrument in this model to establish the SEZ.

$$\frac{\bar{w}L_2}{(L - L_1 - L_3)} = w \quad (90)$$

Equation (90) describes the labour market equilibrium of the Harris-Todaro model, which has to fulfil that the expected wage rate (the fixed wage \bar{w} multiplied by the employment probability) in the sector with a higher fixed wage rate is equal to the guaranteed wage rate w . This condition guarantees that people migrate into the urban area until the expected wage rate is the same in both areas although there is the possibility of being unemployed in the urban region. Eq. (88) determines the rate of return r_2 , Eq. (89) determines the wage rate (r_3 is exogenous, the world market rate because the country is assumed to be small) so that eq. (87) can then be used to determine the rate of return in sector 1. The factor prices and therefore the input coefficients and the fixed supplies of the specific factors of sector 1 and 2 can then be used to calculate the labour demand of these two sectors. The labour demand of sector 3 then adjust such that eq. (90) is fulfilled.

Young and Miyagiwa demonstrate that the formation of a SEZ by lowering the tariff on the import of the intermediate input which is used in the sector with foreign capital (representing the SEZ) in a model with Harris-Todaro unemployment increases national income as long as the import of the intermediate input into the SEZ does not decrease as a reaction to the tariff reduction. With flexible wages the wage of sector 2 and thereby the demand for the intermediate of this sector were affected. But with the fixed wage rate in this model this cannot happen. Instead, the tariff reduction increases the flexible wage so that unemployment has to fall so that eq. (90) is fulfilled. The tariff reform reduces the distortion of the fixed wage rate without increasing the costs of the distortion from the tariff in sector 2.

Marjit (1994: 495) extends his model which has been discussed above (see page 182) by including unemployment in the form of a Harris-Todaro model. He interprets sector 1 as the rural sector with flexible wage rate, while the sectors 2 and 3 have an institutional fixed rate so that they constitute the urban sector. Very interesting is that Marjit can confirm that even with the employment effect the main results discussed in section 6.4 continue to hold, which means: If the unprotected domestic sector is labour-intensive relative to the foreign sector, the government can chose a λ which is the share of domestic capital in the joint ventures so that an additional inflow of foreign capital will raise national welfare.

In this case the inflow of foreign capital induces a contraction of the protected sector while the total labour income, as long as the capital inflow does not change the wage rate w , is constant $w\bar{L}$ so that the overall welfare effect is positive, because of the reduction in the distortion. We have already discussed above that during the reform process the political decision-makers are typically heavily constrained. One of the constraints often is that they need fast successes. The result of Marjit on the other hand is that although unemployment might increase as an effect of foreign investment, but that this can still be beneficial, because it can increase national income. We have already mentioned that distribution aspects can be very important, because the lack of a redistribution system avoids that the potential increase in national income can be used to compensate the losers which might produce strong opposition. It is therefore not clear whether the increase in national income is really a good welfare criterion, because the increase in unemployment is easier to observe and might have more severe effects on further reforms.

6.7 Conflicts from Further Reforms

In another paper Miyagiwa and Young (1986) analyse a situation in which two countries are linked to each other and form an economic region. They are interested in the question what happens to the welfare of the two countries, if the tariff structure of the countries are changed and factor movements are induced between the countries. Their analysis can be reinterpreted for our purpose as the case of two zones, the DZ and the SEZ which form an economic region. We can therefore use the results of Miyagiwa and Young to analyse a more dynamic problem. The establishment of SEZs is in most reform economies not the end of the transition, but just the beginning. Therefore it is planned that further reform steps will follow, especially in further liberalising the foreign trade regime by changing the tariff structure. For the political decision-maker it is essential to know which groups in a country will oppose a change in a tariff and which groups will support such a change.

For their analysis Miyagiwa and Young use a standard two sector Ricardo-Viner model. Two goods are produced in both zones, an export good and one import good. To simplify the presentation Miyagiwa and Young analyse only one mobile factor of production, but more factors are of course in the background. The endowments of the mobile factor (capital) is given by:

$$v = v_0 + \tilde{v} \quad \text{and} \quad V = V_0 - \tilde{v} \quad (91)$$

where v_0 and V_0 are the original endowments of the SEZ and the DZ respectively and \tilde{v} is the capital flow between the two zones.⁹⁹ In the SEZ the world price p

⁹⁹ We change the notation in contrast to the earlier parts, because it makes the presentation much easier. Small letters now represent the SEZ while variables of the DZ are indicated by capital letters.

prevail and in the DZ the price is distorted by a tariff t as before so that $q = p + t$. The revenue functions of the SEZ r and of the DZ R are then given by:

$$r = r(p, v) \quad \text{and} \quad R = R(q, V) \quad (92)$$

The first derivatives of (92) with respect to the factor endowments, which are the rates of return to the sector specific mobile factor in the two zones have to be equalised in equilibrium so that:

$$r_v(p, v_0 + \tilde{v}) = R_v(p + t, V_0 - \tilde{v}) \quad (93)$$

The second derivatives of the revenue functions with respect to the endowment with the sector specific factor are assumed to be negative for both zones. We are now interested in the question what happens if the tariff rate of the DZ is lowered (further liberalisation) and under which conditions such a policy is conflict generating. Implicit differentiation of (93) gives:

$$\frac{d\tilde{v}}{dt} = \frac{R_{Vq}}{r_{vv} + R_{VV}} \quad (94)$$

The income expenditure equalities are given by:

$$e(p, u) = r(p, v_0 + \tilde{v}(t)) - \tilde{v}r_v(p, v_0 + \tilde{v}(t)) \quad (95)$$

$$E(q, U) = R(q, V_0 - \tilde{v}(t)) + \tilde{v}r_v(p, v_0 + \tilde{v}(t)) \quad (96)$$

where the second term on the right side is the income of the factors which flow from the DZ into the SEZ. Differentiating (95) and (96) with respect to t and using (94) gives:

$$e_u u_t = r_v \tilde{v}_t - \tilde{v}r_{vv} \tilde{v}_t = \frac{r_v - \tilde{v}r_{vv}}{r_{vv} + R_{VV}} R_{Vq} \quad (97)$$

and

$$E_U U_t = -R_v \tilde{v}_t + \tilde{v}r_{vv} \tilde{v}_t = -\frac{R_v - \tilde{v}r_{vv}}{r_{vv} + R_{VV}} R_{Vq} \quad (98)$$

The second derivatives of the revenue functions are assumed to be negative so that the two fractions in eq. (97) and (98) both are negative (nominator is positive, denominator is negative in both cases). This means that the signs of u_t and U_t depend on the sign of R_{Vq} , but eq. (97) and (98) display that under any circumstances the reduction of the domestic tariff is conflict generating, because (98) has an additional negative sign so that the effect of a tariff reform in the DZ is in any case in opposite directions for the DZ and the SEZ. We are now at the point where we can answer the question what will happen if the government of China plans to reduce the tariff for the DZ. Assuming that the representatives of each zone are only interested in the welfare of the own region, we can see from (97) that a reduction in the tariff of the DZ will generate opposition from the SEZ if the price reduction of the import

good will induce an increase in the rate of return to the mobile sector specific factor in the DZ. This will be the case in this two-sector Ricardo-Viner model if the capital is specific to the exportable sector. Is the mobile factor on the other hand specific to the import sector, the SEZs will support further reforms.

The interests of the SEZ is of course only part of the story. The key point is that a tariff reform has an effect on the welfare of the DZ as well. Eq. (98) illustrates that the DZ might become a supporter of the government and demand further reform steps, against the opposition of the SEZs. This result is very interesting for the continuation of the reforms in China. Because if the influence of the SEZs becomes too strong in the political decision-making process, it can happen that they will not only oppose further reform steps, but successfully prevent further reforms. So that the situation which was originally thought of as a first provisional step would then be consolidated. This result can be one explanation for the permanent fights over the role of the SEZs between the Chinese central government and the representatives of the SEZs.

6.8 Regional Aspects of SEZs

So far we have only discussed papers which have concentrated more or less on the reallocation of factors between the DZ and the SEZ. These models neglected the aspect of the right location of SEZs. Miyagiwa (1993) is the only paper so far that concentrated on this key issue. He uses a Harris-Todaro model with urban unemployment to analyse whether a SEZ should be established in an urban area or a rural area. Establishing a SEZ in a city could help to reduce unemployment there, while a special zone in rural areas could help to stop the migration into the cities by initiating an independent development process.

Miyagiwa uses a two sector model in which one sector represents the urban area (referred to with the subscript u), the other sector (subscript r) the rural area. Both goods are produced with the three inputs capital, labour and an imported intermediate input, taxed with an import tariff t ($q=p+t$). As in the standard Harris-Todaro model the wage in the urban area is higher than in the rural area (because of institutional reasons) so that more people are seeking employment than work is available (they equate the expected urban wage with the guaranteed rural wage as described above). Foreign capital is used to produce a third good, but because of the import tariff on the intermediate input, which is needed for the production of this good, this production is not profitable. The establishment of the SEZ, in which the tariff free import of intermediate inputs is possible, makes the production profitable.

Miyagiwa demonstrates that the establishment of a SEZ is welfare increasing if and only if the relative demand for the intermediate input of the urban and rural area is between the labour and the capital endowment of the two areas:

$$\frac{L_u}{L_r} > \frac{M_u}{M_r} > \frac{K_u}{K_r} \quad \text{or} \quad \frac{L_u}{L_r} < \frac{M_u}{M_r} < \frac{K_u}{K_r} \quad (99)$$

where L_u is the total labour force in the urban area - employed or unemployed and M is the demand for the intermediate input. The welfare increase is the result of a change in the tariff income. The production of the good with foreign capital reduces the supply of labour to the urban and rural sectors. Through the Rybczynski effect one sector then expands, the other contracts, which induces a reallocation of domestic capital. If one of the above conditions is fulfilled then the reallocation of capital will lead to a higher demand for the intermediate input and thereby increasing tariff revenue.

Miyagiwa then discusses that under this condition and because of this reallocation effect, the SEZ should be located in that area in which the demand for labour from the foreign investors would be larger. This is the case in the rural area if the labour income paid by the foreign investors there is larger than the labour income in the urban area would be, which is equal to the condition that the foreigner's demand for labour is elastic.

Interesting is the effect of the establishment of a SEZ on unemployment in this model. If the urban sector is relative labour-intensive ($L_u / K_u > L_r / K_r$) unemployment will increase as an effect of the SEZ and if the urban sector is relative capital-intensive ($L_u / K_u < L_r / K_r$) unemployment decreases. It is important to note that this result is independent from the locational choice for the establishment of the SEZ. But if the demand of the foreign investors for labour is elastic then the location of the SEZ in the rural reduces unemployment relatively more.

Miyagiwa's result suggest that SEZs should be located in the country side and not in the cities (although Miyagiwa emphasises that this result can be reversed when sector specific capital is assumed). In his discussion he mentions that other factors that are outside of the model can extremely influence the volume of foreign capital that flow into the SEZ - for example the infrastructure. The Chinese SEZs are a good example for this point. While Shenzhen, which is well connected to the international markets, has attracted large amounts of foreign capital, Hainan island, which has offered even more preferential incentives, but is much more remote, made a disappointing experience as was described in chapter 3.

This chapter has summarised the theoretical papers which analyse various aspects of the potential effects of SEZs. As the presentation has illustrated from our point of view, these models are not able to give a comprehensive answer to the desirability of SEZs and as we have already mentioned above, we are convinced that such an answer is impossible. Instead, the models have highlighted some mechanisms how effects can be transmitted, but as we have already emphasised, so many effects are

omitted in the models that the results are not easy to interpret. We do not believe that the further development of this kind of models would bring us any closer to understand the over-all effect of SEZs.

Another major limitation of the discussed models is that they mostly assume that besides the import tariff the economies are distortion free (the models with unemployment are of course exceptions). But transformation economies are obviously the exact contrary to this assumption and not only were the former socialist economies heavily distorted from the perspective of the outcome of a market outcome, at the same time the transformation process itself and the parallel existence of market elements and elements of a planned economy increase the difficulties of distortions.

The existence of inefficient SOEs might be an example in this respect. Assuming that the SOEs is in the protected import-competing sector and further assuming that the conditions are fulfilled which were discussed in the models above so that an inflow of foreign capital would induce a contraction of this protected sector so that it would normally increase welfare, because it reduces the distortion of the tariff. But in the case with the SOE it might happen that only the high qualified workers migrate to the SEZ while the political interests at the same time prevent the reduction of the output. Because of the drain of human capital, the production in the SOEs might become even more inefficient. The overall effect in this example is then not clear anymore, because the economy benefits from the more efficient occupation of the qualified employees, but there is a loss at the same time from the increased inefficiency in the state-owned enterprise. After the description of the existing theoretical models we come to some empirical estimations concerning the Chinese reform policy.

