

**"Case Studies of Economic Growth
in
Hong Kong and Singapore,
-Implications for Ireland"**

Frank De Yu Zheng

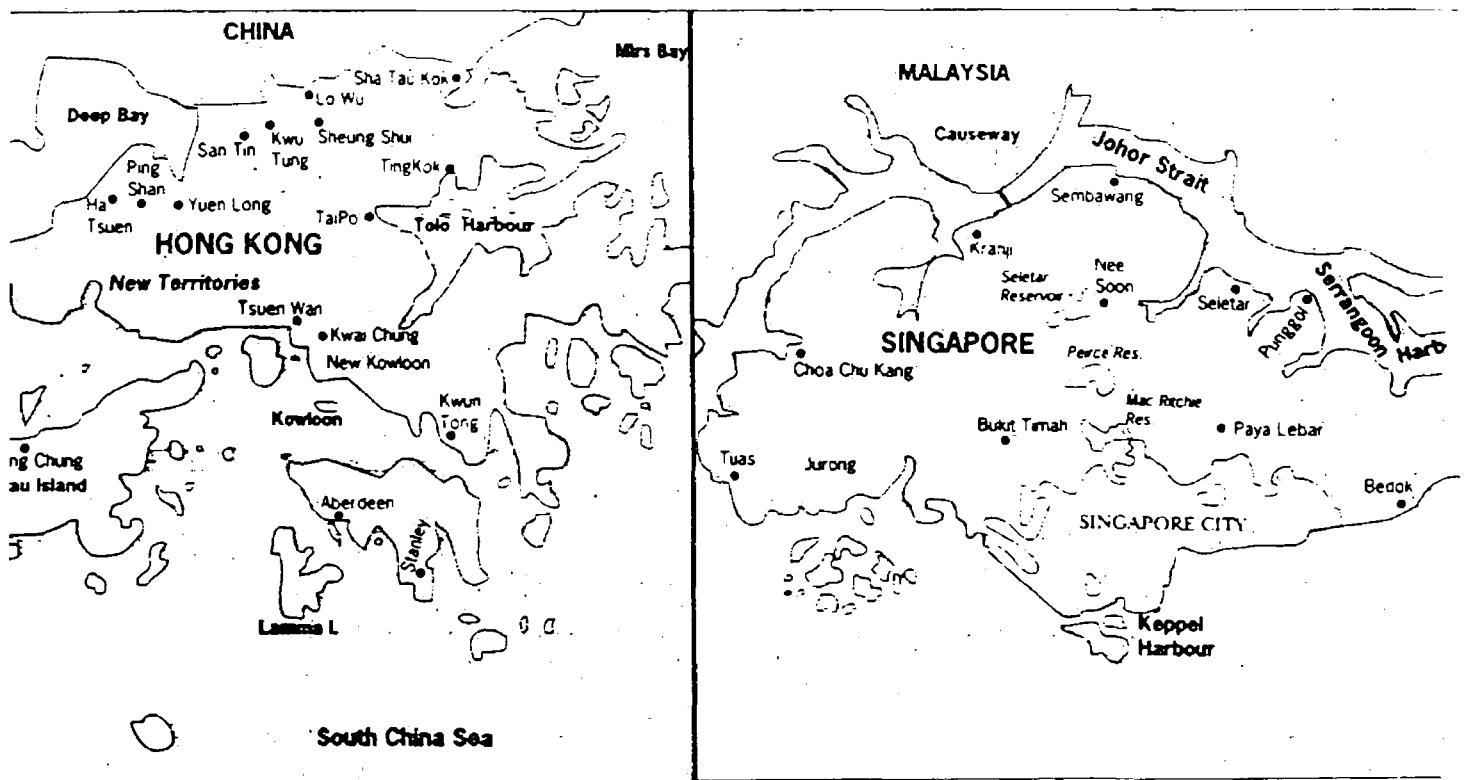
*A thesis submitted to the
National College of Ireland, Dublin, Ireland.
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Mr. Barry McIntyre*

*President of College:
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Hong Kong

Singapore



Key Facts

Official Title:

Hong Kong (China)

Official Language:

Chinese, English

Population:

6 million (1996)

Singapore

Republic of Singapore

Chinese, English, Malay

3 million (1996)

**GDP Growth, 1964-1994
(annual average %)**

7.9%

8.6%

GDP per head:

US\$ 24,560 (1996)

US\$ 24,500 (1996)

Unemployment:

2.5% (1996)

2.7% (1996)

Inflation:

6% (1996)

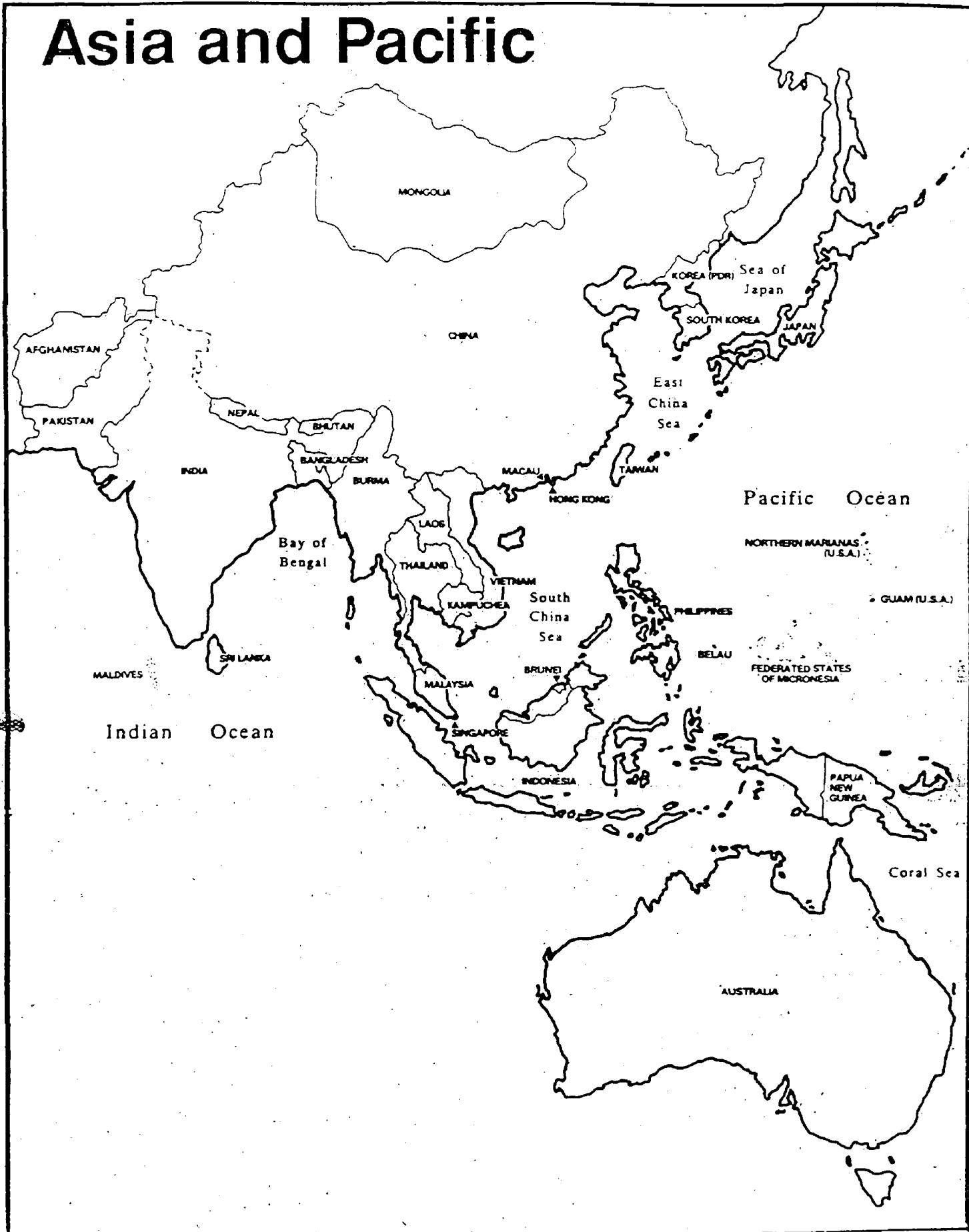
1.4% (1996)

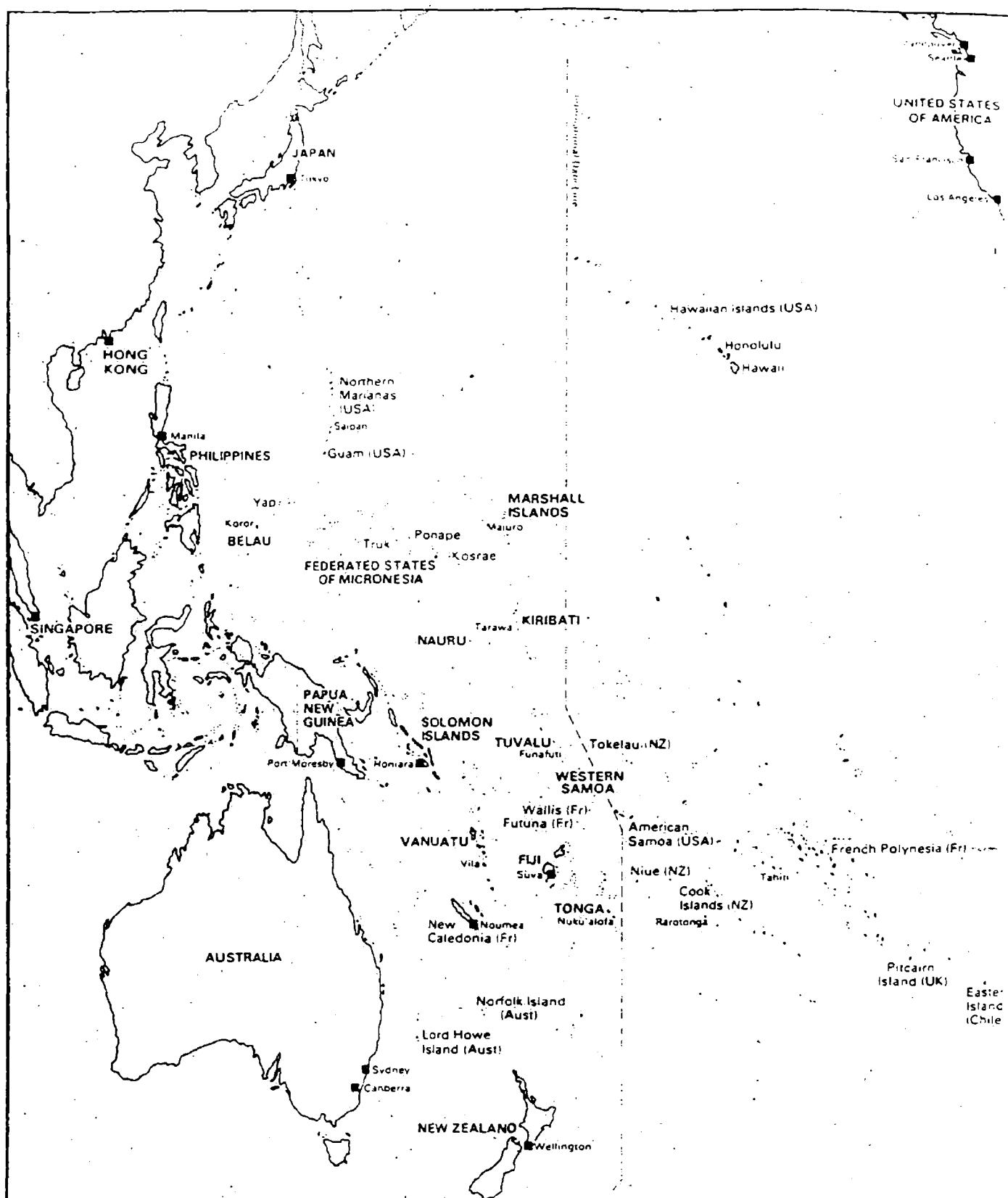
Visitors:

10 million (1996)

7 million (1996)

Asia and Pacific





The Pacific

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Finally, my warmest thanks are due to my wife for her encouragement and selfless support. Without her support, the completion of this thesis would have been very difficult.

I dedicate this work to my wife Margaret, my baby son Tony and to my parents who have always stood by me, although they are thousands of miles away.

Abstract

This thesis is a comparative study of socio-economic development in Ireland, based on case studies of economic growth in Hong Kong and Singapore since the post-war period and their implications for Ireland.

Traditionally Ireland was often compared to small European countries which are believed to be in a similar situation to Ireland, as a small and open economy (SOE) in a peripheral location, but have achieved higher economic success than Ireland. However, as this study has attempted to prove, small economies outside Europe, such as Hong Kong and Singapore which are also SOEs, have successfully achieved economic development and transformation during the last few decades. Their experiences assemble a unique model of economic growth for an SOE, which is rather different from the one represented by successful small European economies.