7 Empirical Evaluation

So far we have concentrated on describing the development of the Chinese SEZs as reflected in the official Chinese statistics and in the last chapter we have looked at the theoretical models of trade theory and what they can tell us about the potential effects of SEZs. Another approach which is widely used to analyse the effects of an economic policy is the cost-benefit analysis. Originally it comes mainly from project analysis, where costs and benefits are easier defined and the valuation is easier (although even for small projects the valuation of costs and benefits are often difficult enough especially when shadow prices have to be calculated without enough information on the relevant objective function). The more complex the project the more difficult is the cost-benefit analysis as will be seen in the following section and the more questionable are the results. In general, a cost-benefit analysis tries to include all effects of a project or a policy – costs and benefits – and tries to value these effects with prices so that total costs and total benefits can be calculated in comparable units. The comparison of these two figures then gives the overall effect of a project.

To our knowledge three studies exist which use the cost-benefit analysis approach to estimate whether the Chinese SEZs were beneficial for China or not. These are: Wu (1990), Chen (1993) and Lin and Warr (1993). We present these three papers here, because we think that it is important to try to analyse the individual effects and that the cost-benefit approach can help to be more careful about all effects, but we are very critical about the overall result and how they can be interpreted as will be shown in the discussion. We believe that the results of such an analysis, either that the project is beneficial or not might be a key information for small projects, but the uncertainty of the results for major projects are too large to be useful for a political decision-maker. We will come back to this problem at the end of section 7.1. Then in section 7.2 we look at a spatial econometric analysis of the Chinese open-door policy. Because of data limitations it is not possible to separate the effects of the SEZs from the effects of other reform steps which have liberalised the economic system of the coastal provinces including the foreign trade and foreign investment system. To conclude this chapter we discuss some aspects of backward linkage analysis in section 7.3.

7.1 Cost-Benefit Analysis

The starting point of the cost-benefit analysis is that the development of a SEZ can be interpreted as an investment project. First of all, the government has to invest financial resources into the development of physical infrastructure and of new institutions. Labour, raw materials and capital of the host country are used in the

production of the SEZ and it has to be asked whether this is the best use for the resources in the country. Then there are a number of effects, intended and unintended ones, which stem from the project. All these effects have to be analysed in more detail. The researcher has to find a way to measure positive and negative effects and to value them to make them comparable. Only then it is possible to see whether the benefits are larger than the costs and whether the project covers the opportunity costs. If the project does not cover the opportunity costs then there are other projects which would use the resources more efficiently.

Lin and Warr (1993) try to evaluate the success of the SEZs by performing a cost-benefit analysis on the Shenzhen SEZ. They separately estimate the net benefits of the foreign firms and of the domestic firms in the SEZ and then look at the overall effect. The following points summarise the main effects of Shenzhen SEZ which are included in the analysis of Lin and Warr. We present them first as they are interpreted by Lin and Warr, before we criticise their assumptions and their results.¹⁰⁰

Wages: the net benefit of the total wages paid by foreign firms in the SEZs is the difference of the total wages minus the social opportunity cost of employing these workers. Wages paid by domestic enterprises in the SEZ higher than the social opportunity costs are interpreted by Lin and Warr not as benefit or cost, but simply as a transfer from the domestic entrepreneur to the employees.

Inputs: Lin and Warr interpret the demand for raw materials or intermediate inputs as a net benefit to China, because they argue that the encouragement of the Chinese government to use more domestic inputs is a sign that the government estimates the social opportunity cost is below the price paid by the foreigners. The prices of some raw materials are often heavily subsidised in socialist countries so that the prices paid by foreigners are below the social opportunity cost which means a transfer to the foreign enterprise and therefore a cost to the host country. The use of subsidised inputs by domestic enterprises in the SEZ is not interpreted as a cost by Lin and Warr.

Exchange rate: the foreigners may exchange foreign currency at an exchange rate which differs from the shadow exchange rate.

Taxes: the tax income is interpreted by Lin and Warr as a benefit for the host country if it is paid by a foreign enterprise, in case the taxes are paid by a domestic firm which is active in the SEZ they interpret this as merely a transfer and not a gain.

¹⁰⁰ Warr (1989: 77) has used the same approach for the analysis of EPZs in other Asian countries.

Domestic loans: foreign investors have access to the distorted domestic financial market where they can get loans at interest rates which might not reflect marginal social productivity.

Infrastructure: if foreigners can use public services and infrastructure at a price which is below production costs they receive a transfer, which is again a cost for the host country. The investments in infrastructure in the SEZs are assumed to be only for the zone itself and are therefore counted as costs. The same is done with the total wage bill of the administrative employees.

Local sales: depending on their effects on the trade volume and thereby on tariff income and on the exchange needs of the foreign firms, the possibility for foreign firms to sell domestically can have an overall positive or negative effect on the host country.

Externalities: are excluded from the study because of data problems, but Lin and Warr expect them to have a net benefit in the long run for China. This is of course the major weakness of this analysis that the externalities are excluded. The aims of the Chinese government were to a large part in this field and the main mechanism for welfare effects in the theoretical models of chapter 6 were through structural changes which were initiated by factor re-allocations. These effects are not included in the this analysis.

"The total benefit from domestic investment is simply the total economic value of the output of the domestic partners in joint ventures and co-operative enterprises in the zone. The total cost to China from the operation of local firms is the opportunity cost of production inputs and the costs of construction and administration of the zones for domestic investment." (Lin and Warr 1993: 21)

Each of these points of course is based on the special assumptions of Lin and Warr, but because these assumptions are so central for the results we are discussing these points quite extensively.

Wages: We do not see why Lin and Warr not include the higher wages paid by domestic enterprises as a benefit for the host country. If the entrepreneurs are forced and able to pay wages above opportunity costs in the SEZ and not in the DZ, their activities in the SEZ benefit the host country through the higher incomes and it is not only a transfer from the entrepreneur to the employees, especially because lower wages would translate directly into higher profits of the domestic producers as well.

Input prices: the same is true from our point of view for the input prices. If domestic enterprises use subsidised input or domestic loans in their production in the SEZ, the

difference between prices paid and the social opportunity costs should be counted as a cost.

Taxes: if taxes paid by domestic enterprises in the SEZ are only interpreted as transfers and not as benefits to the host country, Lin and Warr must have assumed, although they do not mention it, that these entrepreneurs would have been involved in the same activities and would have paid the same taxes in the situation without SEZs. Assume that an entrepreneur relocates his business from the DZ into the SEZ because of a tax holiday or reduced taxes. If this is the case the taxes not paid by the entrepreneur are clearly a cost related to the SEZ. All taxes paid which would not have been paid in the DZ have to be counted correspondingly as a benefit for the host country.

With some simplifying assumption, Lin and Warr then calculate the net present value of the financial analysis of the zone with a 25 year project life to be 462 mill. Yuan in prices of 1980, while the overall economic analysis produces a negative net present value (-30.3 bill Yuan).¹⁰¹ They therefore come to the conclusion "that while the Shenzhen SEZ is financially viable, it has not proven to be a desirable investment from China's national economic perspective unless the positive externalities omitted from our analysis [...] have very significant effects on the Chinese economy." (Lin and Warr 1993: 28).

The analysis of Lin and Warr does not produce from our point of view a result which should be taken too serious. It mainly illustrates the difficulties of the cost-benefit approach for the analysis of the effects of SEZs. In their table 11, Lin and Warr summarise the different elements of the net present value of the costs and benefits of the foreign firms in the SEZs. The overall net present value they calculate is -9.9 bill. Yuan. The net present value of infrastructure construction and zone administration alone is - 10.5 bill. Yuan, while the largest position then are tax income with 1 bill. Yuan, skilled labour - 0.8 bill. Yuan and unskilled labour 0.2 bill. Yuan. This shows the absolute dominant and crucial role of just one position: infrastructure and administration. We do not see any justification to assume that the investment in infrastructure and zone administration is a full cost element of the SEZ.

Another crucial point which Lin and Warr only mention shortly but do not discuss any further is the question of the development without the SEZs. They only say: "It is very difficult to judge which of the foreign firms would still have entered China if the zone did not exist." We think this is extremely surprising that such a key point is simply reduced to just one sentence. We have already discussed in section 4.6 the difficulties to distinguish effects of SEZs from effects of for example the foreign

¹⁰¹ For the financial analysis domestic market prices are used for the valuation of costs and benefits, while for the economic analysis the social opportunity costs (shadow prices) are used.

investment inflow. Lin and Warr (1993) use as the without alternative a situation in which all the economic progress of the SEZs would not have taken place at all. This is for us not a reasonable assumption, because at least part of the investment would have been used for infrastructure anyway and without the SEZ foreign capital would have moved into the country. With such fundamental problems we cannot see which information value the result of a negative net present value of the Shenzhen SEZ has. Only, we do not see any possibility to over-come the weaknesses we have listed here.

Chen (1993), the second paper which uses the cost-benefit approach, uses in his analysis the following elements:

Benefits:

- Foreign-exchange earnings (valued at the social exchange rate)
- Employment (difference between wage incomes in the zone and the alternative in the DZ)
- Technology transfer (Chen does not explain how values are calculated)
- Tax revenues and insurance premiums
- Net-profit share of Chinese joint venture partners

Costs:

- Infrastructure expenditures
- Administrative expenditures
- Electricity

With all these points similar problems exist as we have discussed above in the discussion of the paper of Lin and Warr. We therefore do not want to go into more detail here, because it will not lead us anywhere. The paper of Chen (1993) mainly demonstrates that an almost identical approach as Lin and Warr can produce a totally different results. Chen calculates values for the above variables for the years 1979 to 1988. His intermediate result is that for the years 1979 to 1986 the net benefit of the Shenzhen SEZ was negative and that for the years 1987 and 1988 the net benefit became positive. He assumes then further that the zone exists either 20, 25 or 30 years and that the net benefit will remain at the value of 1988. Performing a kind of sensitivity analysis, Chen uses different discount rates and various assumptions about the wage differences between the SEZ and the rest of the country. For most cases he gets a positive net present value for the establishment of the Shenzhen SEZ. For the base case his result is a positive net present value of almost 59 mill. US-\$ and Chen concludes that the analysis “shows that, under most assumptions, the zone generates a high positive net present value” (Chen 1993: 268). Obviously, Chen on the one hand and Lin and Warr on the other not differ only slightly in their absolute results, because they even get totally different signs of the overall effect. Of course, this is the result of different assumptions and different valuations, but it illustrates clearly the limit of this approach.

Finally, Wu (1990) sees the necessity of including quantitative and qualitative aspects in the analysis, but he is not very clear in his analysis. At one point he states:

We argue, therefore, that quantitative analysis of the benefits and costs of Shenzhen per se without capturing the qualitative aspects from the broader perspective of China's modernization program is inadequate [...] (Wu 1990:7)

but on the same page he contradicts himself by saying:

Moreover, the experiences of testing free market system in Shenzhen and the ramifications of demonstration and linkage effects created by the zone during the nine-year development period are simply beyond the measure of quantitative analysis. (Wu 1990:7)

It is therefore difficult to see, how he wants to come to serious results. Overall he comes to the conclusion that:

If all these qualitative benefits were to be taken into consideration when assessing the net benefit of Shenzhen to the Chinese economy, a positive net benefit might have already been realized. (Wu 1990:V)

But before we further criticise the analysis of Wu, we start with the summary of the various aspects he includes in his analysis for the period 1979 to 1987.

Profits and losses: Wu includes in his analysis the profits of domestic enterprises as benefits and the losses as cost for the host country. He emphasises that the figure might be too small, because the enterprises have a tendency to underreport their profits with the aim to reduce their tax liability.

Foreign exchange transactions: as before the difference between the official exchange rate and the social value of foreign exchange is used for the evaluation.

Employment: by making a number of assumptions, Wu calculates a conversion rate of 0.63 for wages earned in the Shenzhen SEZ which means that the total net benefit of the wages is the total wages earned multiplied by $(1-0.63) = 0.37$.

Technology transfer: Wu states that the early expectations of the Chinese government that large amounts of modern technology would be transferred was naive.¹⁰² The main effect was the training of managers who were then later-on transferred into other enterprises and transferred thereby the knowledge.

¹⁰² In general, the concept was correct, because it is not very disputed that for most economies foreign capital is the most important source of modern technology (Blomström and Kokko 1997: 3). It is only necessary that the host country fulfils some preconditions, which was not the case in China in the early reform years.

Domestic sales: when the firms are allowed to sell their products (or at least part of their products) in the domestic market at the tariff distorted prices without having to pay the tariff, this will be a loss to China. But if the goods are protected by an import quota and the import from the SEZs takes place in addition to the quota, the price paid by the consumers reflects the marginal value so that the net welfare effect is zero.

Raw materials and intermediates: Wu includes the total differences between the prices paid and the social opportunity costs in his analysis.

Domestic borrowing: it's a cost for China because the market rate is below the shadow price. Wu assumes the shadow price of capital to be one, because of data limitations so that the losses from domestic borrowing is neglected in Wu's analysis.

Taxes: Wu uses the overall tax payment of joint ventures and WFOEs as benefits, but mentions the difficulty that this figure is too large, because the domestic enterprises which have transferred to Shenzhen or those foreign firms which would have come to China in any case should be excluded.

Infrastructure: Wu assumes that most investment were in fact zone specific, although he sees parts which had to be invested in any case.

These are the aspects Wu includes in his analysis. For the calculation of the net benefit, Wu assumes a zone life of 25 years (1979 to 2003), with the zone staying at the level of 1987 for the following year (same net benefit stream). Infrastructure costs decline to just 5% maintenance of the 1987 level. The net loss increased between 1979 and 1985 according to the calculations of Wu from almost 55 mill. Yuan to 1.5 bill. Yuan (in 1987 prices). It fell then in 1986 to minus 154 mill. Yuan and became then a net benefit of 29 mill. Yuan in 1987 (see Tab. 4.12; Wu 1990: 146).

Wu then performs a sensitivity analysis with different conversion factors which have been used to calculate the shadow prices and with different assumptions of the economic life of the zone. In most cases he comes to the conclusion that the Shenzhen SEZ produces a negative net present value and that the shorter the life of the zone the larger the negative net present value. One major limitation of the study is that Wu assumes a maximum life of the SEZ of 25 years, which means that he investigates a period until 2003. But today, 2003 will never be the end of the potential benefits of the Shenzhen SEZ. Obviously, it is not easy to find a reasonable life span for such a project, because it affects directly the over-all sign of the net present value. The analysis of Wu demonstrates the same limitations as the other two papers on cost-benefit analysis, although he is the only one who wants to include the qualitative aspects in the analysis as well, but which has not been done in a satisfactory way.

From the discussion of the three papers it became already clear that we are not convinced that a cost-benefit analysis will ever be able to tell us what the overall effect of a SEZ could be. Rhee, Katterbach and White (1990: 2) come to the same conclusion in their study on free trade zones, because in their argumentation the cost-benefit approach often do not take the micro and dynamic aspects into account. Of course, we got some insights on selected effects. But only a limited number of effects can really be taken into account. Johansson and Nilsson (1997: 2115) conclude: "This kind of traditional cost-benefit analysis helps to indicate the direct profitability of the zone but often fails to capture positive externalities, such as the catalyst effect, as well as potential negative externalities." The positive externalities might just be the most important effects from the point of view of the host country's government (as for example in China the possibility of being able to perform experiments). The valuation of the costs and benefits in China are extremely difficult because of data limitations (and the problem of the non-existence of market prices). The results therefore have a large variation and are not very reliable. As the three papers have shown, it is possible to come to positive as well as to a negative valuation of the Shenzhen SEZ without a chance to decide, which analysis might be the correct one.

The last major critique has already been raised above. Because of its significance it is repeated here. The discussed papers assume that the effects are only the result of the establishment of the SEZs, but obviously part of the effects would have been realised anyway. Part of the foreign capital would have flown into China also without the SEZs so that the effects of this foreign capital which is located in the SEZs cannot be counted as direct benefit of the SEZs. The effects of the SEZs are in such a case only to influence the location decision of the foreign investor. A proper without analysis should therefore be done as well, but we doubt that this is possible which is for us the reason to reject the cost-benefit approach for analysing the effects of SEZs.

7.2 Inter-Regional Impacts of SEZs in China

In the previous part we have argued that the cost-benefit analysis is from our point of view not useful to analyse the overall effect of the SEZs on China as a host country. In this section we shift our focus and look at the regional impact of the SEZs (this section is based on Klotz and Knoth 1998). Although Chow (1994: 104) comes to the conclusion that the quality of the Chinese statistical data are good enough for empirical work, the availability is still in many areas a serious restriction.¹⁰³ This is one reason why we cannot look in the following analysis at the effects of the SEZs alone, but have to look at more general steps of the open-door policy. We used provincial data for the econometric estimations, because not enough information for lower levels of aggregation were available. Although we see a number of serious

¹⁰³ See also the discussion of Mastel (1997: 12) on the differences of various authors on the total GNP. The variance of such a variable of course also translates into all empirical investigations and has effects on the reliability of all results.

limitations of this analysis as well, it is at least to our knowledge the only serious attempt to estimate the interregional impacts of the reform policy in China with spatial econometric tools.

An additional problem is the fast succession of very serious and far-reaching reform steps. Already in 1984, only few years after the SEZ policy started in 1979/80, the 14 coastal cities were opened for trade and FDI. The problem of distinguishing the effects of the SEZs from the effects of other reform steps of the open door policy appear in many articles. Chao (1994) for example gives his article the title 'China's New Economic Zones. A Model for Development?', which of course gives the impression of a concentration on the zones, but in fact he discusses the effects of the general open-door policy and not only of the SEZs.

For our estimations we used data for the years 1985 to 1996, because for earlier years the data availability was even more limited so that they could not be included. Obviously, estimation results based on provincial data can therefore only be attributed to the whole policy mix and not to individual policy measures like the SEZs.

The research question in this section is therefore whether the fast economic growth of the coastal provinces (including the effects of the SEZs), which was largely made possible by the new policies, had a positive impact on the growth of the interior provinces. For this end we estimate regional convergence equations with spatial econometric tools to find spillovers for the period 1985 to 1996. So far, estimations like Jian, Sachs and Warner (1996) have only used standard convergence estimation techniques in their investigations so that they were not able to test for spatial interdependences. In our approach the use of spatial econometric tools to test for spatial dependence is the main new feature.

Our starting point is that the argument of the Chinese politicians for a positive effect of the coastal provinces on the interior provinces was not very convincing from the beginning. It was based on a neoclassical model and it argued that the inflow of foreign capital into the coastal provinces would depress the return to capital and increase the wage level. The enterprises would therefore have an incentive to move away from the locations with low returns and would move into the hinterland, where low wages would guarantee higher returns. As it is well known, this reasoning only holds as long as productivity does not change. The inflow of foreign capital for sure has an influence on the technology, which also was an aim of the Chinese government. This change in technology can shift the production function in such a way that the return to capital does not decrease, but on the contrary increases.

From a theoretical point of view it is much more reasonable to expect capital to flow from the interior provinces into the coastal provinces. Even more so, because the

infrastructure in the hinterland is very poor, domestic markets are heavily segregated and the main demand is in the coastal provinces and qualified workers are not available in the interior provinces, who have an incentive to move into or stay in the coastal region. The SEZs even increased this problem by their demand for qualified personal who migrated because of the higher wages in the SEZs and better availability of consumption goods (Heiers, Schattschneider and Zapf 1988: 173).

We take these different potentials for economic development into account in our estimations. All the arguments suggests that the expectation of positive effects from the fast developing coastal provinces onto the interior provinces might be not convincing.

Based on the model of Mankiw, Romer and Weil (1992) we use the following, slightly modified Cobb-Douglas production function to estimate regional convergence:¹⁰⁴

$$Y_t = K_t^a F_t^b H_t^c (A_t L_t)^{1-a-b-c} \quad 0 < a, b, c < 1, \quad (1-a-b-c) > 0 \quad (100)$$

where Y_t is output at time t , K_t is the physical capital from Chinese investment, F_t the capital based on foreign investment, H_t is the human capital input and L_t is the labour input, which grows with the exogenous and fixed rate $\eta > 0$. The technological level, which is reflected in A_t is assumed to grow with the exogenous rate $g > 0$. The investments in the three types of capital are given by the income shares s_j ($j = K, F, H$). With the constant depreciation rate $\delta > 0$ for each of the three types of capital the steady state value of per capita income can be calculated as:

$$\left(\frac{Y}{L}\right)_t^* = A_0 e^{gt} \left(\frac{s_K^a \cdot s_F^b \cdot s_H^c}{(\eta + g + \delta)^{(a+b+c)}}\right)^{\frac{1}{1-a-b-c}} \quad (101)$$

As eq. (101) displays the steady state grows with the grows rate g of the technical progress. Using a first order Taylor approximation of eq. (101) gives the adjustment path of the system as follows:

$$\frac{1}{t} \ln \left(\frac{Y_t / L_t}{Y_0 / L_0} \right) = g + \frac{(1 - e^{-\beta t})}{t} \ln \left(\frac{(Y/L)_t^*}{(Y/L)_0^*} \right) \quad (102)$$

where β is equal to $(\eta + g + \delta)(1 - a - b - c)$. The estimation equation of conditional convergence for a cross section of n regions can be derived from eq. (102) as:

$$\frac{1}{t} \ln \left(\frac{y_{t,i}}{y_{0,i}} \right) = \gamma_0 + \xi_i' \gamma + \theta \ln y_{0,i} + \varepsilon_i \quad i = 1, \dots, n \quad y = \frac{Y}{L} \quad \varepsilon_i \sim iid \quad (103)$$

$$\theta = -\frac{(1 - e^{-\beta t})}{t}$$

¹⁰⁴ A comprehensive discussion of convergence analysis can be found in Sala-i-Martin (1996).

with γ_0 as a constant, ξ_i as a $m \times 1$ vector of variables describing the individual steady state of each region, and γ being the matching parameter vector to be estimated. ξ_i may include the population growth parameter g and saving rates for the various forms of capital. It is essential to emphasise that the conditional convergence approach in contrast to the absolute convergence takes the different potentials of various regions for economic development into account. These differences are the reason for variations in the individual steady state values of per capita income.

One of the central ideas of spatial econometrics is that observations may be correlated if neighboured in geographic space. For this end a weighting matrix is used which contains information about the relative dependencies between the observations (with respect to geographic measures).¹⁰⁵ Because our aim is it to test for interregional spillovers we use the following five statistics of spatial econometrics. The Moran I-statistic (Moran 1950) is a strong test against the null hypothesis of no spatial dependencies. For the Moran I, no specified spatial model has to be assumed in the H_1 so that it is appropriate for all kinds of spatial dependencies.¹⁰⁶ We use the standard normalised value $z(I)$ of the Moran I for easier interpretation. The second statistic, LM-END (Anselin 1988b), is a Lagrange multiplier test derived under the assumption of spatial dependence in the endogenous variable whereas the LM-ERR-statistic (Burridge 1980), the third one, tests for the existence of a spatial error model. Both are χ^2 -distributed with one degree of freedom. The two statistics of KR-SPA, which allow for a joint test against spatial error dependence and heteroskedasticity, are Student-t-distributed (Kelejian and Robinson 1998).

Our regression results, with the annual growth rate of real per capita GDP being the dependent variable, are summarised in Tab. 137. In column [1], Growth is regressed only on a constant and the real per capita GDP level of 1985. Typical for an absolute convergence estimation with a cross section of heterogeneous units, the regression as a whole is insignificant as indicated by the F-test. Furthermore, the implied β is not significant on the 5% level. However, it is worth noting that MORAN indicates a strong positive spatial correlation. With regard to the other spatial tests entered, we assume that this may be explained by missing exogenous variables which have a strong spatial dependence.

¹⁰⁵ For a comprehensive discussion of spatial econometrics see Anselin (1988a).

¹⁰⁶ The different models for spatial dependence in the endogenous variables, in the error term or in the exogenous variables are described in detail in Klotz and Knoth (1998).

Tab. 137: Absolute and conditional convergence of Chinese provinces

	[1]	[2]	[3]	[4]
Constant	0.0524 (10.792)	0.0560 (0.677)	-0.2997 (-1.872)	0.0539 (5.012)
β	1.15% (1.579)	5.33% (3.227)	7.02% (4.118)	3.98% (5.080)
Population Growth		-2.1123 (-3.168)	-1.1284 (-1.527)	-1.1719 (-1.768)
FDI		0.0124 (3.626)	0.0132 (4.046)	
Investment Ratio		0.0180 (1.732)	0.0379 (4.709)	
Human Capital		0.0120 (0.598)	0.0154 (0.727)	
W * FDI			0.0054 (1.478)	
W * Investment Ratio			-0.0777 (-3.726)	
W * Human Capital			0.0594 (1.529)	
Eastern				0.0440 (4.752)
Central				0.0135 (2.001)
MORAN z(I)	3.1356 (0.001)	1.6750 (0.047)	1.5139 (0.065)	-0.7750 (0.781)
LM-END	2.3350 (0.126)	0.3488 (0.555)	0.1734 (0.677)	1.1485 (0.284)
LM-ERR	3.0736 (0.080)	0.0804 (0.777)	0.0190 (0.890)	1.2937 (0.255)
KR-SPA (spatial dependence)	1.9554 (0.030)	0.5151 (0.306)	0.2015 (0.421)	-0.5862 (0.718)
KR-SPA (Heteroskedasticity)	2.4060 (0.012)	1.0706 (0.148)	0.3330 (0.371)	2.5222 (0.009)
Adjusted R ²	-0.016	0.532	0.630	0.553
F-Test	0.785 (0.384)	6.294 (0.001)	6.300 (0.001)	7.923 (0.000)

n = 29. The dependent variable of the Ordinary Least Squares (OLS) estimations is "Growth Rate". The t-values have been computed using the robust Variance-Covariance matrix estimation according to White (1980), for the significance of β , the Delta-method has been used. The test statistics are denoted with the type one error probability in brackets. When calculating KR-SPA, GDP 85 is assumed to be the variable causing heteroskedasticity.