A feature of the economies of Hong Kong and Singapore is the dominant service sectors which are internationally competitive and internationally traded to a large extent. This feature maintains both Hong Kong and Singapore's stature as international centres for trade and services.

Results obtained from the theoretical analysis in this study which was carried out using Michael Porter's **National Competitive Advantage** framework, reveal that Ireland possesses the same range of national competitive advantages as Hong Kong and Singapore. Therefore there is the potential for services development in Ireland.

The findings of this thesis indicate: **a)** the potential for the development of international market services in Ireland, **b)** the importance of savings and investment in the future development in Ireland. This thesis also points out the weaknesses in the current Irish economy: lack of service exports, and inadequate savings and investment.

Abbreviations

CPF	Central Provident Fund
CSO	Central Statistics Office
EIU	Economist Intelligence Unit
EMU	European Monetary Union
ERM	Exchange Rate Mechanism
ESRI	Economic and Social Research Institute
EU	European Union
FDI	Foreign Direct Investment
GDCF	Gross Domestic Fixed Capital Formation
GDP	Gross Domestic Product
GNP	Gross National Product
IPA	Institute of Public Administration
NCI	National College of Ireland
NESC	National Economic and Social Council
NIC's	Newly Industrialised Countries
OECD	Organisation of Economic Co-operation and Development
PPP's	Purchasing Power Parities
SOE	Small and Open Economy
TCD	Trinity College Dublin
UCD	University College Dublin
UN	United Nations

Declaration

I declare that no portion of the work referred to in this thesis has been submitted as an exercise to the NCI or any other institute of learning for a degree or qualification.

Signed:

Frank De Yu Zheng

Date:

24/8/1998

Research Methodology

This is a comparative study of post-war socio-economic development in Ireland. The reason for doing a comparative study is to compare different economies, and to identify the advantages and disadvantages of each economy. Successful economies can provide lessons for the less or late developed ones. Hong Kong and Singapore are chosen as contrasts in this study, because they have been successful in their economic development and they fall into the same category as Ireland - a textbook model of a small and open economy (SOE) in terms of size, population and exports as a % of GDP.

To explore the issue of economic growth in an SOE, a review of growth theories is necessary in an attempt to identify the theoretical rationale behind the success of both Hong Kong and Singapore. Michael Porter's **National Competitive Advantage** is introduced as the theoretical framework, when mainstream growth theories appear inadequate to explain the particular cases of Hong Kong and Singapore. Although Porter's theory is not originally a growth theory, it helps to understand how a nation can be successful in certain industries, and that if the core industries of a nation are successful, that nation's economy will be successful. In order to establish how Hong Kong and Singapore have achieved their success, case studies of both economies are carried out. Their growth experiences are then described, analysed and evaluated.

To serve the purpose of this thesis, the final stage is to compare economic development in Ireland over the last three decades with the experiences of Hong Kong and Singapore, in the light of the case studies and theoretical discussions in previous chapters. The comparisons are carried out between the growth in economic sectors in all economies studied within a same time frame, in order to identify from where and when that Ireland has developed a different path of growth to the contrasts. Given that the employment situation in Ireland deserves special attention, the differences between Ireland and the contrasts in employment development are emphasised.

In addition to the comparative study, Michael Porter's theory is employed once more, to assess competitive advantages of Ireland in international services. This assessment provides a theoretical forecast of which industry in Ireland is expected to be successful, and why the Irish economy was not as successful as the contrasts until the late 1980's.

Due to the similarities between Ireland, Hong Kong and Singapore, implications for Ireland can be derived from both the comparative study and the theoretical assessment. Special attention is paid to the success of the Irish economy since 1987. Detailed assessment of the Irish experience is carried out in the light of contrast cases, and the sustainability of the current strong growth in the Irish economy is discussed, in addition to an overview of eventualities related to the EMU issue. Subsequently the weaknesses of the Irish economy in the past and at present are identified and analysed, and relevant recommendations for the future economic development in Ireland are outlined as the conclusions of this thesis.

Interview Methodology

Field interviews were carried out as an integral part of the comparative study (Chapters 5 and 6). A number of issues related to the focus points of this study were discussed with experts in the field of the national economy of Ireland. The purpose of these interviews is to draw experts' views on central issues which relate to the conclusions of this study. The results of the interviews were used to substantiate the conclusions or to help with the assessment and appraisal of crucial issues in this study.

Interviewees were chosen as having an economic qualification in macroeconomics in Ireland, employed in both research and non-research institutes (including main government departments), large private companies which employ professional economists, leading economic and policy research institutes and universities in Ireland. Efforts were made to match the number of interviews in each category, organisations were chosen as candidates not individuals, contacts were made with chief economists or heads of economic departments of each institute (where applicable).

If initial contact was not available for interview, interviews were carried out with persons recommended by the contact. Some of the initial contacts declined the request for an interview due to company policy or personal reasons, and two of the initial contacts had left their organisation by the time the contacts were made. In these instances, the initial contacts were replaced with institutes which are in the same category as the initial ones. The names of initial contacts were obtained from the IPA Directory 1996 and relevant company brochures.

Questionnaires were initially sent to prospective interviewees by post, meetings were arranged by subsequent telephone contact. Due to the need for detailed discussion, the majority of the interviews were carried out by face to face meetings with only two exceptions, where due to a busy schedule, one answer was delivered by post and one by telephone.

Institutions chosen were:

Research Institutions:

Leading universities in Ireland in economics. State-run and independent economic research institutions or institutions who maintain an economic research unit.

Non-Research Institutions:

The number of interviewees in non-research institutions were drawn from both the private and the public sectors. Given that most of the private financial institutions employ professional economists, interviews in the private sector were carried out mainly among financial institutions. Included were the three largest banks in terms of market share and employment in Ireland, and a combination of other institutions i.e. merchant banks, financial consultants and stockbrokers.

Interviewees in the public sector were chosen from state bodies which are directly involved in making and implementing macroeconomic policies, and directly involved in economic affairs in Ireland. They came from both public and semi-state bodies.

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Introduction

"Trade has been one of the oldest and most visible forms of international relations and is central to how states pursue wealth and power. Sleek trading clippers racing across the oceans in medieval and Renaissance times laden with silk, precious metals and other scarce commodities helped to link nations together and economies to grow."

**Michael W. Donnelly,
University of Toronto
(Stubbs & Underhill, 1994 p.487)**

International trade plays an important role in economic and social life. A sound international trade activity helps a country to generate resources, distribute products and to balance supplies and demands. In modern times, international trade is no longer confined to merchandise trade, trade in services is also internationalised in areas such as finance, entertainment and recreation, consultancy, law, accountancy, transport and communications. As globalization in the world economy continues, diversified international trade activities are expanding rapidly. A few countries in the world have taken advantage of globalisation, transforming their national economies into international regional centres for merchandise and services trade; Hong Kong and Singapore among others, were the most successful cases.

Hong Kong and Singapore closely resemble the textbook model of a **small and open economy**, along with Ireland. The success of Hong Kong and Singapore in terms of economic growth and transformation has received great attention in studies of economic development. Few countries have achieved comparable rates of growth of national income, or undergone such a profound economic structural transformation in this century. The performance of both economies in Hong Kong and Singapore during the last few decades set up a unique model of economic growth for SOEs, which is characterised by a high rate of growth and sectoral transformation. Where conditions are appropriate, a similar model could be a paradigm to be followed by other SOEs.

Given that Ireland is another example of an SOE as well as a late developed one, the experiences of Hong Kong and Singapore could be valuable to economic development in Ireland. Therefore the purpose of this thesis is to identify the implications for Ireland, through the case studies of post-war socio-economic development in Hong Kong and Singapore.

The specific objectives of this study are:

1. To describe and analyse the economic development in Hong Kong and Singapore since their industrialisation.
2. To examine the major factors contributing to the economic success in both cases and to evaluate the relative importance to each other.
3. From such an examination, there emerges what may be called the model of socio-economic development of Hong Kong and Singapore. Michael Porter's **National Competitive Advantage** theory is employed as the theoretical rationale.
4. A brief comparative study is carried out between the economic development in Ireland and the contrast cases.
5. Finally, to determine which aspects of the experiences of Hong Kong and Singapore may provide possible implications for Ireland.

It is hoped that this thesis will contribute to the understanding of economic development in Hong Kong and Singapore as models of successful SOEs. Some helpful lessons may be derived and make a positive contribution to study of the Irish economy.

CHAPTER 1: THE THEORETICAL FRAMEWORK

1.1 INTRODUCTION:

The rapid growth of the Newly Industrialised Countries (NIC's) in East Asia - among them Hong Kong and Singapore - has had a profound influence on development economies. Abundant literature on these economies has been published in addition to seminars and conferences held by international organisations and research institutes. Owing to efforts of researchers world-wide, a great deal of theoretical explanations of NIC's experiences have been discovered. Although consensus has been achieved on numerous explanations, researchers are split on several other issues which are important characteristics of NIC's. These include the role of government, the role of foreign investment, economic structure, etc. A common conceptual framework has yet to be identified in order to formulate the theoretical rationale behind the NIC's success. Therefore, an attempt is made in this chapter, to analyse various growth theories and empirical studies, and subsequently to find a suitable theory as the framework of this study.

This chapter starts with a review of the development of mainstream growth theories; this will be followed by a brief account of recent studies of NIC's development based on mainstream theories. The deficiencies of conventional theories will be discussed before Michael Porter's **National Competitive Advantage** to be introduced as a guideline for this thesis.

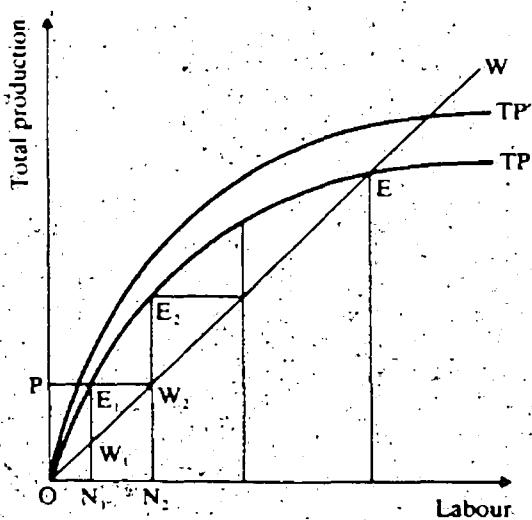
1.2 THE EVOLUTION OF GROWTH THEORY:

1.2.1 THE CLASSICAL SCENARIO

Classical economists such as Adam Smith (1776), David Ricardo (1817), Thomas Malthus (1798), and Karl Marx (1840) provided many of the basic elements that appear in modern theories of economic growth. In terms of growth theory, classical theorists laid down the foundation for future studies by providing basic concepts which are still very much parts of modern theories, i.e. factor inputs: labour, capital and land (or a more advanced version: natural resources).

The classical scenario of the process of economic growth is described by the interplay relationships among labour, wages and output. This is illustrated in Figure 1.

Figure 1: The Classical Growth Model



The vertical axis measures total production and the horizontal axis measures employment. OW indicates the subsistence wage line; and ON represents the population being employed. E_1 , W_1 and E_2 , W_2 measure the increasing profit margin. Obviously, the initial increase in labour input resulted in an increase in both output and profit until E_1 , from where the profit margin diminishes while the increase in labour continues. The growth ends, as classical theorists envisaged, when the law of diminishing returns sets in. Wages squeeze out profit at E_2 , where labour cost equals output, thus leaving no surplus for accumulation and expansion. Even when technical progress is introduced (a shift of TP to TP'), then note that the stagnation is postponed, but not eliminated. The threat to growth, according to Malthus, is the negative effect of population increase. Whereas Ricardo emphasised the limits imposed on growth by the ultimate scarcity of land.

The limitations of classic theories that are generally recognised include:

- The role of technical progress in economic growth was overlooked.
- A key element of classical theory - the iron law of wages, is considered inadequate in explaining wage determination. Firstly, it is based on supply only. Secondly, it fails to take

into account the role of institutions, e.g. legislative bodies, trade unions and governments in wage determination.

- c) The population growth theory of Malthus has been proved to be invalid by the experience of economic growth in many countries today. Cases can be easily found where the growth of population does not restrain the growth in the economy (e.g. Ireland).
- d) Generally, the classical theory appears too simple to explain such a complex process as economic growth. Factors other than labour, capital and natural resources that also play significant roles in economic growth were overlooked.

1.2.2. NEO-CLASSIC MODELS

THE HARROD-DOMAR MODEL:

The best-known production function used in the analysis of economic development was developed independently by Roy Harrod and Evsey Domar during the 1930's. The Harrod-Domar model has been used extensively in developing countries as a simple way of looking at the relationship between growth and requirements. The basic assumption of the model is that the output of any economic unit depends on the amount of capital invested in that unit. Therefore, the Harrod-Domar model is often referred to as a **capital centred model**.