In column [2], variables controlling for the steady state according to the conditional convergence hypothesis are introduced, which obviously leads to a better fit. Both the regression itself as well as the convergence coefficient are highly significant with the latter well above the 2%-level, which is often found in the literature - a fact which we consider to be realistic for two reasons. First, when recalling the theoretical model, β depends among other things on the population growth rate, which, in China, is about 1% higher than in industrialised countries. Second, one has to keep in mind that China, profiting by a net inflow of foreign capital, is able to yield a higher output as it is not restricted to the local capital. However, the estimated convergence speed means that Chinese provinces halve the gap to their steady states within 14 years. As expected, the population growth has a negative parameter, whereas the three variables reflecting the saving rates have positive signs. Nevertheless, only the slope for foreign capital is significant. The key fact for our question is that only one of the spatial tests, MORAN's I, hints towards spatial dependencies. This finding did not

change when the weighting matrix was redesigned leaving us with no evidence for a Spatial Lag or a Spatial Error Model.

In the next step, we add spatial lags of the capital saving rates variables to the regressors' list (see [3]). The main results of [2] are confirmed, yet the convergence parameter rises. In contrast to what could be expected under the spillover hypothesis, the FDI in an adjacent region do not seem to benefit a region at all. Moreover, the lag of Investment Ratio is negative on the 1%-level. While treating this variable cautiously, as it changes its related, but not lagged, parameter into strong positive significance, one possible explanation for this astonishing outcome could be the interprovincial transfers in favour of the coastal provinces.

To shed light on the question why MORAN indicates spatial dependencies, we drop all the exogenous variables controlling for the steady state in favour of two dummies reflecting the affiliation to one of the three development zones (Western, Central, and Eastern) China can be divided into. This yields (see [4]) surprisingly high significance of the regression itself which can be interpreted as a hint for groupwise convergence according to the zones. However, the rise of a heteroskedasticity problem indicates that such a simple specification cannot cover all important aspects. The dummies themselves are positive as anticipated, and β did not change too much. But now, with interdependencies within the unlike zones widely represented by the dummies, none of the spatial tests including MORAN rejects the null.

To summarise, we are not able to produce evidence for spatial correlation or the spillover hypothesis with any of our convergence estimations. But although the estimations indicate a conditional β -convergence for the per capita GDP of the Chinese provinces, it was not possible to produce any statistical evidence that the fast economic growth of the coastal provinces had a positive effect on the economic development of the interior provinces. One very important feature of the discussed model is that it takes into account that the differences in the preconditions of the different provinces has an influence on the steady state value of provincial per capita GDP. This is neglected in many other studies.

7.3 Foreign Producers and Domestic Suppliers

In some countries, e.g. in the Dominican Republic, special zones were established as true enclaves which should be an effective incentive for the inflow of foreign capital, while the import-substitution policy in the rest of the country could be maintained (Johansson and Nilsson 1997: 2122). This extreme construction prevents all or at least most linkages between the zone economy and the economy in the rest of the country. Depending on the aims of the host country's government this might be counterproductive, because many aims like technology transfer and domestic input sourcing can only be reached when the zones are not strictly separated from the rest

of the economy. The main effect which will result from such a construction are illegal transactions like smuggling or an increase in corruption as can be seen even in China and even more in the other Asian countries where the zones were more closed, because the possible gains are increased while no legal alternative is available. This is the exact opposite of the aims of the host country's government.

A major element of the role of foreign capital in the host country is the interaction between domestic and foreign producers. On the one hand there are the interactions in producing together and on the other hand domestic producers of intermediate inputs can become suppliers for the foreign produces. This last interrelation is in this section our main interest, because the Chinese government designed the SEZs from the beginning to have this more integrated role. This demand-supply relation will only exist if the quality and the reliability of the supply are sufficient. In China, this seems often not to be the case. Therefore, many intermediate inputs are imported from abroad, with the effect that the backward linkages from the SEZs remain smaller than expected (Lösch 1995). Ge (1999: 1281) analysis the general interrelation between the Shenzhen SEZ and the DZ. He mentions that Shenzhen (not only foreign invested enterprises) has established 1400 projects in the DZ at the end of 1995 and had invested more than 15 bill. Yuan in these projects. Ge emphasises that the technology used in these projects is typically more advanced than the technology of other projects.

The experiences of other Asian countries with the establishment of EPZs are very disappointing with respect to the development of linkages to the domestic economy. Domestic raw materials were typically no more than a third of all used raw materials. Especially low quality and unreliable supply were the main problem for a domestic sourcing (Warr 1989: 35). We have already seen in section 3.4 on page 68 that the foreign-funded enterprises play an essential role in the imports and exports of the whole of China (we reproduce here a modified version of Tab. 16). We see from Tab. 138 that especially in the 1990s, the foreign-funded enterprises rapidly increased their influence on the international trade with a share of over 50% of the imports and over 40% of the exports in the second half of the 1990s. Very interesting is the comparison of the trade balance of the whole of China with the trade balance of the foreign-funded enterprises. While the whole of China had a positive trade balance during almost the whole 1990s, the foreign-funded enterprises had a trade deficit in all these years. This demonstrates that the foreign-funded enterprises did not fulfil the expectations of the Chinese government that they would help to earn foreign exchange for China. On the contrary, they let to a massive outflow of foreign exchange.

Tab. 138: Import and Exports of Foreign-Funded Enterprises [bill.US-\$]

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Import	0	2.1	12	17	26	42	53	63	76	78
Export	0	3.0	12	25	17	25	35	47	62	75
Trade Balance	0	0.9	0	8	-9	-17	-18	-16	-14	-3
Import China	20	42	53	64	81	104	116	132	139	142
Export China	18	27	62	72	85	92	121	149	151	183
Trade Balance	-2	-15	9	8	4	-12	5	17	12	41
Trade Balance Non-FFE*	-2	-15.9	9	0	13	5	23	33	26	44

Source: CFESY (1995:164), CSY (1996: 596), CSY (1998: 636)

*Trade balance of the enterprises without foreign capital.

This means that the trade balance of all the companies without foreign capital is very much in the positive in the 1990s as can be seen in the last row of Tab. 138. This is very much contrary to what one would expect, because normally the foreign-funded enterprises are seen as the locomotives of the Chinese exports, but which is obviously not the case.

Sun (1996) is too our knowledge the only empirical analysis which tries to estimate the backward linkages of foreign invested enterprises in the Chinese economy. For this end, Sun uses the 1990 input-output table and estimates the backward linkage indices for 33 sectors. Backward linkages are the input demands of one industry for the products of other industries, which the one industry uses as inputs for its production. The strength of a backward linkage indicates how much the outputs of the input supplying industries are affected by a change in the output of the demanding industry.

Starting point for the calculation of the backward linkage index is the Leontief inverse matrix $(I - A)^{-1}$, where I is the identity matrix and A is the matrix that contains the input and output relations between the different industries, with r_{ij} as the element of the i -th row and the j -th column. The index is then given by eq. (104):

$$L_j = \frac{1/n \sum_i r_{ij}}{1/n^2 \sum_i \sum_j r_{ij}} = \frac{\sum_i r_{ij}}{1/n \sum_{ij} r_{ij}} \quad (104)$$

The nominator gives the average effect of a change in sector j on the other sectors, while the denominator is the average change when all sectors increase by a given percentage (Sun 1996: 7). An index value larger than 1 indicates that sector j has a more than average backward linkage effect, smaller than 1 shows that the backward linkage is less than average. Sun calculates the indices for 33 sectors and looks then at the distribution of foreign capital between these sectors and analyses whether foreign capital is concentrated in the key industries, which means those industries which have a high backward linkage. By this procedure he gets the potential backward linkage effects for foreign capital in China. Potential, because it depends on the assumption, that the foreign firms behave in the same fashion as the domestic

companies. If this is not the case, for example because they import a larger share of their inputs from abroad, these backward linkages will not materialise.

The industries with strong backward linkages (the key industries) are: electronic products, transport equipment, electrical products, metal smelting, metal products, sewing & leather, textile and machinery (Sun 1996: 13). In a next step, Sun looks at the local content in these sectors. He finds the following content shares (labour is not included in this figure): electronic products (61.7%), transport equipment (74.4%), electrical products (71.2%), metal smelting and metal products (72%), sewing & leather (68.3%), textile (72.8%) and machinery (71.1%). Sun concludes that this high local content shares illustrate that the potential backward linkage effects have materialised to over 70%. Sun displays that the foreign capital is exactly concentrated in those industries which have strong backward linkages. 90.7% of all FDI is concentrated in these 15 industries, which have a backward linkage effect of over 1. "Therefore, FIEs [foreign invested enterprises, C.K.] have not formed foreign enclaves in the Chinese economy, and instead have increasingly integrated with the local economy. As a result, the potential benefits of FIEs can be materialized." (Sun 1996: 23). Sun suggest consistently that the host country government should limit the foreign investment in those sectors with weak backward linkage effects and a high probability for leakage effects (higher import of inputs than export of final products), like food, beverages and hotels. The analysis of Sun demonstrates that the foreign enterprises in total have integrated to a large share in the domestic economy and demand the clear majority of their inputs domestically. This might be different in the case of the SEZs because enterprises there are allowed to import intermediates without import tariffs. In interviews in Shenzhen it was emphasised that some producers import up to 100% of their intermediate inputs and use Shenzhen only as assembling platform. But this is of course only anecdotal evidence.

Obviously, it would be very interesting to compare these results of Sun with the distribution of the FDI between the sectors in the SEZs and the relations of the foreign-funded enterprises in the zones with domestic enterprises and their import behaviour in respect to intermediate inputs. But the necessary statistical data were not available.

A survey of East Asia Analytical Unit (1995: 232) produced some results for the linkages of four regions, two in Guangdong and two in Fujian province. In each of these four regions about 100 foreign-invested enterprises were analysed in respect to their demand of raw material, machinery and spare parts from the rest of China as presented in Tab. 139.

Tab. 139: Shares of Foreign-Invested Enterprises Demanding Domestic Goods [%]

	Guangdong		Fujian	
	Nanhai	Panyu	Quanzhou	Xiamen
Raw Material	13	20	40	31
Machinery	11	8	21	20
Spare Parts	7	6	23	29
Number	100	105	84	91

Source: East Asia Analytical Unit (1995: 232)

It is extremely astonishing how low the percentage of enterprises is which demand raw material or other goods from the other provinces of China. In the two regions of Guangdong even more so than in Fujian. In Guangdong, never more than 20% of the surveyed enterprises had demand relations to the domestic regions. In Fujian these shares were between 20 and 40%. Of course, these results have only a very limited value, because on the one hand it is not clear how large these enterprises with demand relations to other provinces are so that the value shares of domestic demanded inputs in the whole production value would be of more value (it is not clear in the statistic whether major inputs are demanded from other regions in the same province which is a major limitation, because obviously in many cases the demand of intermediate inputs from suppliers with only a small geographic distance is possible at much lower transaction costs, especially in a country like China with such major transportation bottlenecks). On the other hand, it is not clear how representative the selected regions are and in how far the results can be transferred to the SEZs. Only the results of Xiamen give some hints, because it is quite surprising that only less one third of the interviewed foreign-invested enterprises has demand relations to the other provinces. This means that over two thirds of the enterprises use Xiamen only as a location to use the cheap labour and all inputs are imported.

Tab. 140: Supply of goods in other provinces [%]

	Guangdong		Fujian	
	Nanhai	Panyu	Quanzhou	Xiamen
Proportion	51	27	39	48
Number	100	104	98	100

Source: East Asia Analytical Unit (1995: 232)

Similar limitations have the data in Tab. 140 on the supply of goods from foreign-invested enterprises in other provinces of China. Especially, it is not clear how important the provinces of Guangdong and Fujian are as markets for the surveyed enterprises. In Nanhai and Xiamen only about half the enterprises sell goods in other provinces, in Quanzhou only 39% and in Panyu even only 27%.

8 SEZs as a Policy Instrument - A Summary

The preceding chapters have discussed various aspects of the establishment of the SEZs in China and their effects on China as part of the overall reform policy. In this chapter we are going to answer the questions which were raised in chapter 1 by bringing the various parts of the analysis together. These questions were:

What are SEZs, what was their role in the Chinese reform concept and how have they developed?

How can the political-decision-maker influence the development of the zones, especially the volume of foreign capital inflow?

In how far are the Chinese experiences a lesson for other countries?

In section 8.1 we are going to answer the first and the last question, while section 8.2 contains a large number of policy recommendations which are essential for establishing a SEZ so that this section is the answer to the second question.

Although Wong (1989: 49) comes to the conclusion that "Reflecting on their enormous changes, their rise in economic growth, their timely regulating of directions, and their economic reforms which set a precedent for the rest of the nation, one must agree that China's SEZs have been a great success. They provide a good model for other countries and regions." The previous chapters show that this conclusion is not necessary. The discussion in the next sections as well illustrate that the lessons for other countries have to be qualified. The success of the SEZs does not seem to be as clear cut from our point of view as Wong formulates.

The discussion has demonstrated that SEZs might be second best instruments for opening up a country when only the tariff reform aspect is taken into account (see chapter 6). It is well known from economic theory that many of the arguments for a radical reform brake down when the available information are limited. In such a situation major theoretical arguments for a gradual reform arise, because the information requirements for a step by step approach are much smaller than for a radical reform. For the formulation of a radical reform, a comprehensive model of the economy of the transformation country must be available including the interactions between the various parts of the economy. For evaluating the effects of parallel policies in different areas it is also important to have enough statistical information so that the model can be used to estimate the effects. When these precondition are not fulfilled, it will not be possible to determine the best policy mix. Instead, the realised policies are only the result, at the best, of qualified guesses.

The existing mathematical models are not of too much help for a comprehensive analysis of SEZs. As soon as the other possible functions of SEZs in regional development, restructuring and the overall transformation of the economy (including the economic, political, legal and cultural subsystems) are taken into account, the question gets too complicated to be analysed with mathematical tools in a reasonable way. This does not mean that the mathematical models do not produce relevant insights into the possible effects of SEZs. But these are only individual effects and not the overall impact of the zones, which should be considered when the results are interpreted. The discussion of the mathematical models in chapter 6 has displayed that this is often not the case and the authors interpret the results of their models instead as the overall effect of the zones.

It is important to take the actual situation of the transformation country into account that considers the establishment of a SEZ. These zones are very complex policy instruments - or they should be better thought of as complex policy mixes - and it is essential to design them according to the special needs of the host country and the specific circumstances. Even from a theoretical point of view general conclusions on the desirability of SEZs for all countries are not very convincing. Looking at the practical experience of the transferability of policy measures from one economy to the other is not very encouraging. The tax systems in the European countries are one example, because the acceptance of paying taxes are very different so that the combination of direct and indirect taxes has to take the payment morality into account. The direct transfer of a system from one country into the other can be a total failure. This has to be taken into account in the discussion of SEZs, even more so because the SEZs are such a complex instrument with a large number of effects.

Finally, it is necessary to look at the political situation in a country. It might be that the politicians are under enormous pressure for fast changes and fast successes. In such a situation considering the establishment of SEZs might not be a possible way, because the measure might benefit some regions, but it takes too long before the effects become visible in the whole country. A delay of fast and comprehensive reforms might create huge costs for the whole society. In other situations, when the political decision-makers have more time for experiments, the gradual approach with SEZs might be appropriate. In any case, SEZs can only be an additional policy in a transformation economy and has to be accompanied by many other measures. SEZs alone cannot be the solution for all problems.

8.1 SEZs in China

It has already been emphasised that SEZs are very complex policy instruments with many different possibilities for the exact institutional design. Therefore, it is not surprising that a large number of different aspects have to be taken into account, if an overall evaluation of the effects of SEZs is intended. This study illustrates that it is of

crucial importance that the political decision-makers clearly formulate which aims should be realised with SEZs. The experience of China demonstrates that too many objectives at the same time can destroy some of the potentials of the geographical approach. As soon as the aims are formulated, a clear concept for the design of the zone has to be developed. We will come back to these questions in the next section.

Chapter 5 has illustrated that in economic terms (looking at the development of GDP and related indicators) the SEZs have developed rapidly and that in the SEZs the economic structures has changed fundamentally since the reforms started in 1979. The Shenzhen SEZ is by far the most successful in terms of economic growth and its direct impact on the regional development. Shenzhen has been transformed from a small town with no basis for an economic development into a large and modern economic centre that has influenced the development of the whole region of the Pearl River Delta. The other zones have not reached the potentials the Chinese government had expected at the beginning of the reforms. On the contrary, Hainan SEZ has illustrated how the lack of a clear definition of the aims, a non-sufficient control of the procedures and an illegal interaction of the political and the economic sphere can produce enormous costs for the country without benefiting the development in a comparable amount.

In our analysis we come to the conclusion that the Chinese policy of establishing SEZs is a mixture of success and failure.¹⁰⁷ SEZs in China have contributed a lot to the overall development of the reform policy (Lösch 1995: 7). It has been described in chapter 3 that mainly political reasons were responsible for the decision of the Chinese reformers around Deng Xiaoping to start the open-door policy by establishing SEZs. In the early years of reform, after the ending of the inward oriented policy of the Mao era, many political decision-makers were still very sceptical about the benefits of foreign capital and many were against a closer interaction with western countries. The reformers, who were still building up their power-base succeeded by this policy to get the support of those regions which wanted to start the reforms and at the same time did not loose the support of the conservative politicians who were interested in protection. As soon as it became obvious that the regions with special rights reached growth rates which could not be found in other Chinese regions, those other regions turned into supporters of further reform steps, from which they expected to benefit. We have described these political economy aspects of the SEZs in chapter 4. As Lösch (1995: 8) summarises: "Thus the success of the zone experiments was an important condition not only for the permanent expansion of open areas all over the whole country, but also for the progress of economic transition."

¹⁰⁷ One must not forget, that even the failures gave important lessons for the further reforms in other parts of the country so that notwithstanding the direct costs of these failures, there are also indirect benefits stemming from them.

Although the economic problems in China in 1978 were not as pressing as in other transformation economies, which started their reform process in the late 1980s, the signs of a dangerous deterioration became more and more visible. After the devastating time of the Cultural Revolution and the overthrow of the Gang of Four fast economic successes were necessary for the new leaders of the Chinese Communist Party to gain or regain the acceptance and the support of the population. The regional approach limited the negative effects of the increased competition on the whole population, which was essential in this situation. The successful development of such enclaves were intended as well to display to Hong Kong and Taiwan, that the idea of the concept '*one country two systems*' (which meant a combination of a planned economy and a market economy in one country) could be possible. This was and still is important for the intended unification (Heiers, Schattschneider and Zapf 1988: 167).

Therefore, the success of the SEZs at the beginning was of great importance for the deepening of the Chinese reform policy. At the same time, many enterprises in most regions were not ready to face the international competition - which is still true even after 20 years of reform policy. But now the new offers of the Chinese government for joining the World Trade Organisation (WTO) will put them under massive pressure to restructure. In the early years, instead of opening up the whole country, opening up only some selected areas seemed to be a very attractive alternative to the reform minded politicians. Thereby, it was possible to take different, in many cases contradicting interests into account. Over the years this policy path increased the pressure on domestic enterprises to restructure and to become more efficient. The continuous opening process and the application of China to join the WTO increased not only the pressure on the Chinese enterprises, but at the same time on the Chinese government to continue the reforms.

The reform concept in itself was not totally new. It was based on the ideas of the former prime minister Chou Enlai, which he had formulated as the Four Modernisations in the early 1970s. This concept already clearly faced the weaknesses of the existing system. New and effective incentives had to be created in agriculture and industry, one of the main aims of the early reforms. The autarky concept of Mao hindered the domestic development and for Deng and the other reformers the opening of the domestic economy for foreign relation were beyond the question.

Therefore, four small regions in Guangdong and Fujian province were selected to function as experimental areas for new reform steps. The main reasons why the Chinese government chose the southern provinces of Guangdong and Fujian for establishing the first SEZs in 1979, were:

- interest of the local decision-makers;
- political economy arguments to give more power to local politicians in exchange for support of the reform policy;

- large distance to Shanghai and Beijing;
- short distance to Hong Kong, Macao and Taiwan;
- relation to overseas Chinese which stem from these regions.

The support of the localities was certain, the risk of negative influences on other economic centres of the country was small and the closeness to international economic centres and the relation to potential foreign investors increased the probability of success.

Another major change with the establishment of the SEZs was the more intensive concentration on foreign relations. Foreign capital should find especially attractive conditions in the SEZs. The Law of Chinese-Foreign Joint Ventures and other economic laws which were passed in the years after 1978 were intended to increase the foreign capital inflow into the whole economy. The major share of the foreign capital should flow into the SEZs so that the effects of this capital inflow could be controlled more easily. In the end, this policy was obviously very successful in its aim of attracting foreign capital in the SEZs as well as in the rest of the economy. As Tab. 135 and Tab. 136 on the distribution of FDI in China have demonstrated, although they were planned at the beginning as the major locations for FDI, the SEZs had in 1984 only a share in the total FDI of less than 30%. This decreased in the 1990s to reach just 13% in 1997. This illustrates that the whole opening process was a major incentive for foreign investors, not only the SEZs. The advantages of the other regions were obviously more important for the investors than the privileges of the SEZs.

Although Shenzhen is the one with the most impressive economic development, the other SEZs have developed quite remarkably. This is not to say that the development was without its problems and one must also not forget about the heavy investments which have taken place in the zones. As was described in chapter 3 in many cases a policy of trial and error was applied. One of the biggest problems was the inexperience of the political decision-makers which led especially in Hainan to a huge inefficiency of the newly gained autonomy, in form of great numbers of unnecessary investments in the real estate sector and an increasing problem of corruption and smuggling (which was also a major problem in the other zones). Instead of creating a new and modern economic structure, most funds were channelled into real estate and most investors were looking for fast returns in highly speculative ventures, and did not invest in long-term projects. This helped the rapid development in the first years, but was the reason for a massive backlash in the later years.

It can therefore be concluded that for a large country where the interest groups in respect to a reform policy are concentrated in geographic terms, a regional approach can be an effective strategy to overcome the opposition from selected groups while

getting the support from others. The SEZs in China show that new conflicts may arise, if the new developing areas not only get more influence in the political process, but use this influence to reach their own ends. This created conflicts in China between the central government and the provincial governments of Guangdong and Fujian, later-on Hainan.¹⁰⁸ Besides, it was discussed that the creation of growth poles which are equipped with especially attractive incentives produces new distortions in the domestic market. This might produce capital and labour movements between the DZ and the special zones, which are not always beneficial for the host country, because they do not necessarily follow efficiency aspects in a heavily distorted economy (we have discussed one example at the end of chapter 6). In addition, the factor movements might be directed in the wrong way by political incentives which do not correspond to the comparative advantages in the host country. It is also possible on the other hand that the reallocation effects which are initiated by the SEZs have a positive effect by rationalising the domestic production structure. But for any conclusions about the effects that can be expected it is necessary to investigate the exact situation in the individual country in detail.

It has been discussed in chapter 6 that most of the relevant and important questions which have to be raised for evaluating SEZs are not answered in the theoretical models which analyse the economic effects of special zones. The analysis of the received literature concentrates mainly on the Rybczynski effect, which does not seem to be very relevant in the Chinese situation, because of the size of the Chinese SEZs in relation to the whole country. Lösch (1995: 4) mentions looking at the overall growth of China: "[...] it is quite obvious that the economic growth of the last 15 years in China cannot be explained mainly as resulting from spillovers of the admittedly spectacular growth within the relatively very small 5 SEZ."

Looking at the statistics it becomes clear that the labour force which moved into the SEZs is only a tiny share of the overall labour supply in China. It is of course something different when we look at the qualification of the migrants, but this is disregarded in the models. Part of the migrating labour was high skilled which of course had a direct effect on the industries in the DZ. They demanded this high-skilled labour force as well. Because of the scarcity of high-skilled workers in China, this movement could have a much stronger effect on the domestic welfare if the protected sectors were using high-skilled workers relatively intensive.

One feature of the Chinese experience which is not reflected in the models in an appropriate way is that domestic capital moved into the zones and had a number of effects on the domestic economy. We have already mentioned the complexity of the

¹⁰⁸ It was intended to phase out the preferential policies for foreign capital in the special economic zones and Pudong at the end of 1999 (Li and Li 1999: 9). But one has to wait and see, how this regulation will be applied in practise, because so far nothing concrete has happened and it would be very surprising if fast steps follow.

SEZs as a policy instrument above so that it is no surprise that only a small number of the characteristics of real SEZs can be included in the theoretical models.

A special reason for the great amounts of foreign investment channelled into the Chinese SEZs were the high number of ethnic Chinese who had an interest in starting economic ventures and who controlled huge amounts of capital which could be invested in China. In addition, they had a number of comparative advantages relative to other foreign investors which were of great importance for their engagement. The most important ones are their common language and common culture with the people in China. Furthermore, the family ties or friendship relations made it possible for the Chinese investors to act in an economic environment in which a clear legal framework did not exist. It was discussed in section 3.5 that cultural proximity can be a key instrument for business people in difficult economic environments like countries in a transformation process.