Harrod and Domar emphasised that the prime mover of the economy is investment and it has a dual role to play, it creates demand but it also creates capacity. The variables chosen by Harrod and Domar are the broad aggregates, e.g. investment, capital and output. It is assumed that capital and labour are fixed inputs, and that output is related to the capital stock by the capital/output (C/O) ratio. The concept of the C/O ratio has greatly dominated theories of growth and planning for developing countries, and it is regarded as the most important contribution to growth theory by Harrod and Domar.

The background of the emergence of the Harrod-Domar model was explained by Herrick and Kindleberger.

"The jump from Ricardo-Malthus-Marx to Roy Harrod (1900-1978) and Evsey Domar (b. 1914) is a long one. For more than a century, economists were largely concerned with problems other than growth, chiefly efficient allocation at the margin. Growth was intellectually neglected in part because it proceeded so effectively in Western Europe and North America despite the spectre of Ricardian diminishing returns Growth was rapid and fairly regular and was therefore displaced from attention by other, more pressing policy problems. Not until the Depression of the 1930's and the period following World War II did the question of economic growth arise again."

(Herrick and Kindleberger, 1983, p.28)

The centre of the Harrod-Domar model is an aggregate production function:

$$G = s/k$$

Where G is the growth rate of total output, s is saving, and k as mentioned earlier, is a concept created by neo-classicists to be used as a measurement of investment efficiency, i.e. incremental capital/output ratio. Thus, according to this formula, growth can be increased either by expending the proportion of national income saved, or by increasing investment efficiency, meaning more output per unit of capital input.

The central point of the Harrod-Domar model is that capital created by investment is the main determinant of growth alongside savings. The incremental capital/output ratio highlights the productivity of capital investment, hence the C/O ratio plays an important role in determining the rate of growth. The principle of the Harrod-Domar model therefore is saving \Leftrightarrow investment \Leftrightarrow incremental C/O \Leftrightarrow growth, a much improved line of thought over previous theories; and to a large extent, it is still very much part of the theoretical framework of contemporary growth theories. Its main contribution was the argument that one period's capital formation is the next period's source of output: i.e. that investment creates the capacity for increased production in the future, which in turn affects the size of equilibrium output and income. This conclusion represented a considerable step forward when compared with the unquantified classical theory that preceded it.

Another main feature of the Harrod-Domar model is its recognition of the instability in a market economy, pointed out by Robert Solow:

"The characteristic and powerful conclusion of the Harrod-Domar line of thought is that even for the long run the economic system is at best balanced on a knife-edge of equilibrium growth. Where the magnitudes of the key parameters - the savings ratio, the capital-output ratio, the rate of increase of the labour force - to slip ever so slightly from dead center, the consequence would be either growing unemployment or prolonged inflation."

(Becker & Burmeiser, 1991, p.65)

The background of the Harrod and Domar theory, which can be found in the quotation of Herrick and Kindleberger in the previous page, was that the Great Depression triggered the revival of growth theory and hence the emergence of the Harrod-Domar model. Their thinking was predominantly influenced by the reality of that time.

Harrod and Domar used production functions with little substitutability among the inputs, so that the capitalist system appears inherently unstable. Since they wrote during or immediately after the Great Depression, these arguments received great attention among economists. Although these contributions prompted a good deal of research at the time, very little of this analysis plays a role in today's thinking. Economists in that period were simply paying too much attention to the instability of a market economy.

Apart from the problem of instability, the application of the Harrod-Domar model is beset with other difficulties which were recognised by consensus:

- a) Similar to the classical theorists, Harrod and Domar undermined the effect of technical progress in determining the rate of growth.
- b) No provision was made for the effects of human capital input. Labour supply was fixed at a constant capital/labour ratio, as was the wage level. It is a capital-centred growth model.
- c) This model is over-simplified and over aggregate. Many important variables were excluded or fixed which does not highlight structural and regional problems.

SOLOW MODEL:

The next and more important contributions were those of Solow (1957). The key aspect of the Solow model is the neo-classical form of the production function:

$$Y = AF(K, bL)$$

Where **Y**, **K** and **L** are aggregate output, capital and labour input respectively; **b**, is labour productivity. **A**, was the most important contribution to growth theory by Solow as a disembodied technology factor.

The centre of the Solow model is an attempt at conceptualising the **residual** factor in a quantifiable form. The **residual** factor, i.e. the part of output growth which is not explained by the growth rates of inputs like labour and capital, was originally discovered by Abramovitz (1956) and Solow (1957). Their studies showed that between 80 and 90 per cent of the growth of output per head in the US economy over the first half of this century could not be accounted for by increased capital or labour inputs (Thirlwall, 1994, p.73). This finding challenged the traditional view that investment and capital accumulation played leading roles in the growth process.

Prior to Solow, the growth model taking the form of

$$Y = Y(K, L)$$

The growth of outputs over time due to the growth of the inputs. Thus

$$Y' = \frac{dY}{dt} \quad K' = \frac{dK}{dt} \quad L' = \frac{dL}{dt}$$

Then, differentiating the production function with respect to time

$$Y' = Y_K K + Y_L L$$

Hence

$$\frac{Y'}{Y} = Y_k \frac{K}{Y} \frac{K'}{K} + Y_l \frac{L}{Y} \frac{L'}{L}$$

Here the rate of growth of output is a weighted average of the rates of growth of the inputs.

However, the above equation failed several empirical tests in the 1950's that were based on the US data, including Solow's own test. Technical progress therefore was introduced to explain the residual. The simplest concept of technical progress is to suppose that it increases the output from given input without in anyway affecting the way the inputs interact. The Solow model for period t becomes

$$Y_t = A_t F(K_t, L_t)$$

so

$$\begin{aligned} \frac{Y'}{Y} &= F(K_t, L_t) \frac{A'}{A} + AF_k \frac{K}{Y} \frac{K'}{K} + AF_l \frac{L}{Y} \frac{L'}{L} \\ &= \frac{A'}{A} + Y_k \frac{K}{Y} \frac{K'}{K} + Y_l \frac{L}{Y} \frac{L'}{L} \end{aligned}$$

The residual is now simply the rate of growth of A , it is also called the growth in Total Factor Productivity (TFP). The Solow model implies that growth rate is decided by a combination of capital, labour productivity and technological progress. The production function can be written as the combination of the following factors: I) the rate of growth of capital stock, weighted by capital's share in net output, II) the rate of growth of the labour force, weighted by labour's share in net output and III) the rate of growth of technology (total factor productivity). In other words, GNP rises as the result of long term effects of capital formation, labour force expansion, and technological change.

Technological improvement was for the first time to be introduced as a basic factor of growth by Solow. The importance of technology in economic development and growth was overlooked by economists from classical theorists to Harrod and Domar. It is the basic feature which distinguishes neo-classic models from their preceding ones. Among other changes, savings disappeared from the Solow model,

"the decision to save, in such models, is simply and automatically taken as a decision to invest. The intellectual origin of these models is affluent countries, where capital markets are well articulated, is clear."

(Herrick and Kindleberger, 1983. p.38)

An advance made by Solow from Harrod and Domar is that the growth path of output was proved not inherently unstable. In the Harrod-Domar model, labour supply was fixed to a capital/labour ratio as well as to a wage level. In the Solow model, if the labour force grew faster than the stock of capital, the price of labour (wage) would fall relative to the price of capital (interest rate); while if capital outgrew labour, the wage would rise. A prediction of the Solow model is that, in the absence of continuing improvements in technology, per capita growth must eventually cease. This prediction, which resembles those of Malthus and Ricardo, also comes from the assumption of diminishing returns to capital. The technology factor, in Solow's point of view, is exogenous.

A hypothesis of Solow which has been exploited extensively in recent years is conditional convergence. It predicts that the lower the starting level of per capita income, the faster the growth rate. This is derived from the assumption that capital flows from a rich country to a poor country, since country with a low capital/labour ratio should have a high marginal return/capital due to diminishing returns to capital. Also the diffusion of technology world-wide made advanced technologies available easily to poor countries. This means that countries with a low per capita income are expected to grow faster to catch up with high income countries. Thus, the correlation between per capita income and average growth rate should be negative.

However, recent empirical tests have indicated that in terms of growth rate, only upper-middle income countries are experiencing convergence, e.g. East Asian NIC's and fast growing economies in Europe such as Ireland, with a majority of low-income countries showing no sign of convergence (**Appendix 1**). The diffusion of technology was also proved to be more complex than Solow's prediction. There are financial, political and other obstacles that are preventing technology being transferred from rich countries to poor ones.

Nonetheless, the Solow model was a landmark in the development of growth theory, the introduction of technological progress and flexible factors made the Solow model the best ever growth model at that time.

The Solow model has provided the basis for estimating the sources of growth in more than forty countries. While these studies concentrated initially on the industrial countries, they have now been extended to cover developing countries as well. These results provide a set of assumptions as to the differences in growth processes between industrial and developing countries, including a number in East Asia.

1.2.3 ENDOGENOUS GROWTH THEORY

Although neo-classical models had made significant progress from the classical theories, one of the major problems in the application of neo-classical growth theory was that it still could not provide a satisfactory explanation of the **residual** element in output growth. Since this **residual** factor was assumed to be **exogenous** by Solow, and its role in the long term development in the US was found to be significant, the economic growth achieved in the US in this century seemed unexplainable.

In the late 1980's, economists attempted to analyse the nature and the role of such a **residual** element in growth theories by endogenizing it, this led to the establishment of **endogenous growth theory**. The endogenous theory tried to explain the **residual** phenomenon by introducing the role of human capital (as a complementary input to physical capital) into the production function. This new theory also noted that technological progress is endogenous, and that education and knowledge produce positive externalities or increasing returns.

The origin of the endogenous growth theory can be traced back to the early 1960's. Arrow (1962) sought to explain changes in technology by analysing the role of investment in research, training and education by firms; and the impact of government policies which changed economic incentives (such as tax concessions and subsidies) to promote physical and human capital accumulation. The new theory examined how changes in government policies can have a permanent effect on the growth rate of output, not just on the level of output as shown by Solow. Followed by works of Lucas (1988) and Barro (1990), endogenous theory has been extensively developed - it highlights the role human capital plays in the process of growth. Stimulated by the emergence of the endogenous models, number of empirical tests were carried out on a cross-country basis, the contribution of human capital to growth was confirmed.

LUCAS MODEL:

The work of Lucas is built on the contributions of Arrow (1962), Uzawa (1965) and Sheshinski (1967).

It "is a system with a given rate of population growth but which is acted on by no other outside or exogenous forces. There are two kinds of capital or state variables, in the system: physical capital that is accumulated and utilized in production under a familiar neo-classical technology, and human capital that enhances the productivity of both labour and physical capital, and that is accumulated according to a 'law' having the crucial property that a constant level of effort produces a constant growth rate of the stock, independent of the level already attained."

(Lucas, 1988, in Becker and Bermeister, 1991, p.117)

Lucas makes technical change endogenous through a mechanism of human capital accumulation. Suppose a worker with b of human capital devotes ϕ of his time in production and $1-\phi$ (where $0 \leq \phi \leq 1$) in learning, he can increase his human capital in the next period by

$$b^i = b\delta(1-\phi)$$

Under the further assumption that the production function is of the Cobb-Douglas form

$$F(K, L) = A(b)K^\alpha(bL)^\beta, \quad \alpha + \beta = 1, \quad \alpha, \beta > 0,$$

where the spillover effect is given by $A(b) = Ab^\mu$, $0 < \mu$, it can be shown that, along the balanced growth path, the capital/labour ratio and hence per capita income and consumption will be growing at the rate

$$Y = \left(\frac{1-\beta+\mu}{1-\beta}\right)(1-\phi)\delta,$$

Since Y is a function of ϕ , which is endogenously determined, the growth rate of per capita income is endogenously determined. Technology, therefore, is an endogenous factor; human capital has also become a basic factor in determining the rate of growth.

The Lucas model however, just incorporated human capital into neo-classical principles; basically it still resembles the neo-classical thought. In Lucas's own words:

"The model I have described fits the evidence of the last century for the US economy as well as the now standard neo-classical model of Solow and Denison, which is to say remarkably well. This is of course no accident, for the mechanics I have been developing have been modelled as closely as possible on theirs."

(Lucas, 1988 in Becker and Bermeister, 1991, p.118)

BARRO MODEL:

The Barro Model departed from the Solow-Swan production function

$$Y_t = F(K_t, L_t)$$

Barro introduced a number of new variables into a completely modified equation, a country's per capita growth rate Dy in period t , as:

$$Dy_t = F(Y_{t-1}, h_{t-1}, \dots, \dots)$$

He explains:

"Where y_{t-1} is initial per capital GDP and h_{t-1} is initial human capital per person (based on measures of educational attainment and health). The omitted variables, denoted by ... comprise an array of control and environmental influences. These variables would include preferences for saving and fertility, Government policies with respect to spending and market distortions, and so on."

(Barro and Sala-i-Martin, 1995, p.421)

By incorporating more variables into the production function, the Barro model tends to provide an improved prediction on economic growth. Similar to Lucas, Barro suggests that a sustained growth can be achieved by increasing human capital accumulation. A number of empirical tests have been carried out recently in the light of endogenous theory. Results drawn from most of the tests are in favour of Barro's hypothesis. Some of the tests are mentioned in this study, e.g. a study by the World Bank in 1991 (World Development Report 1991, p.42-p.45), empirical work by Morgan Kelly (Kelly, WP96/9), and Barro's own test (Barro and Martin, 1995). The significant contribution of embodied technological progress was discovered, it accounts for 45%-70% of growth among developed countries.

The generally acknowledged main findings of endogenous growth theories are summarised below:

- a) Long term positive growth is sustainable owing to the effect of human capital, which helps to avoid the tendency of diminishing returns to the accumulation of capital. Solow's prediction of unsustainable growth in the long run is indicated to be invalid (**Barro and Sala-i-Martin, 1995, p.12**).
- b) Convergence only occurs in countries where human capital accumulation is adequate. The barrier to convergence in developing countries seems to be inadequate investment in human resources. Levels of education and labour skills also correlate to growth rates (**Ghatak 1995, p.72**).
- c) Government action can influence the long-term rate of growth to a large extent in areas that are described by Barro and Martin such as:
"Taxation, maintenance of law and order, provision of infrastructure services, protection of intellectual property rights, and regulations of international trade, financial markets, and other aspects of the economy."
(**Barro and Sala-i-Martin, 1995, p.13**)

Findings of endogenous theory have been substantiated by case studies of Asian NIC's, Hong Kong and Singapore in particular. The differences between endogenous growth theory and neo-classical models are distinctive. The clearest distinction between the growth theory of the 1960's and the endogenous models is that the recent research pays close attention to empirical implications and to the relation between theory and data. Some of this applied perspective of the empirical implications of the older theory, notably the neo-classical growth model's prediction of conditional convergence. Other analyses apply more directly to the recent theories of endogenous growth, including the roles of increasing returns, R&D activity, human capital, and the diffusion of technology.

Both Lucas and Barro paid attention to the economic growth in the Far East Region in their literature. Lucas touched on the issue of external trade in relation to growth rate, the **growth miracles** of East Asian NIC's were mentioned, but in-depth discussion did not take place. He

suggested however, “the effects of learning-by-doing is likely” to explain those miracles (**Lucas, 1988** in **Becker and Bermeister, 1991, p.41**).

In Barro and Martin’s latest publication “**Economic Growth**” (1995), Hong Kong and Singapore were included in their empirical evaluation of economic growth in 122 countries from 1965 - 1990, using their own equation of growth of per capita income. They found that from 1965 - 1985, Singapore ranked 1st, Hong Kong was 6th; and from 1985 - 1990, Singapore ranked 5th, Hong Kong was 4th. All East Asian NIC’s, plus Japan, were ranked among the top ten from 1965 - 1990. Almost all fast growth economies were upper-middle income countries. Thus, Barro’s convergence hypothesis based on human capital accumulation was evidenced, as well as his long run growth prediction (**Barro and Sala-i-Martin, 1995, Chapter 12**).

The evolution of endogenous growth theory is far from finalised, the centre piece of its contribution: human capital accumulation, is still a rather ambiguous concept which is in need of refinement and subject to further research. Srinivasan argues that:

“Without an analytical framework that formalizes the process of human capital accumulation (e.g. learning by doing) and how it relates to aggregate growth in different economies, it is impossible to infer anything meaningful from the significant statistical significance (or lack thereof) of the estimated parameter associated with the human capital variable.”

(Ito and Krueger, 1995, p.57)

1.2.4 LEARNING BY DOING AND QUALITY LADDER MODELS

Most of the mainstream growth theories discussed earlier were aggregative models, are emphasise on increases in aggregate output caused by the accumulation of factor inputs, i.e. physical and human capital. There is a different type of model that adopts a disaggregative approach to interpret economic growth. These models tend to treat economic development as a result of improvements and innovations in individual goods. They look at economic growth as a process of new generation products replacing old ones. The progress in quality and technology are emphasised. The renewed interest in disaggregative models in recent years concentrated on two lines of thought:

I. Learning By Doing Model

A mechanism termed as learning by doing, that describes the growth in output as an incremental process. Each person's discoveries in new products immediately spill over to the entire economy, due to the effect of diffusion in technology, so that firms with innovation ability only have a slight edge over firms that are imitating. This model implies that the process of growth is graduated, threshold effect was not taken into account.

II. Quality Ladder Model

Differs from the learning by doing model; this model emphasises the importance of significant technology innovations that give innovating firms a clear advantage over the others. In this model, technical advance that results from purposive R&D activity is rewarded by some form of monopoly position. Provided that there is no tendency for the economy to run out of ideas, then the growth rate can remain positive in the long run. It focuses on the **alpha** stage of innovation rather than the **beta** stage, which the **learning by doing model** is based on (**Kelly, WP96/8**).

The core of both models is a linear linkage formation - the process of innovation, which is characterised by the progress from single goods to increasingly complex ones. However, as Morgan Kelly's research has proved, this linkage formation is inadequate in interpreting growth due to its restricted linear and deterministic feature. The results of Kelly's econometric analysis shows that only when spillovers and threshold effects were taken into account, the disaggregative models can explain how some economies have experienced sustained innovation and intensive growth.

Kelly discovered that when linear formation was replaced by a web of linkages which allows spillovers to occur between production lines, intensified innovation activities would take place. Once the density of linkages reaches a critical point, an economy will start to grow rapidly. Below this critical point, an economy will experience stagnation and innovation activities will eventually cease. In other words, active spillover linkages would lead to threshold behaviour.

This development in growth theory is very helpful in explain Asian NIC's success. As Kelly points out that is why economies in the Far East have very different growth experiences, the level and the magnitude of technical progress plays a vital role (**Kelly, WP96/8**).

STUDIES OF EAST ASIAN NIC'S:

The unprecedented rapid economic growth in East Asian NIC's over the last few decades, has focused the attention of all analysts of growth and development on the lessons that may be learned for other countries. Voluminous literature has been published since the early 1970's in attempts to explain (or to discredit, as some did) the successes of these economies. Traditional theories have been applied for the purpose of theoretical analysis. On some issues, there is by now emerging a fairly widespread consensus among economists; on others, opinions remain divided. It is the intention of this section to draw up a brief review of the issues concerned with the development of East Asian NIC's, both with or without consensus. Challenges to conventional theories posed by NICs' experience are discussed.

1.3.1 CONSENSUS AND ARGUMENTS

Consensus has been reached among researchers on a number of issues in relation to East Asian NIC's developments, namely:

a) Outward-Orientation:

The East Asian economies have performed exceedingly well for long periods of time. Although they differ in many important respects, they all share a crucial feature - an outward orientation. All NIC's, with Hong Kong being the only exception, experienced a complete policy reform during the early stages of their industrialisation which was characterised by the shift of trade regime from import-substitution to export orientation. The changing of policies was a significant factor in bringing about the sustained growth of exports, and that in turn contributed in a major way to the accelerated growth rate of GNP. This has been observed by many commentators, including the World Bank (**World Development Report, 1991, p.39**).

b) Political Stability and Coherent Macroeconomic Policies:

The political regimes in East Asian NIC's were often to be criticised. Democracy in most of NIC's only became reality very recently (except for Hong Kong). South Korea ended its

military regime only a few years ago, while Taiwan had its first democratic election in 1996. Singapore, as discussed earlier, has been ruled by the same party - Peoples' Action Party - since its independence 32 years ago. Although there was no democracy, political stability was maintained due to the military regime and one party rule. Consistent macroeconomic policies were implemented and reinforced throughout the NIC's industrialisation. The main policies they commonly shared are: - unified real exchange rate, export promotion, investment in education, low taxation, small government (in terms of government expenditure % GDP), prudent management in public finance (a balanced budget and a minimal borrowing), free labour market, wage policy and low inflation.

c) **High Savings and Investment:**

Both Savings/GDP and Investment/GDP ratios are high in all East Asian NIC's, Singapore is the most exceptional of them. Singapore's growth was achieved through intensive capital investment at the cost of a much greater saving effort, including government intervention through CPF as mentioned earlier. In comparison, Hong Kong has modest savings and investment levels due to lack of government involvement. Nonetheless, its savings and investment have been adequate to maintain a rapid growth.

In cross-country comparisons, East Asian region - including NIC's, Japan and China demonstrate very high ratios of national savings and domestic investment over a long period. The correlation between their savings and investment, and their sustainable rapid growth is widely acknowledged.

d) **Accumulation of Human Capital:**

Education has been the priority of national strategies in all NIC's. Governments of these countries invest heavily in education at all levels. Improvement achieved in the quality and standard of education in East Asian NIC's is outstanding. A recent international survey reveals that primary education in the Far East region is among the best in the world.

(Appendix 2). **The Economist** comments:

"It is widely believed that one of the main reasons why tiger economies like Singapore and S. Korea have grown so quickly is that their Governments have made determined and successful efforts to raise educational standards."

(“The Economist”, p.22, 29 March, 1997)

There are number of arguments which divide economists on issues relating to NIC's experiences.

Firstly, the role of government in NICs' economic growth was unclear. The fact that government has been deeply involved in the process of economic growth and transformation in all NIC's (except for Hong Kong), has raised an ongoing debate about the role a government should play in economic development. Some claim that the Governments in East Asia were **authoritarian governments**. The intervention of Government is believed to have reduced the efficiency of the market economy, and inappropriate government policies would have interfered with the balance of economic growth. Without the intervention of Government it is believed, the economies in East Asia could have done even better.

Adversely, another view insists on the positive role played by governments of NIC's in their success, the State was referred to as the **engine of growth**. Findlay and Wellisz describe how the Singapore Government promotes exports and industry:

"This pattern of exports is promoted by a conscious strategy of attracting direct foreign investment through fiscal concessions, peaceful labour relations, and physical and social infrastructure backed by heavy capital outlays by the Government. The Government also intervenes selectively in the pattern of production, consciously attempting to 'pick winners' and to promote high-technology projects that are supposed to represent the wave of the future."

(World Bank Comparative Study, 1993, p.301)

Similar views were expressed by others, e.g. Reidel believes that "**Governments of East Asian NIC's did play a crucial role in determining economic performance.**" Then he fully agreed with Reynold's hypothesis of:

"the single most important explanatory variable in economic development is political organisation and the administrative competence of Government."

(Hughes, 1988, p.37)

The explanations of **pick winner** and **crucial role** were accepted by the World Bank, and they seem to be representing the mainstream opinion.

Secondly, while the **outward-orientation** was universally agreed as one of the determinants of economic growth in NIC's, there is no consensus on whether exports are the impetus of growth, or rather growth prompt exports.

The nature of the relationship between the growth in manufactured exports and patterns of development remains unclear, economists are arguing about the role of manufactured exports in industrialisation. One school of thought led by Arthur Lewis believes that trade is the **engine of growth**, and exports are demand driven and cause economic growth. Thus growth in a developing country is driven or fuelled by industrial countries' demand. He concludes that "**trade depends on prosperity in the industrial countries**".

However, when the growth in developed countries has been faltering since the **oil crisis**, East Asian NIC's have managed to continue their growth in exports and GDP. This, can be explained by trade between developing countries as suggested by Lewis (Dwyer, 1993, p.81). Thirlwall goes a step further than Lewis when he claims that trade acted as an **engine of growth** in developing economies. Trade not only contributed to a more efficient allocation of resources within countries, but also transmitted growth from rich countries to the developing world (Thirlwall, 1994, p.365).

However, the contrasting opinion of Riedel's holds that supply rather than demand factors principally determined developing countries' export performance in manufacturing. East Asian NIC's successful export growth should be credited to the improvement of their manufacturing industries and to their marketing strategy of penetrating developed countries' markets. In other words, it is the growth of output rather than demand that determines trade. With regard to this argument, Dwyer rightly points out that:

"The empirical evidence on export-led growth or supply-led exports is inconclusive. There is little doubt that exports played a very important role, but certainly the economic growth in the East Asian NIC's was not export-led in the sense that the impetus for export expansion came from abroad. The East Asian NIC's continued to grow and expand their exports even when growth in industrial countries slowed down. This shows that the resilience of the East Asian NIC's lies in their ability to exploit the world markets and their capacity to increase the supply of exports."

(Dwyer, 1993, p.87)

Finally, geopolitical realities in the Far East region often became the focus of attention when the origins of their modern economic growth were being examined.

An important geopolitical characteristic of East Asian NIC's is the early influence of American military and economic aid. The American influence here refers to the period between the Korean and the Vietnam Wars, which was believed to have resulted in a **flow of American dollars** into countries in the Far East, thus economies in this region were bolstered and enabled to grow (Stubbs and Underhill, 1994, p.369).