Although the Chinese government started early to pass new laws, especially in the economic field, the interpretation of the laws were in many cases not clear and the court system is still not sufficiently developed. Therefore, many foreign investors who lacked alternative ways of securing their investments, waited for a long period of time or invested in other countries. For that reason, it should be asked before the establishment of a SEZ who could be interested in investing in the zone and how much mobile capital does this group control. The Chinese reformers were in the lucky situation, that many investors were already waiting at the door, but this cannot be expected by other countries. We have raised in section 2.2 the question, why not enough foreign investors came to China in the first place without additional incentives. This is a question which should be answered by any political decision-maker who wants to establish SEZs, because only then it can be analysed whether SEZs are really the right instrument to attract investors or how the zones should be designed to reach this end.

A major lesson of the Chinese SEZs for other countries is that the direct economic impact is limited, while the costs can be very high, especially when the location decision is wrong, the sequencing of the infrastructure investment is inappropriate or the design of the zone has not been made carefully. The most essential function of the SEZs in China was and still is from our point of view their role as experimental areas or laboratories as discussed in section 4.4. Many of the new reform steps were first tested in these special zones before they were expanded to other regions or to the whole country. Hainan SEZ is propagating this role for its future, because as a province with similar characteristics as the whole country, it might be especially suited for this role to play. It is not possible to quantify the costs which have been avoided in the rest of the country, because of the experiments in the SEZs, but we assume that they would have been very high, because some of the policy mistakes, which have been made in the SEZs, would have been extremely costly in the whole

country. The negative developments in the SEZs, especially the corruption cases, the effects of the lack of experience and of the close interrelations of policy and economics have raised the attention of the policy makers on the central level and they were aware of possible problems. During the further reforms they were not able to avoid all these problems in the rest of the country, but at least they had the chance to limit them. Hainan is an excellent example for this development.

Another main lesson which can be drawn from the Chinese experience for other transforming countries is that SEZs in itself are not an instrument to solve the most pressing development problems. The econometric estimation in section 7.2 has shown that the open door policy has not automatically benefited the interior provinces as well. The hope that positive spillovers would develop from the coastal provinces to the hinterland has been disappointed. The two main reasons for this are on the one hand the less advantageous initial conditions for economic development in the interior provinces and on the other hand the missing links between the various provinces.

SEZs are not the major reason why foreign investors will invest in a country as the relative small share of the Chinese SEZs in the overall FDI inflow illustrates. There have to be other conditions fulfilled, especially a stable political system and a clear legal framework, so that foreign investors are willing to take the risk. Many Chinese are still thinking about the right level of openness, especially after the Asian crises in 1997 and 1998 and it is for sure one of the most important lessons of this crises that the institutions which are necessary for an open economy have to be properly developed.

But one must not forget the historical circumstances of the opening of the Chinese SEZs. By far not so many destinations were opened for foreign capital as 10 years later so that competition between the potential host countries was not as strong as in the 1990s. At the same time, the Asian countries of Hong Kong, Taiwan and Singapore started to experience labour shortages, rising wages and the enterprises were looking for new destinations for their investments with lower wage levels (Chao 1994: 65). Cost minimising strategies made China a possible location and the cultural proximity reduced the costs even more. During the 1980s, it became the new paradigm that in an interdependent world the relation between different countries has to become closer and closer. The economic relations between the Asian economies organised by ethnical Chinese were an easy and attractive way to support this interrelation. Especially, since more and more Asian countries saw China not any longer as a threat against their own interests, but were merely interested in economic development. The ideological reasons of pro-Beijing or pro-Taipei investors became more and more irrelevant after the end of the Cold War (Surayadinata 1995: 201, 203).

Another large advantage of China's opening was that China has a huge market potential to offer. Of course, at the beginning and even today the Chinese markets are not as large as some comments suggest. But the development in the last decades has created a large demand for capital and consumption goods and China shows all preconditions for a further increase of the market size.

Walder (1995: 972) argues that the decentralisation of the administrative power in China already in the Mao era was an additional precondition that supported the success of the reforms after 1978. Because of this historical path-dependence advantage, Walder comes to the conclusion that the developments in China are not easily transferable to other countries. Lin, Cai and Li (1994) on the other hand conclude that China can be an example for other countries with a similar development strategy, because China managed to create a flow of new resources into the more competitive sectors and not so much a transfer of the existing resource stock from low productivity into high productivity sectors. We are not convinced by this argument, because it might be right, that China was able to create a flow of new resources, but this cannot be easily transferred to other countries. Most other countries are even more constrained in respect to capital so that already in the early reform phases all the available resources have to be reallocated, including the resources in low productivity sectors. From an economic point of view, it should be the aim to bring the resources into the most efficient use as fast as possible, although of course, the costs - especially the social costs - have to be taken into account.

From our point of view, the SEZs will continue to exist for a number of years. They came under discussion several times over the years and the critics emphasised the huge problems with illegal activities in the zones and the distortionary effects of the zones by favouring some regions over others. But the analysis has illustrated that political constraints can be an argument for the establishment of SEZs. SEZs can either be used as an instrument of (1) growth policy, (2) regional policy or (3) transformation policy. It is not helpful for point (1), can be useful for point (2) and may be helpful for point (3), but in China the time for this function seems to be over (Lösch 1995: 11). Another reason for SEZs is to generate the possibility to conduct experiments with new policies in one part of the country before realising this kind of policy in the whole country (Ge 1999: 1281). We see this as the only argument for the continuation of the existence of SEZs in China, but mainly for Hainan, because of its special situation, including its similarity with the whole of China as discussed in section 5.5. It can be argued that Shenzhen has such a special position in China that it can be used to experiment with reforms in a modern, highly developed city. But we do not find this argument very compelling and we do not see that the four original SEZs still need the preferences which other regions in China do not enjoy. On the contrary, it will be essential for the further economic development of China, that the competition between different regions is reduced by formulating a clear

policy for the whole country, including a clear separation of the influence of central, provincial and local governments.

8.2 Policy Recommendations

We are convinced that the Chinese experiences can not be used to come to an conclusion whether SEZs should be used in other countries or not, as we have argued before. But it is possible to get a number of general lessons from the study of the Chinese SEZs. We have already emphasised that SEZs have to be designed very carefully and that a number of aspects have to be considered. Especially, the political decision-maker must be careful in choosing the right mixture of the policy instrument. Ge (1999: 1283) formulates this as: "A successful SEZ operation depends critically on a set of economic and institutional factors."

Instead of giving a final answer whether SEZs as policy instruments are good or bad (we emphasised already at the beginning that we did not intend to give such an answer) or under which conditions this would be the case, we give a number of policy recommendations, which should be taken into account, if a country has decided to establish a SEZ:

Formulation of aims: It has to be clearly stated what the aims of the zone development should be, because only then it can be analysed whether or not the SEZs are the best instrument and how they have to be designed to reach the intended aims. It is important to clarify whether the aims are short-term or long-term, because the main effects of the SEZs are long-term in nature. It is a general insight of economic policy that the number of aims should correspond to the number of instruments that are used.

Location decision: The first important point the political decision-maker has to consider is the location decision. In some countries, special zones were established in backward areas with the hope that FDI and the development of an export sector would help the economic development of the region. But this was normally a failure, because the foreign investors were not interested in investing in a region without the necessary infrastructure, the supply of qualified personal and developed markets for other inputs. The two aims, the development of an outward orientation of the country with the participation of foreign capital and the economic development of backward regions are contradicting and should be separated.

It is important that the special zone has direct links to major international trading routes, because most of the zones are intended to produce export goods for third markets. In order to make this attractive for foreign investors, it must be possible to get access to the international markets at a low cost. Therefore, an international

harbour and an airport should be close by or at least the possibility for such a development in the near future should exist.

It is positive for the success of SEZs to develop larger areas and not just small enclaves like in the case of the EPZs in other countries. Although there might be a shortage of funds at the beginning of the reform process, the comprehensive development concept creates more possibilities for further development and thereby more potential for positive effects for the whole country.

Investment control: the sectors in which foreign engagement is allowed should be carefully chosen. As the analysis in section 7.3 has demonstrated, especially these sectors should be chosen which have a strong backward linkage effect for the whole country. To give domestic firms a chance for development, all sectors for which domestic companies have enough abilities to establish production in the SEZs should get a preferential treatment in the zones.

Not too much investment should flow into real estate and tourism (hotel) and other highly speculative sectors. Although fast profits might be possible, they are risky and do not support the development of the local industry in a reasonable way.¹⁰⁹ The zones themselves cannot create comparative advantage, they can only be based on existing advantages.

The investment of domestic enterprises has to be controlled so that the SEZs do not have a distortionary effect on the regional development. Domestic firms may relocate in the SEZs because of the preferential treatment. That is the reason why in some EPZs these benefits were restricted to foreign investors. The government should restrict its own direct involvement in the zone management and should transfer as much responsibility as possible to private agents.

Timing: for a successful development of a SEZ it is crucial to have a well planned early stage, that includes all major development steps in a short period of time. If this first stage takes too long, it will create distrust at the side of the potential foreign investor. The possibility of a full developed zone in 10 years is not a great incentive for foreign investors. The aims of the development have to be clearly defined and the various steps should be planned and made public in detail. It should become clear in the planning that the financial means are available for the development of the zone.

Infrastructure: the establishment of SEZs has normally the aim to attract foreign investment in such sectors which concentrate on exports. It is therefore not only important that the produced goods or the demanded resources and intermediate inputs can be brought to the production site at a low cost, it is important that the foreign investors find all the infrastructure which is necessary for a modern

production including international telephone lines, water and electricity supply, public transportation and commercial infrastructure like banks and forwarding companies.

In the planning of the infrastructure and in the location decision it should be taken into account, that not too large a role is given the attraction of foreign capital. It should be made possible that the investment in infrastructure in the SEZ initiates a development of the economy also without an inflow of foreign capital.

The experience of Shenzhen SEZ illustrates that the establishment of a SEZ and the initial large-scale investment in infrastructure must not necessarily be financed by the central government, but that other sources of financing will be available, especially in later years.

Investment incentives: the government must be careful in not overestimating the possible influence of tax privileges on the investment decision of foreign investors. Other factors, like the growth potential, the quality of the infrastructure and the political stability are much more important as empirical investigations have demonstrated. The interviews of the Economist Intelligence Unit have shown as well that tax holidays are not decisive. But still incentives like duty-free imports, tax reductions or other privileges can influence the decision of the foreign investor.

Incentives must be only a kind of initial incentive so that foreign investors are compensated for higher risks of the investment, the new environment and other cost increasing factors. But the incentives must not be the only reason for the investment decision, because in that case the investors will think about moving out of the host country as soon as the incentives are abolished. Again, SEZs cannot create comparative advantages for the host country, they can only be used to develop the advantages and to make them more attractive for foreign investors. To enable the foreign investor to plan exactly, it is necessary to define and to publish exactly the time period and the kind of subsidies which are offered.

Labour market: we have seen in the discussion of the sources of FDI in China, that a major difference exists between the investors from other Asian countries which foremost demand low skilled workers for simple assembly and processing, while western and Japanese investors demand more skilled workers, because they produce more sophisticated products. The host country of FDI is usually interested in enabling the transfer of modern technology, so it will try to give incentives for FDI with higher technology. In that case, sufficient high-skilled workers should be available, which might be a decisive prerequisite for the investment decision. It is in the interest of the host-country to offer skilled workers. As different studies have

¹⁰⁹ Zhuhai SEZ for example limited the investment in real estate construction after 1985 and supported the development of an industrial production base.

indicated, for a successful technology transfer the ability to adapt technology in the host country is of great importance. The SEZs in China were mainly established in areas, where the availability of skilled workers was limited and where no tradition in research and development existed. This was a big disadvantage for a successful technology transfer.

Research and education institutions should be planned and established from the beginning so that the potential for a further development exist. This creates the potential that foreign enterprises not only invest in simple assembly and processing, but in the long-run as well in more advanced sectors to utilise the low-skilled and qualified workers. For this end, enough low-skilled workers at low wages must be available as well.

Legal system: together with the overall political stability it is the legal framework which is of great importance for foreign investors as well as domestic enterprises, especially the guarantee of the newly formulated property rights. This role of the legal system is of course not restricted to the SEZs. It is part of the overall transformation process, because a reliable legal system is a precondition for a functioning market system. China has used its SEZs in many cases for introducing new laws and to get more experience with new legal system. In connection with the increased foreign investment the demand of the foreign investors for a sound legal system that protects their interests forced the Chinese government to formulate a wide range of new laws. This has been done in the last 20 years and although the system still has to be improved, already a major change in comparison to the initial situation has been reached.