To the extent that American aid did accumulate to a certain degree in S. Korea and Taiwan (between 1946 and 1976, S. Korea received US\$12.6 billion, Taiwan received US\$5.6 billion), its influence at the take-off stage of industrialisation in these countries should be recognised. Since US aid ceased in the late 1970's, economic growth in these two countries has continued and the American influence has been diminishing.

However, Stubbs came to this grossly over exaggerated conclusion:

"Certainly, without US military and economic aid it is clear that S. Korea would have been mired down in its political and economic problems for decades and could not have achieved the impressive economic growth rates of the last twenty-five years."

(Stubbs and Underhill, 1994, p.368)

Fortunately, few have shared Stubb's peculiar view. Although acknowledging the influence of US aid in the early years, researchers emphasise the limitation of the effects of US aid on economic development in the region in the long run (Dwyer, 1993, p.39).

In the cases of Hong Kong and Singapore, neither of them has ever received any of the US aid mentioned above; the American influence therefore, should be considered negligible.

Another historical factor which had a significant effect on Hong Kong and Singapore is their colonial past. It is undeniable that they both prospered as entrepot under British rule. Some commentators pointed this out as a favourable condition for the economic growth in Hong Kong and Singapore. Entrepot history and British influence do exist in Hong Kong

and Singapore in terms of entrepreneurship, adaptability and commercial traditions. These influences were important but not fundamental.

1.3.2 CHALLENGES TO CONVENTIONAL VIEWS:

There were phenomena discovered through studies of East Asian NIC's, which could not be explained by mainstream economic theories. Some of these phenomena have been the subject of intensive researches. Explanations of different versions were obtained, though few of them were satisfactory. A brief introduction to these issues is given below:

a) Trade-off Between Growth and Equity:

A theory led by Kuznets identified a tendency for income inequality to increase in the early stage of growth. It suggested that there is an inevitable trade off between growth and equity. Countries like Brazil was the most often used example, where rapid growth of economy was accompanied by a deterioration of income distribution inequality. In the meantime, while the argument continued, East Asian NIC's were quietly working away to discredit the hypothesis of economic growth at the cost of equality. According to Findlay and Wellisz, the **Gini co-efficient** in both Hong Kong and Singapore has actually fallen since the 1960's, the percentage of households below the fixed poverty line has also significantly reduced (**World Bank Comparative Study, 1993, p.317**). Riedel, meanwhile, used the **Borda score** instead of **Gini co-efficient** to measure the equality of income distribution:

"A Borda score" explained Riedel, "**is obtained simply by giving a country points equal to its rank with respect to each criterion. Countries are ordered according to the lowness of the sum of ranks**". The results of Riedel's study of 34 developing countries showed that "**the correlation between growth ranking and equity ranking of those NIC's is positive.**"

(**Hughes, 1988, p.20**)

b) Vicious circle and virtuous circle theories:

The level of saving, a determinant of growth, is traditionally related to the level of income. The vicious circle theory, advocated by Myrdal, maintains that the marginal propensity to save is low in a poor country, which results in a low growth rate. Low growth creates low income, therefore, the propensity to save will be low; this constitutes a vicious circle of

poverty. Another theory held by Rostow believes that after the initial take-off stage, the propensity to save would increase. The higher the propensity to save, the higher the rate of growth, an economy therefore can maintain a **self-sustaining** growth. It is a virtuous circle, in contrast to the vicious one. The assumptions of the conventional views are based on the Keynesian marginal propensity to consume concept, the level of savings is correlated to the level of income. However, East Asian NIC's were able to break away from the vicious circle of poverty at their take-off period, with exceptionally high domestic saving ratios when compared to all countries in the world, rich or poor. The level of savings in these economies is not simply determined by the level of income. Economists are puzzled by the ability to save in NIC's; Krueger admits that:

"Whether the East Asian countries simply have high marginal propensities to save, or whether positive real interest rates and other institutions surrounding savings behaviour were responsible, is not definitively established."

(Ito and Krueger, 1995, p.23)

c) **Foreign Direct Investment (FDI):**

There is no consensus on the role of foreign direct investment (FDI) in the development of the NIC's. Although it is now highly recommended as the best if not only way of importing modern technology and management practices, East Asia's experience does not support this view. Japan virtually prohibited FDI, Korea managed it very carefully, Hong Kong adopted a laissez-faire policy, and Singapore actively encouraged it. It is thus clear that FDI is not the only way to transfer technology. East Asia offers no lessons about whether it is the best way.

Singapore's case also attracted criticism of the **dualism** character of its manufacturing industry. FDI seems simply to have crowded out indigenous industry in Singapore (except for state-owned monopoly corporations) instead of diffusing technology and management skills as it was suggested. In contrast, with little help from FDI, industrial progress in other NIC's has been significant. The successes of manufacturing in S. Korea, Taiwan, even the diminishing industries in Hong Kong have all been widely recognised and praised. For countries with a strategy of promoting inward FDI such as Ireland, implications are indicated. NESC has recognised that:

"While opposition to inward investment was very limited (in Ireland), the country's heavy reliance on it was seen as a weakness in overall economic strategy and performance. This was underlined in numerous studies which highlighted the large differences between the foreign-owned and indigenous sectors. It has long been argued that inward investment, on its own, will be insufficient to sustain the Irish economy."

(NESC No. 99, p.20)

1.4 NATIONAL COMPETITIVE ADVANTAGE:

1.4.1 A NEW PARADIGM: MICHAEL PORTER AND HIS THEORY

Literature reviews and discussions in the first half of this chapter have demonstrated that economists failed to offer a satisfactory explanation for the success of East Asian NIC's - especially Hong Kong and Singapore for the purposes of this study - that are based on any of the conventional theories. Studies of economic development started from descriptive, historical approaches, shifted then to more quantitative methodology and now to cross-country analysis. New factors are discovered all the time as major players in growth. However, there is very little knowledge about the structural and other mechanisms, that link possibly important aspects of the process of development.

It is a time for a **new paradigm**, in Porter's words. The methodology of growth theory is in need of re-appraisal. East Asian NICs' experiences indicate that economic development combines economic growth with a number of characteristics. Structural change is one of the most important of these. Changes in the composition of production, in the distribution of the labour force among economic activities, and in the sectoral relations of the economy are among the indicators of structural change.

A theory that can provide a reasonable explanation of the above elements is not found among growth literature. Perhaps now it is the time to seek solutions outside the conventional circuit. The **National Competitive Advantage** theory developed by Michael Porter of Harvard has attracted attention. His theory was presented in his book "**Competitive Advantage of Nations**" (1990). The origin of Porter's study was a competitiveness study, but its context has evolved into

a development study. When Porter applies his theory to a nation, the national economy became the subject of study. In Porter's own words:

"I apply the theory to nations... ... I provide a detailed profile of the internationally successful industries in the economy and how the patterns have been changing. I use my theory to explain both successes and failures as well as the evolution of the nation's economy in the post-war period. The collective experience of the nations allows me to extend the theory to explain how entire national economies advance."

(Porter, 1990, p.xiv)

Porter's approach to economic development is fundamentally different from conventional theories. The **laundry list** approach of mainstream growth theories, as described by Kelly, often runs into difficulties when the same factors were found in both successful and unsuccessful economies. The principle of these theories - a linear relationship between growth and its determinants was not accountable (Kelly, WP96/8). By contrast, instead of treating economic development the same way as growth theorists, Porter looks into economic sectors for an answer. His study revealed that countries often succeed in a cluster of related industries, and there are evident effects of widespread spillovers. The results of Porter's case studies substantiated Kelly's conclusion that an active cross-sector linkages leads to a burst in growth - the threshold behaviour:

As all the countries studied by Porter were successful countries, Porter's discoveries of how these countries manage to be successful provide lessons for others, and structural change is implied. His attempts have opened up new dimensions for growth theory. The final part of this chapter will be devoted to the theoretical analysis of Hong Kong and Singapore under the guideline of **National Competitive Advantage** system, which is the core of Porter's theory.

A disadvantage of Porter's theory is his ignorance of services activities. He concentrated his research mostly on industry, as almost every other economist did. In his book of over 700 pages, only 33 pages were devoted to discussions of services. The importance of service sectors in developed countries was overlooked.

Porter's research on Singapore was inadequate, which led to superficial conclusions. His comments on Singapore are rather contentious, unconvincing and are often a deviation from the truth. Again, services sectors in Singapore were completely overlooked. With the highest per

capita external trade in the world, Singapore did not even make it onto Porter's list as a trading nation! (Porter, 1990, p.255). Porter believes that:

“Singapore remains a factor-driven economy. Singapore is largely a production base for foreign multinationals.” and “its upside potential will be capped.”
(Porter, 1990, p.558)

In fact, as an international financial and trading centre, the economic growth in Singapore has been led by services sectors over the past 20 years. After Porter's book was published, the growth of GDP in Singapore was still at an average 7.7% every year between 1990 and 1996.

Although it contains some disadvantages, Porter's basic system still provides a solid conceptual framework for the analysis of a country's growth and development with a different approach.

1.4.2: INTRODUCTION TO “COMPETITIVE ADVANTAGE OF NATIONS”

An introduction to Porter's **Competitive Advantage of Nations** will be given as the necessary first step. This Section will draw heavily from Michael Porter's publication: “**The Competitive Advantage of Nations**”(1990).

The concept of **National Competitive Advantage** is the outcome of Michael Porter's four year study which he conducted in ten selected countries world-wide. It serves the purpose of explaining “**Why does a nation achieve international success in a particular industry?**”

The competitiveness of a nation, as Porter concludes, is determined by four broad attributes, called **Determinants of National Advantage**. They are:

a) Factor Conditions:

The nation's position in terms of factors of production, such as skilled labour or infrastructure, which is necessary to compete in a given industry.

b) Demand Conditions:

The nature of home demand for the industry's products or services.

c) **Related and Supporting Industries:**

The presence or absence in the nation of supplier industries and related industries that are internationally competitive.

d) **Firm Strategy, Structure and Rivalry:**

The conditions in the nation governing how companies are created, organised and managed and the nature of domestic rivalry.

The determinants, individually and as a system, create the context in which a nation's firms are born and compete. Nations are most likely to succeed in industries or industry segments where the determinants of the nation as a system is the most favourable.

Besides these four determinants, there are two factors which also have important influences on "National Competitive Advantages", namely Chances and Government. Porter explains:

"Chance events are occurrences that have little to do with circumstances in a nation and are often largely outside of the power of firms [and often the national Government] to influence. Some examples which are particularly important in influencing competitive advantage are the following:

- **Acts of pure invention**
- **Major technological discontinuities [for example, biotechnology, microelectronics]**
- **Discontinuities in input costs such as the oil shocks**
- **Significant shifts in world financial markets or exchange rates**
- **Surges of world or regional demand**
- **Political decision by foreign Governments**
- **Wars".**

The role of Government is equally important in a nation's economic development:

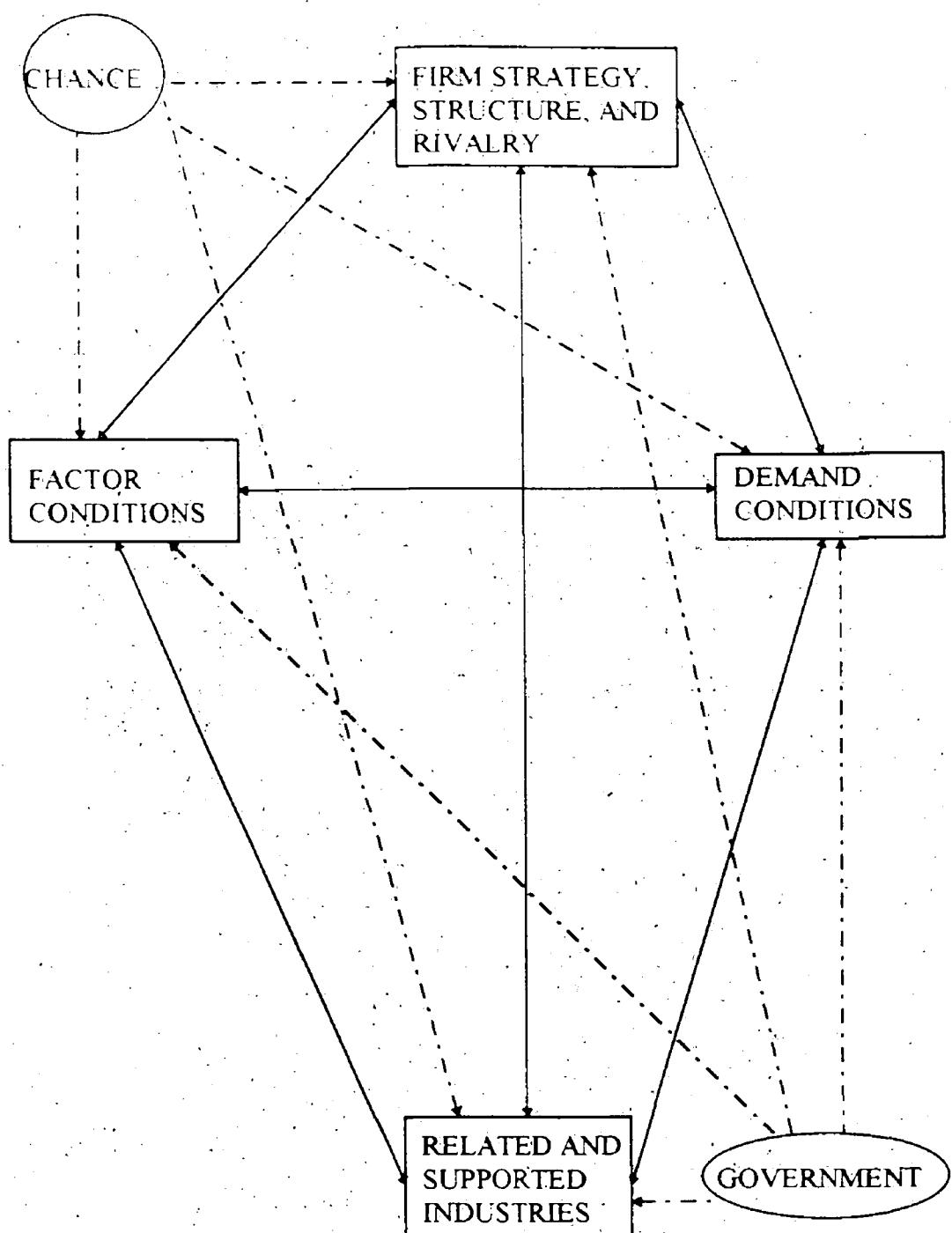
"It is tempting to make Government the fifth determinant. Yet it is neither correct or the most useful way to understand Government's role in international competition. Government's real role in national competitive advantage is in influencing the four determinants."