A central part of the legal system is the introduction of an effective protection of the foreign know-how. Otherwise the foreign investors will avoid to transfer their latest technology if they are not in the position to protect their knowledge from copying. The Chinese experiences are an good example for the disappointing results in respect to technology transfer.

Customs and foreign exchange: the customs authorities should be included in the design of the SEZ from the beginning, because they have to deal directly with the foreign investors and are therefore important to pass information to the foreign investors in case the products should be marketed on the domestic market.

Convertibility of the domestic currency including capital-account convertibility for foreign investors is an important factor that influences the investment decision of foreign investors and should therefore be taken into account from the beginning of the planning process. The general trade policy of the host country influences directly the behaviour of the foreign investors and thereby the effects of the SEZs.

Administration: an important criteria for foreign investors is the complexity of the bureaucratic procedure to get an enterprise established, to import or export goods or to change elements of the enterprise. An effective and flexible administration, based on a transparent and consistent legal framework can reduce the costs of businesses substantially. Most SEZs have therefore introduced a single administration agency, which deals with the application of the foreign investors (the Foreign Investment Service Centres which realises a one chop policy and guarantees easy and fast solutions for problems of foreign investors). But for this agency to be efficient, it must have enough power to negotiate directly with the different governmental bodies which are affected by a decision and the agency should be able to make most decision fast and with some flexibility. This agency should have the characteristics of a company and not so much of a governmental institution. For this end it is necessary to give this company a clear definition of the aims which shall be reached by the SEZs and to formulate an exact framework for their actions.

Representative offices of the SEZs in foreign countries could help to transfer important information to the potential foreign investors and trade partners. In the case of China the establishment of special organisation (e.g. the Overseas Chinese Consultation Team in Shantou SEZ) that tried to build up the contact to ethnic Chinese in other countries was especially successful. An institution that supports the transfer of information from the SEZs to enterprises in the rest of the country, which may include joint ventures between enterprises in the SEZ and enterprises or ministries in the DZ should be established. A labour service company can help the foreign investor to find qualified workers and can consult in questions of wages and contract requirements.

A local advisory body should be established to help foreign investors to get easy and reliable information and to have an easy orientation. It should provide information on labour recruitment, regulations, wages and should help to establish relations to domestic enterprises.

Domestic markets: everything should be done to support the development of national, unified markets. Especially in China, the regional markets were and still are extremely segmented in a form, that success in one part of the market cannot easily be transferred to other parts of the country. It should be clear that the regional approach can only be a temporary policy, but that in the long run the unification will be the ultimate aim. Only then one can expect that the enterprises in the developed regions will build up linkages with enterprises in other regions.

Links to the domestic economy: one of the important functions of SEZs can be the establishment of backward and forward linkages and demonstration effects. For this to be fully realised, it is important to support the transfer of information from the SEZs to the DZ and to help to create such links.

Especially in a country of the size of China and the segmentation of the domestic markets it is more important to generate an integrated market than to concentrate on the creation of growth poles. Growth poles in itself as the experience of China has illustrated are not able to generate an impulse for the development of the whole economy if at the same time the various regions and markets are not integrated. The linkages between the provinces are often missing so that a successful development of the hinterland requires the creation of effective linkages between the coastal provinces and the interior provinces.

It is important that countries with a large domestic market use the market access to bargain with foreign investors. The aim of keeping the domestic market closed for foreigners will be counter productive.

In order to support the development of linkages between the SEZs and the rest of the country it is important to allow (or even encourage) domestic institutions to open up representative offices in the SEZs to guarantee a successful information flow to foreign investors who are looking for co-operation partners in the DZ.

At the same time, the government has to limit the scope of the engagement of the representative offices in the SEZs, because as the Chinese experience demonstrates these connection have supported the transfer of scarce resources from other areas into the SEZs, which has disturbed the economic development of these other regions. Very often this transfer only took place for the enrichment of individuals (including many corruption cases).

Often the foreign producers in the SEZs do not demand intermediate inputs from the host country because the quality might be too low or the supply is not guaranteed. In this case it is important that the host country's government adapts a policy which helps the domestic producers to upgrade their production technology, improve their quality management and to make their supply more reliable. In addition, the transportation infrastructure has to be improved so that intermediates from the DZ may be shipped to the SEZs in time.

Planning of zone development: a clear concept for the development of the established zones must be elaborated and the total number of zones has to be planned. If too many zones are developed or too many regions get the permission to open up special zones, the competition between the individual zones becomes very strong, which increases the bargaining power of the foreign investors and results in higher costs for the country, because each region offers even more preferential conditions - a longer tax holiday, lower tax rates, lower land and utility charges and subsidised inputs. The only gainer of this development is the foreign investor who gets the most beneficial conditions. Therefore, it is important to formulate a long-term development plan.

The future course of the Chinese SEZs will be important as examples for other areas in China. The first stages of labour intensive and low-tech production in the zones has been crossed. Now it is important to increase the technological level of the production step by step. This will be possible by improving the investment environment for foreign investors, as has been done by the new contract law which has been passed on March 1st, 1999. The aim of the further development of the SEZs should be that they do not need their special privileges any longer, and instead base their further development on the positive conditions existing in the zones. The final aim must be that the SEZs transform into open international commercial cities. In addition, the SEZs in China have reached a stage, in which a larger demand for qualified employees exists and will grow further. Therefore, it is important to invest into the education and the development of a functioning labour market.

International agreements: the government should try to sign investment guarantee agreements with other countries or the country should become member of the Convention on Settlement of Investment Disputes, because this gives foreign investors the feeling that their engagement is protected by international agreements. Although the realisation of their rights is in many cases extremely difficult.

Control of illegal activities: it is important to show the foreign investors that not only a legal system exists, but that all players have to follow the same rules so that fraud and smuggling are not possible. Two negative examples from China are (1.) the so-called Hainan case, where officials used the possibility to import luxury cars tariff free and sold them to other officials in the country and (2.) the transfer of domestic capital abroad to a cover company, which invests as a foreign investor in China to get all advantages.

8.3 Outlook

China has changed dramatically in the last two decades, the real income and the living standard of most people have been raised substantially. But many of the more difficult reforms have been delayed, including the reform of the SOEs, the establishment of a social-security system and the clear separation of state institutions and market mechanisms. The Chinese government will have to face many difficult tasks in the coming years, but the discussion in China shows that the government already realises these problems.

An important element of the further reforms is the continuation of the Open Door Policy. The membership in the WTO will be the next big step in this development and will make the developments in China even more irreversible. MacPhee (1996: 505) argues that a number of reasons speaks for the necessity of further reforms: (1) part of the exports of China depend on subsidies which won't continue; (2) price controls for some goods will weaken the competitiveness of other goods; and (3) the

trade partners of China will not be willing to absorb increasing exports from China as the discussions with the USA and with Europe already illustrate.

SEZs had their influence on the transformation process of China and we have seen that especially the political economy aspects were very important in China at the beginning of the reforms. The SEZs were an instrument to gain the support of the provincial governments and to create the support for further reform steps. They also allowed the government to perform experiments with new policies before they were realised in the whole country. The reform process benefited from this possibility very much. The direct economic benefits on the other side very mainly for the regions with the SEZs, but not so much for the whole of China. We therefore argue that the privileges of the SEZs should be abolished soon, because the zones have developed so many comparative advantages that the privileges mainly produce additional distortions. The use of geographic regions in economic policy making and especially in development policy has a long tradition and there are many situations where they have the potential to produce important positive effects. But to produce the optimal result the political decision-makers must be very careful in designing the zones and they have to consider a number of aspects as discussed in the previous section.

Appendix: Incentives for Foreign Investors

Incentives for Foreign Investment in the SEZs and in the Rest of China¹¹⁰

1. Taxes

1. Income Tax		
a) Compensation trade	G ¹¹¹	Not subject to income tax in China
b) Processing contract	G	Not subject to income tax in China
c) Contractual joint ventures	G	Foreign party will pay tax on its share of net profits on a progressive scale between 20 per cent and 40 per cent plus a local surtax of 10 per cent of national taxes (i.e. between 2 per cent and 4 per cent of net profits).
d) Direct sale	SEZ	In the SEZs there is no local surtax. Passive China-source incomes (interest, royalties, licence fees...) are subject to a 20 per cent withholding tax. However, this rate can be lowered to 10 per cent or 0 per cent for contracts involving advanced technology, technical data, technical training.
e) Equity joint venture	G	The rate of taxation on net income is set at 30 per cent plus a 3 per cent local surtax. However, companies may apply for an exemption for the two first profit-making years and a 50 per cent reduction for the three following years.
	SEZ	Income tax rate is set at 15 per cent without any local surtax. Ventures commencing operations before 1985, or investing more than HK \$ 5 mill., using advanced technology, those having a long lead time, or considered as highly desirable, may apply for an exemption for the first three profit-making years or a reduction of 20-50 per cent (Shenzhen) this exemption can extend to up to five years (Xiamen). Investors whose profits are reinvested for no less than five years can apply for a tax reduction/exemption on reinvested profits.
f) Wholly foreign owned enterprises	G	They require a special authorisation to start businesses outside SEZs
	SEZ	They are allowed to settle in SEZs and ETDZs. They enjoy basically the same treatment as do Joint Ventures.
2. Accelerated Depreciation	G	Straight line method is usually used. Depreciation period is between five years for electronic equipment and thirty years for buildings.
	SEZ	Faster depreciation rates can be granted to joint ventures inside the SEZ.

¹¹⁰ See Osborne (1986:178).

¹¹¹ 'G' means: applies to the whole of China. 'SEZ' means: only concerns the Special Economic Zones.

3. Remittance tax	G	After all taxes and legal contributions to different funds are paid. The same treatment applies for capital remitted abroad after a 10 per cent withholding tax is paid. The same treatment applies for capital remitted abroad after the termination/liquidation of a company, once all liabilities and taxes have been repaid.
	SEZ	No withholding tax
4. Import tax	G	Rules are not yet very clear, but they should not be very different from those implemented in the SEZ if imports are used to produce export goods.
	SEZ	Investment goods and raw materials are exempt. Consumer goods can enjoy a reduction/exemption of import tax.
5. Export tax	SEZ	No export tax levied on goods exported or delivered within the SEZs. However, goods delivered to the domestic market are subject to export tax, and to the repayment of import taxes that were not levied on the inputs incorporated.
6. Commercial and Industrial Consolidated Tax (CICT)	G	Capital contributed in the form of imported machinery equipment and spare parts, or additional capital of the same sort can be exempt from CICT, provided imported items cannot be produced in China. Enterprises experiencing difficulties in paying CICT for sales on the domestic market can apply for reduction/exemption. Enterprises may apply for exemption on CICT for export goods, except for a few commodities
	SEZ	i) Construction or production imports; ii) A reasonable amount of office supplies; iii) Means of transportation imported by foreign representatives for their own use; iv) Food and beverages imported for tourists and restaurants can be exempt from CICT upon approval. - A 50 per cent reduction of CICT available on imported high tax commodities; - If goods are manufactured mainly for export purposes, no CICT is levied at the factory level, except for a few types of commodities; - In Shenzhen, municipal authorities consider lowering the rate of CICT, when applicable.
7. Local taxes	G	Local taxes include net income surtax, real estate tax, vehicle licence tax, vessels and licence tax. They are assessed at the discretion of local authorities.
	SEZ	No local surtax is levied on net income.

8. Personal taxes	G	Foreign personnel staying less than five years for their word, and with no intention of becoming permanent residents, irrespective of whether or not they remit their overseas income to China, are not required to report or pay tax on their overseas profit. They may remit freely 50 per cent of their Chinese income after tax overseas after paying a 10 per cent withholding tax and apply to the Bank of China if they wish to remit a higher proportion of their Chinese after tax income.
	SEZ	Income earned inside China will enjoy a 50 per cent tax cut. After tax income can be freely remitted without any withholding tax. Furthermore, foreign employees enjoy reduction/exemption of import tax on daily life necessities.
9. Special conditions for ethnic Chinese Investors	SEZ	In Xiamen, Taiwan investors who wish to do business in the SEZ will enjoy special preferential treatment in enterprise income tax. Furthermore, there will be no income tax levied on foreign workers in any overseas Chinese investment.

2. Costs

1. Industrial Land Rents	SEZ	Industrial land rent in Shenzhen is in the range HK \$ 19-32 per sq. m./year, in Shantou HK \$ 16-64 per sq. m./year. In the three Guangdong Zones, this rent can be revalued every three years by a rate not exceeding 30 per cent. In Xiamen rent is in the range HK \$ 3-63 per sq. m./year and can be revalued every five years by less than 20 per cent
2. Industrial standardised buildings	SEZ	The SEZs's Development Companies provide standardised office space for investors. In Shenzhen, the monthly rate range is HK \$ 1,200 sq. m.
3. Purchase of workshops	SEZ	A company which so wishes can purchase workshops. In Shenzhen the rate is HK \$ 1,100-1,900 per sq. m.; in Shantou it is HK \$ 1,200 sq. m.
4. Costs of water and energy	SEZ	These costs are said to be lower than in Hong Kong; water: 0.18 Rmb / cubic meter, electricity: 0.085 Rmb/ kwh for industrial use; 0.2 Rmb / kwh for domestic use.
5. Participation to infrastructure costs	SEZ	If the company is located in places where there is no infrastructure, it will be required to pay a specified amount for construction fees.