Porter's study proves that when all individual determinants of a nation contribute positively towards national advantage, they combine into a dynamic system, which in turn determines the ability of a nation to succeed. Otherwise, if some of the determinants distract from, instead of contributing to the national advantage, the growth of the nation's economy could falter, even fail. The determinants of national advantage constitute a complex system. They affect each other, and they can be created, strengthened or altered. The Government has the power to transform and reinforce the determinants in order to influence the process of economic development.

Figure 2 contains Michael Porter's "National Competitive Advantage" system.

Figure 2:

The Complete System of National Competitive Advantage
(adopted from Porter, 1990)



This concludes Chapter 1 of this thesis. The shortcomings and deficiencies of conventional growth theories were discussed. While the growth theory has evolved from its descriptive classical form into the advanced econometric equations over the past two hundred years, it still could not satisfy the need of this study.

A basic disadvantage of the growth theory is that the structural change is not addressed. Structural change is a key feature of economic development in the world, it takes the form: Agriculture⇒Industry⇒Market Services⇒. However countries exhibit structural changes at different levels and directions. Among today's developed countries, when measured by their export performances, some succeed in manufacturing (Germany, Japan) while others succeed in services (US, UK). In some developed countries, agricultural exports are still have significant importance (Denmark, The Netherlands).

The same scenario applies to NIC's as well, where South Korea and Taiwan are strong in manufacturing exports, Hong Kong and Singapore are leading services exporters (they ranked the 9th and the 12th respectively in the world in 1995). In order to understand this phenomenon and to draw lessons from successful cases, a different approach is needed. Based on this reason, Porter's **National Competitive Advantage** is now employed as the theoretical framework for the analysis of Hong Kong and Singapore's post-war development; the structural changes in both economies are emphasised.

2.1 PROFILE OF HONG KONG:

A city state with a land area of 1,084 sq.km and a population of 6.1m (1996), Hong Kong is situated in a strategic geographic location on the southern tip of China, at the trading cross-roads of Asia.

Only one fifth of Hong Kong's territory is viable for either agriculture or industry, the remainder consisting largely of steep hillsides, and the population density is among the highest in the world: 5,600/per sq km (1996). Owing to its very limited natural resources, Hong Kong has to import most of its food supply and virtually all raw materials and fuels required by the various industrial activities. Even fresh water has to be brought into Hong Kong by pipe line from China. Entrepot trade (**re-exports**, whereby imported goods are being directly exported to a third destination instead of being consumed domestically) was the only main economic activity in this small colony until World War II.

Since the end of World War II, the economy of Hong Kong has undergone a complete transformation. The economic growth in Hong Kong over the last 40 years has been one of the fastest in the world. As a result, Hong Kong has established its position as a major centre for international trade, including merchandise trade, finance, tourism, transport and communications.

As an economic entity, Hong Kong's world rankings in various areas are:

Total External Trade (US\$382.4 billion, 1996)	7th
Total External Trade per head (US\$60,600, 1996)	2nd
GDP per head in terms of PPP's (US\$24,560, 1996)	2nd

The Most Competitive Economy

by the "World Competitive Report 1995-97"	3rd
International Banking Transactions	5th
Foreign Exchange Market (Daily turnover US\$61 billion, April 1992)	6th
Stock Exchange Market (Total market capital formation US\$2,085 billion, 1994)	8th
Foreign Reserve Total (US\$85 billion, 1997)	4th
Foreign Reserve per head (US\$13,470, 1997)	2nd
Container Harbour throughput (8 million containers, 1995)	1st

(Source: Hong Kong Government's Web site, "Hong Kong Yearbook 1995". EIU)

Given its size, population and its short history of industrialisation, Hong Kong's economic achievements are truly remarkable.

2.2 ECONOMIC GROWTH AND STRUCTURAL CHANGE:

2.2.1 INDUSTRIALISATION AND THE ECONOMIC GROWTH

Rapid economic growth in Hong Kong began with its industrialisation in the 1950's. Prior to World War II, the entrepot trade with China was the only major industry in Hong Kong for a century. The post-war period was the most traumatic time in Hong Kong's history. From 1946 to 1954, the population of Hong Kong rose from 0.6 million to 2.4 million, an increase of 300%. From 1951 to 1954, the life line of the economy - exports, suffered a 45.6% decline. Massive immigration and diminished entrepot trade put the economy of Hong Kong into a state of chaos. The only avenue open to Hong Kong at that point, was to establish a new economic frontier, thus, industrialisation was inevitable.

Hong Kong's industrialisation has transformed this small trading port into a major international business centre. Table 1 presents a broad picture of Hong Kong's achievement since the 1960's.

TABLE 1:

Economic Growth in Hong Kong (1960-1996)			
	1960	1996	%1960-1996
Growth of GDP in Total (HK\$B)	5.7	1,119	19,532
GDP per head (US\$)	668 (66)	25,300	3,687
Growth of Exports (HK\$B)	3.9	1,420	36,318
Growth of the size of Government Budget (HK\$B)	2 (66)	143.2	7,060
Growth of Home Ownership (% of household)	14.7%	33.6%	

Sources: "Hong Kong Yearbook". Hong Kong Government's Web site.

Table 1 depicts that Hong Kong's economic growth is export led. There is a major difference between Hong Kong's exports and other industrial countries' exports: due to its entrepot role, re-exports account for a large percentage of Hong Kong's total exports. Exports in Hong Kong play the same important role in growth, it has the largest increasing margin over the last 35 years, followed by the growth in total GDP. The fast growth in total exports in Hong Kong was partly owing to the resumed entrepot trade during the 1980's which is discussed in Section 2.2.4. Hong Kong Government's spending is also growing significantly, owing to the expansion of the total economy and the increasing part played by the Government in the economy.

TABLE 2:

Growth of Real GDP in International Comparison					
	1964-70	1971-80	1981-90	1991-95	1964-95
Hong Kong	10.0	9.6	6.6	5.2	7.9
Singapore	9.7	9.1	7.1	8.3	8.6
Japan	10.4	4.5	4.1	1.5	5.1
USA	3.8	2.8	2.6	2.3	2.9
Ireland	4.4	4.7	3.8	5.2	4.6

Source: EU. Asian Development Bank. EIU.

TABLE 3:

Growth of External Trade, International Comparison (US\$B)			
	1964	1996	% 1964-1996
Hong Kong	2.5	382.4	15,196
Singapore	1.9	256.3	13,389
Ireland	1.6	86.8	5,325

Source: EIU, CSO.

TABLE 4:

Comparison of Foreign Reserve, 1996		
	Total in US\$M	per capita US\$
Japan	217,100	1,737
Taiwan	90,300	4,515
Germany	80,600	1,047
Singapore	77,300	25,680
Hong Kong	69,600	11,030
USA	57,200	197
S. Korea	29,900	712
Ireland	7,440	2,010

Source: EIU, CSO.

Tables 2-4 compare the growth in GDP and export between Hong Kong and selected countries over the last few decades. The rapid growth in external trade and GDP in Hong Kong has been impressive, and the size of Hong Kong's foreign reserve clearly indicates where Hong Kong's strength is: exports.

2.2.2. THE CHANGING ROLE OF MANUFACTURING

The process of economic growth in Hong Kong was accompanied by structural changes, which involve changing percentage shares of total GDP and employment by different sectors. The role of manufacturing in Hong Kong's economy is analysed in this section.

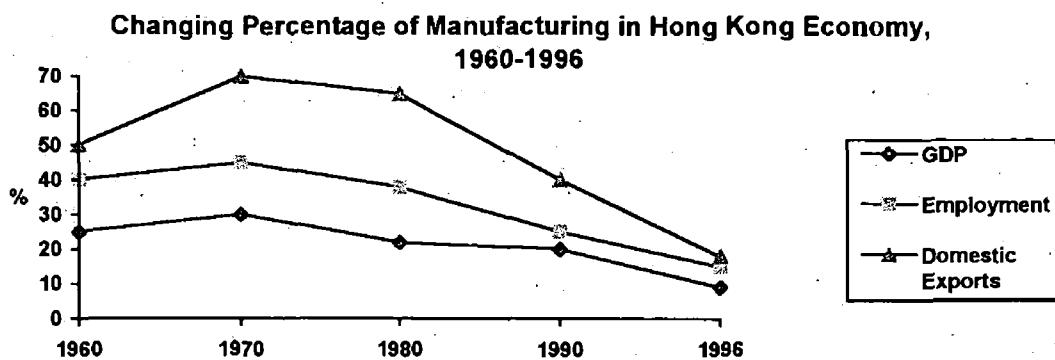
Industrialisation in Hong Kong virtually means growth of manufacturing, since there are no other industries in Hong Kong other than manufacturing. In the early 1950's, Hong Kong's manufacturing was the impetus for economic growth. Hong Kong was turning into an industrialised economy by its fast growing manufacturing, which featured massive, standardised production; fast turnover, and long working hours.

From 1960 to 1970, Hong Kong's domestic exports increased by 331% while GDP increased by 219%, Hong Kong's manufacturing industry was estimated exporting over 85% of its products (Riedel, 1974). Strong exports led the overall growth of the economy, manufacturing was the engine of growth in Hong Kong's economy at that time.

A significant change during the industrialisation was the increasing share of manufacturing in the economy. From 1960 to 1970, the share of Hong Kong's manufacturing in GDP rose from 25% to 31%, while its share of employment also increased 7% (Riedel, 1974). Manufacturing was a predominant economic sector in Hong Kong at the early stage of Industrialisation.

While the significant structural change in Hong Kong's economy in the 1950's and 60's was an increase in the contribution of the manufacturing sector to both GDP and total employment; the most notable change in the 1970's was the emergence of international services sectors in Hong Kong. The rapid growth in services sectors changed the structure of the economy, the centre of Hong Kong's economic growth being shifted towards the services sectors. In the meantime, the importance of the manufacturing sector started to decline (Figure 3).

FIGURE 3:



Sources: EIU, the Asian Development Bank.

The reason for the decline of manufacturing since the 1980's is that Hong Kong's economy has been rapidly integrated with that of Southern China, huge amounts of capital from Hong Kong have been invested into business ventures in Southern China, mainly in manufacturing industry. Hong Kong's investments in China have employed approximately four million workers so far (**Hong Kong Government's Web site, 1996**), and outnumbered Hong Kong's own labour force. The decline of the manufacturing in Hong Kong's economy in terms of employment and GDP has been more than offset by the strong growth of the services sectors.

2.2.3. THE EMERGENCE OF SERVICES SECTORS

The economy of Hong Kong can be characterised as an extreme case of a trade constrained economy. This characteristic of Hong Kong's economy is a consequence of its small size, central location and lack of natural resources. The opportunities for Hong Kong to realise economy of scale in diversified productions are limited. Thus, Hong Kong's growth and prosperity rest in its ability to export in both the manufacturing and services sectors, where services exports are related to the provision of services to the international market.

a) External Trade:

External trade is the life line of Hong Kong's economy and the major feature of Hong Kong's external trade is entrepot trade, or, re-export. Except for a short period of interruptions between 1950 and 1960, entrepot trade has always been the main business activity in Hong Kong. Due to the interplay relationships between the external trade sector and other economic sectors; the growth of entrepot trade, in turn, led to the development of economic infrastructure such as banking, insurance, warehousing, port and airport facilities. These infrastructures are important cornerstones in the modernisation of Hong Kong's economy.

Hong Kong's exports consist of domestic exports and re-exports (entrepot trade), the percentage of re-exports in total exports is the indicator of the importance of entrepot trade in the economy. The composition changes in Hong Kong's exports during industrialisation were featured by the decline of re-exports. As a result of the industrialisation, the share of

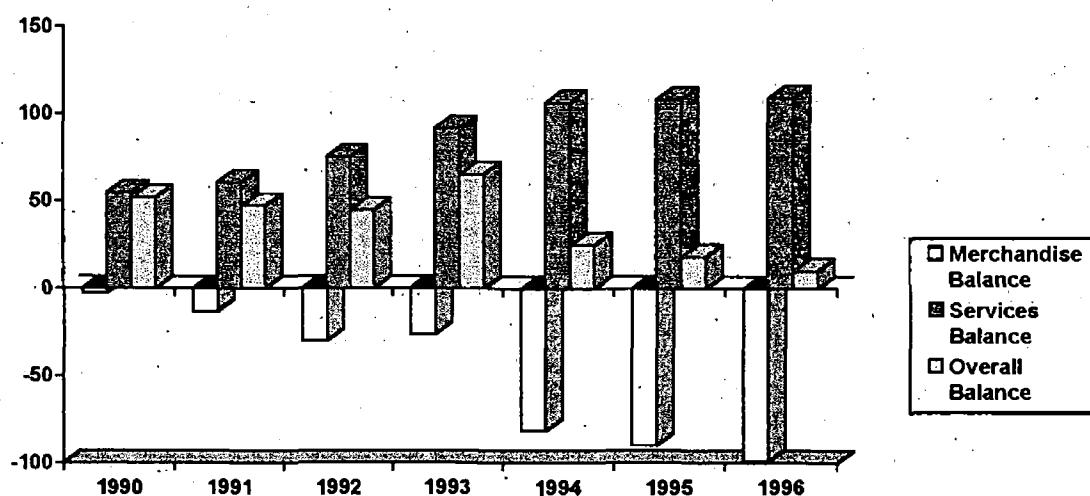
re-exports in total exports fell to 20% in 1971, compared to 80% in the 1950's.

During the 1970's, Hong Kong's economy underwent further structural change (**the Second Industrialisation**), when the demand for regional trade and financial services in the Far East was growing. The first industrialisation transformed Hong Kong from an entrepot economy into an industrial state. The notable change during the Second Industrialisation was the emergence of Hong Kong as an international centre for trade and services.

What contributed to the Second Industrialisation were the increasing prosperity in the Far East region, and the open door policy of China (a policy which led the economic reform in China, and resulted in an increased trading activity between China and the rest of the world). Hong Kong was able to resume its role of entrepot, not only to deal with China, but also to act as a hub for various trade activities involving countries world-wide. This fundamental change was also reflected in Hong Kong's export pattern as the share of re-exports has increased to over 80% of total exports in recent years in Hong Kong.

FIGURE 4:

Hong Kong's External Trade Balances (HK\$B)



Source: EIU.

During the last decade, international trade in services in Hong Kong has been growing rapidly. Hong Kong's strong services exports are able to keep its balance of payments in

the black despite the consistent deficit in merchandise trade; this reflects Hong Kong's status as an international centre for services (**Figure 4**).

The strength of services exports in Hong Kong has been the driving force behind the growth in the economy since the mid 70's. During the last 20 years, Hong Kong has witnessed the evolution of a cluster of industries which are related to external trade to a certain extent, namely: Banking, Financial Markets, Insurance, Transport and Communications, Tourism and other business services.

b) **Finance Sectors:**

Banking Activity

Benefiting from increasing business opportunities and high profits which were generated by the rapid growth in trade, the banking sector made significant progress during the Second Industrialisation. The beneficial interaction between banking and other sectors are one of the key elements of Hong Kong's post-war economic transformation. As a result, Hong Kong has emerged as a financial centre for the Asian-Pacific region. This trend was evidenced not only by the congregation of a large number of international banks, representative offices, merchant banks, finance companies and other financial institutes in Hong Kong, but also by its increasing monetary independence and by the growing international orientation of its banking operations and financial activities.

By the end of 1994, there were 537 authorised financial institutions including 180 fully licensed banks in Hong Kong, of which 148 were foreign banks from 40 countries. Eighty-five of these foreign banks were among the top 100 in the world. The total number of bank branches was 1,464, together with 157 representative offices of overseas banks. They formed one of the most comprehensive financial networks in the world (**Hong Kong Yearbook 1995**).

Financial Markets

Hong Kong's financial sector comprises an integrated network of institutions and financial markets, providing a wide range of products and services to customers from both Hong Kong and abroad.

I Foreign Exchange Market

Benefiting from its time differences with London and New York (8 hours each way), Hong Kong's foreign exchange market has been one of the major sections of the global foreign exchange markets. This foreign exchange market is also important to the banking and other financial sectors in Hong Kong. It provides a lucrative source of earnings through the spread between buying and selling rates.

Supported by its buoyant indigenous banking industry and by the **free trade** Government policy, Hong Kong's foreign exchange market grew from an average daily turnover of US\$2 billion in 1982 to US\$61 billion in 1994, which was ranked the sixth largest in the world (**Hong Kong Yearbook 1995**).

II Stock Exchange Market

The expansion of Hong Kong's stock exchange market is regarded as a result of the industrialisation. Before 1969, there were less than 100 registered traders on the stock market. After 1969, both the stock market and brokerage industry went through a period of rapid growth. By the end of 1994, there were 14,191 registered traders on the Hong Kong Stock Market and market capitalisation worth US\$2,085 billion, which was the eighth largest in the world (**Hong Kong Yearbook 1995**). A significant feature of Hong Kong's stock market is the wide dispersion of stock ownership across all income groups. It is not uncommon for ordinary Hong Kong people to own stocks. This is another reason, along with the fast growth in the economy, for the rapid development of the Hong Kong Stock Market.

III Gold Market

Since the removal of restrictions on the import and export of gold in 1974, Hong Kong has been developed into one of the world's four largest gold markets along with London, New York and Zurich (**Hong Kong Yearbook 1995**).

Insurance

Hong Kong is also an insurance centre. In 1994, there were 229 authorised insurance companies in Hong Kong, 126 of which were overseas companies from 29 countries (**Hong Kong Yearbook 1995**).

c) Transport and Communications:

The growth in external trade and the economy as a whole in Hong Kong has led to the development of transport and communications (T/C). From 1960 to 1996, the contribution to GDP by T/C sectors expanded 20 times and employment increased 3 times. Transport facilities in Hong Kong in particular, made significant progress (**Tables 5-7**).

TABLE 5:

The Growth of Transport and Communications Sector in Hong Kong			
	1960	1996	%1960-1996
GDP by Transport, Storage and Communications (HK\$M)	533	119,900	22,395
Employment *1994	86,740	347,200*	300

Sources: The Asian Development Bank. EIU.

TABLE 6:

Growth of Transport Industry in Hong Kong			
	1960	1994	%1960-1994
Port Cargo throughput (m. tonnes)	10	1129	1,190
Airport Cargo (1,000 tonnes)	22	1,458	6,527

Source: "Hong Kong Yearbook 1995".

TABLE 7:

Ownership of Merchant Shipping Fleet International Comparison (1,000 gross tons)			
	1980	1994	% 1980-1994
Hong Kong	1,717.2	7,703.4	348.6
Singapore	7,664.2	11,894.8	55.2
Japan	40,959.2	22,101.6	-46.0
US	18,464.3	13,655.4	-26.0
Ireland	209.0	190.3	-8.9
EU	128,969.1	72,445.6	-43.8

Sources: EU, "European Marketing Data and Statistics, 1995",
"International Marketing Data and Statistics, 1995".

As a result of the progress in T/C sectors, transport infrastructures in Hong Kong are among the best in the world. In 1995, Kwai Chung container terminals in Hong Kong Harbour were the busiest in the world where over 8 million containers were processed.

The telecommunications system in Hong Kong is also advanced. It offers an efficient, high quality service at reasonable prices. Hong Kong has the first fully-digitised telephone system in the world, along with a comprehensive optical fibre network. The number of telephone lines per thousand populations increased from 62 in 1966 to 516 in 1996 which was one of the highest in the world.

d) Tourism:

Although Hong Kong has a rather short history and few natural landscapes, it has become one of the most attractive tourist destinations in the world. The number of tourists visiting Hong Kong has grown from 0.5 million in 1966 to 10 million 30 years later. There were 33,490 hotel rooms in Hong Kong in 1994 and the occupancy rate was 85%. Total tourism receipts were US\$8 billion in the same years making it the second largest foreign exchange revenue in the economy. The tourist industry has also become a major employer in the Hong Kong economy.

The discussion of the development in Hong Kong's services sectors is concluded. In sum, Hong Kong is first and foremost a trade dominated economy. Differs from the experiences of other NIC's in the Far East, Hong Kong takes advantages of its strategic location and natural harbour, and evolved from a low-cost manufacturing entity into a regional international commercial centre with an export-oriented, efficient manufacturing base. The importance of services sectors in its national economy has grown tremendously since the 1970's.

Tables 8-10 show the growing importance, and pre-dominant position of services sectors in Hong Kong in terms of share of GDP and employment.

TABLE 8:

Growth of Economy and Sectoral Changes in Hong Kong, 1960 - 1996 (% of total in brackets, current prices in HK\$B)				
	1960		1996	%1960-1996
Total GDP	5.7		1,199	20,935
GDP by Manufacturing	1.4 (25)		99.5 (8.3)	7,007
GDP by Services in total	3.6 (64)		1,099 (9.1)	30,428
GDP by trade Sector	1.2 (20)		318.9 (27)	26,475
Total external Trade	9.8		2,959.8	30,102
Exports in Total	3.9		1,420.3	36,318
Re-Exports	1.1 (27)		1,207 (85)	109,627

Sources: The Asian Development Bank. EIU.

TABLE 9:

Changes in Sectoral Employment in Hong Kong 1961 - 1994 (% of total in brackets)				
	1961 (%)		1994 (%)	%1961-1994
Total Employment	1,191,099		2,915,400	144.8
Manufacturing	526,361 (44)		438,382 (15)	-16.7
Services in Total	483,342 (41)		2,214,018 (76)	358
Trade Sector	131,279* (11)		839,300 (29)	539

(*does not include hotels and restaurants)

Sources: Riedel, 1974. "Hong Kong Yearbook 1995".

TABLE 10:

	Share of GDP by Major Sectors in Hong Kong, 1961 - 1996 (% of total)				
	1961	1970	1980	1990	1996
Manufacturing	24	31	25	18	8.3
Trade	22	22	19	25	27
Finance	17	15	26	20	25
Transport & Communications	10	7	7	10	10
Community, Social &	15	17	13	16	16
Personal Services					
Services Sub-Total	64	61	65	69	91

Sources: Asian Development Bank. EIU.

2.3 EMPLOYMENT:

The availability of an abundant supply of labour is often considered a favourable factor in the process of industrialisation. However, before the industrialisation, Hong Kong actually suffered from an over-supply of labour due to reasons described earlier. The huge influx of immigrants into a weak economy resulted in massive unemployment. In the early 1950's, Hong Kong's unemployment was estimated ranging from 25,000 to 160,000 according to different sources. In 1951, Hong Kong's Labour Department estimated that there were 65,000 to 75,000 people unemployed, approximately 15% of the labour force (Riedel, 1974).

Table 11 illustrates the changes in Hong Kong's labour market. The increase in the total labour force was clearly ahead of the growth of population, due to the increase in female participation and the large amount of foreign workers absorbed by Hong Kong's labour market. In June 1995, there were 415,000 foreign workers in Hong Kong, accounting for 14% of the labour force (Hong Kong Yearbook, 1995).

TABLE 11:

Growth of Population and Labour Force in Hong Kong (1961-1995)					
	1961	1971	1981	1995	%1961-1995
Population	3,168,100	4,05,300	5,154,100	6,190,000	95.4
Labour Force	1,191,100	1,620,900	2,486,700	3,093,000	159.7
Participation rate:	54.1	59.2	59.7	63.1	9.0
of which female	31.8	37.1	44.3	48.5	16.7

Sources: EIU. Hong Kong Government's Web site.

The dynamic economic growth in Hong Kong has kept the unemployment rate below 3% during the last three decades, except for a short period from 1980-1985 when the average annual unemployment rate reached 3.8%. Since the late 1980's, Hong Kong's economy has been performing well and the unemployment rate from 1987 to 1996 was an average 1.8%. Hong Kong has technically achieved a **full employment** economy. The sectoral share of employment in Hong Kong has also changed significantly. Table 12 presents the employment breakdown into sectors at selected years.