6. Labour costs	SEZ	Labour costs have three components (1984): 70 per cent is given directly to the worker; 25 per cent is used for social labour insurance, and to compensate for various state subsidies for workers, 5 per cent is reserved by the enterprise to subsidise its welfare fund. It is reported that some companies have given workers a 10 per cent bonus in foreign exchange certificates. It has further been reported that in Shekou, CMSN and foreign investors have an agreement that ensures profit to the investor; the latter are allowed to hold back part of wages to offset losses either in production or in trade. Labour costs vary from about HK \$ 500 in Shantou, Zhuhai and Xiamen to around 700 in Shenzhen and 800 in Shekou. Wages are to be increased each year between 5 per cent and 15 per cent. An amount equivalent to 2 per cent of total wage bill must be given to labour unions. Enterprises may choose the system of remuneration (piecework, hourly basis, daily basis, proposition of fixed and floating wage ...). They may also choose the work schedule (number of shifts). The normal standard is eight hours a day, six days a week.
7. Labour supply	SEZ	Enterprises may hire employees proposed by a local labour service company. They may also conduct their own selection tests. Labour contracts include a provision for a three to six month trial basis. Enterprises may dismiss workers. Workers are recruited locally in Zhuhai, Shantou and Xiamen. Shenzhen also recruits them nationally via joint ventures with state enterprises in the PRC. The People's Liberation Army has been used to provide workers in infrastructural projects. These workers are granted 'temporary' residence status in the SEZ.
8. Currency and settlement	SEZ	Usually, foreign currencies are used to pay costs described above. But if Renminbi are earned through access to the domestic market, companies may apply to use them to settle these costs.
9. Rate of change	SEZ	Net hard currency earnings from exports are entitled to be changed into Renminbi at international settlement rate (2.8 Rmb/\$) rather than official rate (2.5 Rmb/\$ in September 1984) by the Bank of China.
10. Special conditions for ethnic Chinese Investors	SEZ	In Xiamen, Taiwan investors will enjoy special conditions for land rents

3. Relation to domestic economy

1. Access to domestic inputs	G	Materials needed by a joint venture should be priced according to the current prices in China and paid in Renminbi except for precious metals, petroleum, coal, and timber that are valued at their international price and paid for in Renminbi. However, if the material falls in the category of goods imported (respectively exported) by China, it will be priced according to the c.i.f international prices plus import duty plus business tax import commission fees (respectively according to the international f.o.b. price).
	SEZ	Companies within SEZs do not usually pay tax on imported goods from abroad; therefore goods exported by China will be priced preferentially on the basis of their international f.o.b. price.
2. Access to domestic market	G	The basis principle is: the foreign exchange balance of the company should be maintained through export sales. On a case by case basis, wider access to the domestic market can be granted to goods that are otherwise imported by China. Products should be sold to the relevant Foreign Trade Corporation at a value related to their international price, and usually paid for in foreign currency.
	SEZ	Unlike projects in the 14 coastal cities or others in the rest of China that are often renovation projects, investments in the SEZ should be export-oriented. The ratio of domestic sales (average 20 per cent) depends upon demand. However, at least one joint venture was recently allowed an 80 per cent ratio.
3. Access to domestic finance	G	A joint venture may apply to Chinese banks for loans in Renminbi or in foreign currency for capital construction, or operational turnover. Interest rates on loans in Renminbi (respectively Foreign Currency) will be calculated in accordance with rates set by the People's Bank of China (respectively Bank of China). Typical rates in Renminbi loans are around 5 per cent, foreign currency loans range between market rates and market rate - 5 per cent owing to the current large surplus in foreign currency in China. The Bank of China can also accept to be the guarantor in the case where the foreign participant in a joint venture wishes to get loans from a foreign bank. However, the Chinese participant will not provide such a guarantee, and Chinese Government authorities are reluctant to provide such a guarantee.
4. Special conditions for Chinese overseas	SEZ	In Xiamen, Taiwan investors will be permitted to sell at least 30 per cent of their production on the domestic market. Furthermore, they will enjoy preferential rates on the loans in Renminbi or in foreign currency.

Source: Osborne (1986:178)

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Zusammenfassung

Die Arbeit 'Special Economic Zones and Economic Transformation - The Case of the PR China' untersucht die Entwicklung der Wirtschaftssonderzonen (WSZ) in der Volksrepublik China. Diese Zonen wurden nach 1979 von der neuen chinesischen Regierung als Teil der allgemeinen Reform- und Öffnungspolitik eingerichtet. Es wurden hierzu fünf Standorte im Süden des Landes ausgesucht. In Anlehnung an Exportproduktionszonen in anderen, insbesondere asiatischen Ländern, sollten diese Zonen vor allem ausländische Direktinvestitionen attrahieren. Daneben wurden zahlreiche indirekte Effekte durch den Zufluß von ausländischem Kapital erwartet, wie beispielsweise der Transfer von moderner Technologie und westlichem Management Know-how und die Erschließung ausländischer Märkte für chinesische Produkte. Außerdem sollten die WSZ der chinesischen Regierung die Möglichkeit eröffnen, die Einführung einer neuen Politik zunächst als Experiment einzuführen. Die Entwicklung der Zonen ist in den vergangenen zwei Jahrzehnten durch zum Teil extrem hohe Wachstumsraten der Wirtschaft gekennzeichnet. Es kann daher nicht überraschen, daß manche Autoren eine Übertragung der chinesischen Erfahrungen auf andere Transformationsländer vorschlagen.

Die vorliegende Studie untersucht, ob dieser Vorschlag einer Übertragung auf andere Länder angemessen ist. Dabei stehen die folgenden Fragen im Mittelpunkt:

Was sind WSZ, wie haben sie sich in China entwickelt und welche Rolle haben sie im chinesischen Reformprozeß gespielt?

Wie kann ein politischer Entscheidungsträger die Entwicklung von WSZ unterstützen?

Welche Lehren können aus den chinesischen Erfahrungen für andere Länder gezogen werden?

Die Arbeit zeigt als wichtigstes Ergebnis die vielfältigen Besonderheiten des chinesischen Reformweges. Daraus ergibt sich, daß eine Übertragung der chinesischen Erfahrung auf andere Transformationsländer nur sehr eingeschränkt möglich ist. Eine Reihe von speziellen Umständen hat dazu geführt, daß sich die chinesischen Wirtschaftssonderzonen sehr schnell entwickelt haben. Hierzu gehört insbesondere die Möglichkeit der chinesischen Regierung, Auslandschinesen, die über erhebliche Kapitalvermögen verfügen, als Investoren zu gewinnen. Dies kann von sonst keinem Land kopiert werden. Ohne diese Investorengruppe wäre die Entwicklung der Zonen in dieser Form nicht denkbar.

Ein anderer Aspekt des chinesischen Sonderweges ist der historische Moment, in dem die Öffnung Chinas erfolgte. Anfang der 1980er Jahre hatten erst wenige Länder ihre Investitionspolitik geändert, so daß die Konkurrenz um ausländisches Kapital

nur relativ gering war. Seit den Veränderungen Ende der 1980er und der zunehmenden Öffnung von mehr und mehr Ländern, wird es für die einzelnen Länder immer schwieriger ausländische Investoren zu gewinnen. Die Zahl attraktiver Investitionsalternativen wird immer größer, wodurch die ausländischen Unternehmen heute eine sehr viel stärkere Verhandlungsposition haben. Eines der wichtigsten Argumente von China als Investitionsstandort ist die Marktgröße, bzw. das Marktentwicklungspotential. Viele Unternehmen wollen nicht nur die niedrigen Lohnkosten für die Produktion nutzen (dies war einer der wichtigsten Gründe für Investoren aus den asiatischen Ländern), sondern vor allem bereits zu einem frühen Zeitpunkt in dem sich entwickelnden Markt vertreten sein und sich eine Marktpräsenz aufbauen.

Es wird daher argumentiert, daß Schlußfolgerungen von den chinesischen Erfahrungen auf andere Länder nur mit sehr großer Vorsicht gezogen werden können. Die Analyse zeigt, daß die direkten ökonomischen Wirkungen von WSZ äußerst beschränkt sein können. Aber die chinesischen Erfahrungen demonstrieren auch, daß WSZ eine wichtige Funktion in Transformationsprozessen übernehmen können. Sie geben der Regierung die Möglichkeit, Experimente mit neuen Politiken durchzuführen und sie können damit dazu beitragen, die Transformationskosten niedrig zu halten. Im Falle Chinas hatten die WSZ auch noch eine wichtige Funktion im Bereich der Politökonomie, da sie direkt dazu beigetragen haben, politische Unterstützung für die Reformen zu schaffen.

Die Analyse hat folgenden Aufbau. Nach dem einleitenden Kapitel 1 werden in Kapitel 2 die allgemeinen Aspekte von Transformationsprozessen diskutiert, die uns hier interessieren und es werden die möglichen Effekte von ausländischen Direktinvestitionen auf das Gastland besprochen. Daran anschließend wird die Institution der WSZ eingeführt und es wird diskutiert, welche besonderen Ausgestaltungen WSZ in China gefunden haben. Kapitel 3 betrachtet zunächst die historische Entwicklung der WSZ im Rahmen des chinesischen Reformprozesses und diskutiert dann den politischen Prozeß in China, die Entwicklungsziele der Reformer und die Rolle von ausländischem Kapital für die Reformen. Abschließend wird dann die Rolle der Auslandschinesen als ausländische Investoren in China analysiert.

Kapitel 4 konzentriert sich auf die inländischen und ausländischen Interessen, die mit der Etablierung von Wirtschaftssoonderzonen verbunden sind. Ganz besonders wichtig ist in diesem Teil der politökonomische Aspekt, da die Einrichtung der Sonderzonen in China es der Gruppe der Reformer unter Deng Xiaoping erlaubt hat, die Unterstützung der Provinzen zu erhalten und damit die Unterstützung des Zentralkomitees der Partei. Ein anderer wichtiger Aspekt dieses Kapitels ist die Frage, welche Entwicklung Chinas Wirtschaftsreformen genommen hätten, falls die Wirtschaftssoonderzonen nicht eingerichtet worden wären. Natürlich sind solche

Gedankenexperimente äußerst schwierig, aber es zeigt sich, daß ein erheblicher Teil des ausländischen Kapitals vermutlich auch ohne die Sonderzonen zugeflossen wäre.

Kapital 5 beschreibt die wirtschaftliche Entwicklung der fünf chinesischen Wirtschafts-sonderzonen anhand der verfügbaren Statistiken. Die Daten demonstrieren, daß erhebliche Unterschiede, insbesondere in der Geschwindigkeit der Umgestaltung und auch im Umfang zwischen den Zonen bestehen. Kapitel 6 untersucht dann die vorhandenen theoretischen Modelle, die die Effekte von WSZ, oder anderer Sonderzonen analysieren. Diese Modelle können jedoch bisher nur einen sehr rudimentären Ansatz der Sonderzonen analysieren und die Effekte von WSZ werden damit fast vollständig auf den Rybczinsky Effekt reduziert. Viele der wichtigen Wirkungen dagegen, beispielsweise im chinesischen Fall der Einfluß der Sonderzonen auf die Reform durch ihre Experimentierfunktion können nicht berücksichtigt werden.

Kapitel 7 diskutiert zunächst drei Versuche, die Wohlfahrtswirkungen der Shenzhen SEZ durch eine Cost-Benefit-Analyse abzuschätzen. Wir zeigen, daß die Ergebnisse dieser Untersuchungen ebenfalls äußerst unbefriedigend sind, da sie wichtige Effekte unberücksichtigt lassen und damit letztlich keine Antwort auf die Frage der Wohlfahrtswirkungen geben. Anschließend wird versucht, durch eine ökonometrische Schätzung die Auswirkungen der Öffnungspolitik in Form von Spillover-Effekten von den Küstenprovinzen auf das Hinterland zu finden. Es zeigt sich aber, daß keine Hinweise auf solche Effekte gefunden werden können.

Das abschließende Kapital 8 gibt eine Zusammenfassung der Untersuchung und enthält eine Reihe von Empfehlungen für politische Entscheidungsträger, die die Einrichtung einer WSZ planen. Die Lehren, die aus den chinesischen Erfahrungen mit WSZ gezogen werden können, beziehen sich daher vor allem auf das richtige Design von WSZ.