TABLE 12:

Changing Employment in Major Sectors in Hong Kong (% of total)				
	1961	1971	1981	1995
Manufacturing	44.2	47.4	47.2	12.8
Trade Sector	11.0a	15.8	19.2	22.3
Finance	N/A	2.5	4.7	12.4
Transport & Communications	7.3	7.3	7.6	11.9
Community, Social &	22.3b	14.1	15.4	19.3
Personal Services				

a = Including finance, but not including hotels and restaurants.
b = Including hotels and restaurants.

Sources: The Asian Development Bank. Hong Kong Government's Web site.

A distinct feature of employment development in Hong Kong, as shown in Table 12, is the decline of manufacturing employment and the expansion in market services employment. Market services, namely Trade, Finance and Transport & Communications (T/C), accounted for almost 50% of total employment in Hong Kong in 1994, compared to less than 20% in 1961. Table 12 also indicates that the turning point of structural transformation in Hong Kong's economy was between the 1970's and 1980's, a period that was described as the Second Industrialisation. The Finance sector gained the largest margin of job growth between 1971 and 1995, that was followed by the Trade and the T/C sectors. The pattern of job growth in Hong Kong reflects its role as a financial and commercial centre.

2.4. FOREIGN INVESTMENT:

Foreign investment has played a very important part in the economic development of Hong Kong. In fact, the city of Hong Kong owes its origin and present form to foreign investors. British traders first came to Hong Kong in the last century, established Hong Kong's rôle as an entrepot; and later Chinese entrepreneurs helped to convert it from an entrepot economy to an industrialised one. Since the industrialisation, foreign investment in Hong Kong have been increasing significantly, and most major sectors of the economy now have extensive foreign interests. This section intends to provide a broad picture of foreign investment in Hong Kong, focusing upon foreign direct investment (FDI).

2.4.1 FOREIGN INVESTMENT BY SECTORS

♦ MANUFACTURING:

Hong Kong's manufacturing industry was negligible prior to the industrialisation. Foreign investment in the manufacturing sector became important in Hong Kong only after the 1960's. During the industrialisation the Hong Kong Government extended its liberal, non-interventionist economic policy to its treatment of foreign investment, and created a welcoming environment. The sound business environment, low cost labour and the good infrastructure in Hong Kong proved to be attractive to FDI. FDI in manufacturing in Hong Kong has been gradually increasing (Table 13).

TABLE 13:

Foreign Investments in Hong Kong's Manufacturing				
	1960	1970	1981	1993
Number of establishments at year end	21	62	395	433
Total value of investment (HK\$M)	-	759	7,203	40,899
Total employment	-	-	90,059	66,322

Sources: Lethbridge, 1983. "Hong Kong Yearbook 1995".

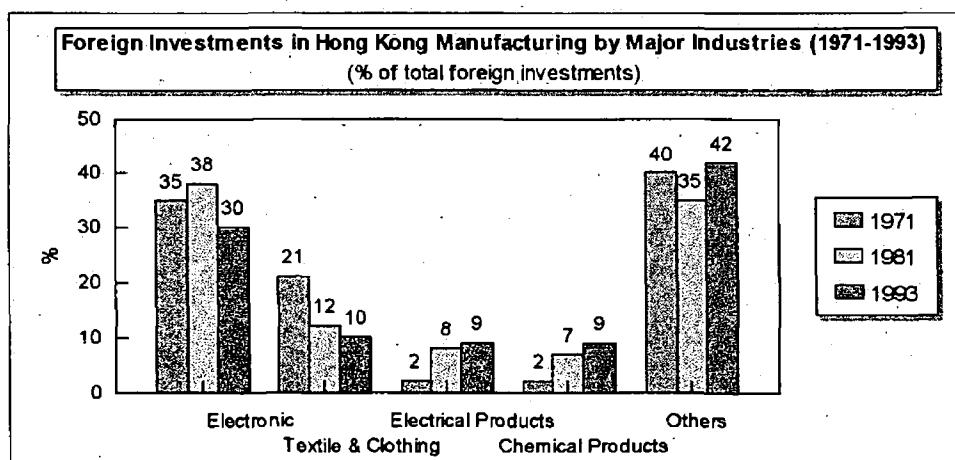
The economic significance of foreign investments in manufacturing in Hong Kong can be analysed in terms of their contribution to the following areas:

a) Industrial Employment

The role of foreign investment in Hong Kong's manufacturing employment was not vital. Employment in foreign firms accounted for only 9.9% in 1981 and 13.7% in 1993 of total manufacturing employment in Hong Kong, the number of workers employed by foreign firms has actually declined over the same period (**Table 13**).

b) Domestic Exports

However, foreign investment in Hong Kong was concentrated on four major industries (**Figure 5**), and these industries contributing 60-70% of Hong Kong's domestic exports. The impact of foreign investment on Hong Kong's domestic exports is significant.

FIGURE 5:

Sources: Lethbridge, 1983. "Hong Kong Yearbook 1995".

c) Upgrading of technology.

The most important part played by foreign investments in manufacturing is its role in transforming Hong Kong's manufacturing from a low-tech, low value-added industry into a high-tech, high value-added one (**Table 13 and Figure 5**).

From 1981-1993, the number of foreign firms increased by only 9.6%, but the total value of investment by foreign firms increased by 482%. This reflects the nature of foreign investments in Hong Kong becoming more capital intensive, hence more high-tech involved. Figure 5 also shows that the increasing FDI in high-tech industries such as Electrical and Chemicals, and decline of FDI in Textile & Clothing have taken place in Hong Kong.

Although foreign investment in manufacturing in Hong Kong is not overwhelming in terms of employment or value of investment, however, due to its concentration on major export industries and its initiation in new industries, foreign investment has had a positive impact on the evolution of modern manufacturing industry in Hong Kong.

◆ **EXTERNAL TRADE SECTOR:**

Owing to its entrepot history, the earliest foreign investment in Hong Kong was in external trade sector. A number of British trading houses were established here during the 19th century; a few survived and are still holding strong positions in the import and export trade. After World War II, trading firms around the world set up offices in Hong Kong, making important contributions to Hong Kong's international trading business. In 1995, there were 1,846 multinational companies established regional headquarters and offices in Hong Kong to conduct and co-ordinate their regional operations (**Hong Kong Yearbook 1995**).

◆ **FINANCIAL SERVICES:**

a) **Banking**

There are 148 foreign banks out of a total of 180 full licensed banks, along with 157 representative offices of overseas banks. In addition, 155 subsidiary related companies of foreign banks operate as restricted licensed banks and deposit taking companies.

b) **Financial Markets**

Of the 421 registered corporate securities dealers on Hong Kong's stock market, 199 are overseas firms. Of the 128 commodities dealers on Hong Kong's future exchange, 54 are from abroad.

c) **Insurance**

As mentioned earlier, 55% of Hong Kong's insurance companies were overseas companies from 29 countries.

2.5. THE ROLE OF THE GOVERNMENT:

As a model of **free market economy**, Hong Kong owes its success to its Government. Lao Zi, a famous ancient Chinese philosopher, described his idea of ruling a country, as "**Hands off the economy, a country can manage herself**". Without a doubt, the Government of Hong Kong is the exponent of Lao Zi's philosophy, the **laissez faire** approach towards economic administration of the Hong Kong Government has been proved most successful.

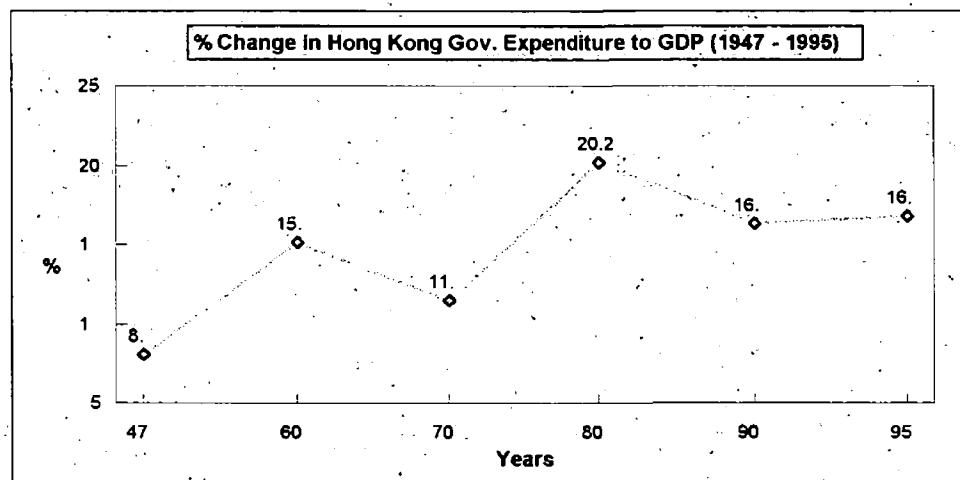
The Government's basic policy of minimum interference and maximum support for the economy is one of the key elements of the continued economic success of Hong Kong. Owing to its small size and open nature, the economy is vulnerable to external factors, and Government actions designed to offset unfavourable external influences are believed to have limited effectiveness. The Government advocates free and fair competition, with little interference in the process of the economy. Business decisions are left to the private sector, and the allocation of resources of the economy is left to market forces. The Government has not sought to influence the structure of industry through regulations, tax policies or subsidies. There are no restrictions applied on the international movements of capital and goods either.

However, the Government of Hong Kong does not exactly sit back and keep "**hands off**". It is involved in the economy in its own way, through public finance, taxation, public enterprises and trade promotion activities.

2.5.1 PUBLIC SPENDING

A key feature of public finance in Hong Kong is its low level of Government spending, which has been consistently low by international standards (Figure 6).

FIGURE 6:



Sources: Riedel, 1974. IMF. EIU.

TABLE 14:

Public Expenditure in Hong Kong 1995/1996, (HK\$M)		
(Source: EIU)		
	Volume	% of Total
Economic	10,500	5.2
Security	21,360	10.5
Social Welfare	14,900	7.3
Health	22,105	10.8
Education	33,945	16.6
Environment	6,205	3.0
Community	11,750	5.8
Infrastructure	31,700	15.5
Support	26,425	13.0
Housing	24,990	12.3
Total	203,930	100.0

Table 14 was abstracted from the Hong Kong Government 1995/1996 budget. It explains how the Government uses its expenditure as effective means of facilitating economic activities.

The biggest expenditure by the Hong Kong Government was on education as they believe that a well-educated labour force is the foundation of a healthy economy. The second biggest expenditure, coming very close to education, was infrastructure. A good infrastructure is vital for the progress of a national economy and even more so to Hong Kong due to its role as a regional centre for international trade and services.

Contrary to its policy on private industry, the Hong Kong Government is often directly involved in infrastructure projects in financial terms. The container terminals at Kawi Chung port, now ranked number one in the world, were built at the early 70's by private firms granted concessions for dock operations. These concessions were granted on the basis of competitive bidding. Another example is the construction of the under sea channels in Hong Kong. This was also undertaken by private firms, with the Government as a minority shareholder in the consortium which undertook the contract (Riedel, 1974). In order to build a new airport in the late 80's, the Hong Kong Government initiated the Airport Core Programme (ACP Project). This programme includes ten infrastructure projects focused around the new airport. Claimed to be the largest construction work currently undertaken in the world, the total cost of ACP has almost reached US\$20 billion and the Government is heavily involved in financial terms.

The third area of major spending in Hong Kong's budget was housing. Since all land in Hong Kong is state-owned, the Government is able to take part in the residential housing market by way of a **home ownership scheme**. Under this scheme, the Government builds apartments on selected land and sells them to the public at subsidised prices. The scheme has been proved successful in that 50% of the population in Hong Kong are now living in public housing (Hong Kong Year Book, 1995).

2.5.2. TAXATION

Hong Kong's tax system is simple, its tax rates are extremely low by developed countries' standards. There is neither capital gains tax, nor sales and services tax (VAT) in Hong Kong. Company tax rate is only 16.5% and personal income tax rates range from 2%-20%. Because of the generous tax free allowance, almost 62% of the labour force were exempt from paying any tax in 1995, and only 2% of the labour force are paying tax at the standard rate of 15%. In 1992, the

World Competitiveness Report estimated that Hong Kong's total tax revenue only accounted for 11.25% of GDP, which was the lowest of all 36 countries surveyed (**Hong Kong Yearbook, 1995**).

Low taxation policy in Hong Kong creates a favourable environment for the growth of the economy. It is an example of how the Hong Kong Government contributes to the economic development.

2.5.3 PUBLIC ENTERPRISES

Government ownership of goods and services in Hong Kong is confined to law enforcement and security services, postal services, water supply and airport facilities. The railway system is a corporation which is wholly owned by the Government. In the provision of other basic and essential services such as electricity, gas, public transports (bus, tram, ferry), communications and broadcasting (radio and television) ownership is all privately-owned. Hong Kong's economy, therefore, is probably one of the most privatised economies in the world.

2.5.4. TRADE PROMOTION

Since Hong Kong's economy relies on trade, trade promotion is always on the Government's agenda. During the last few decades, numerous trade promotion bodies have been set up to serve Hong Kong's businesses. They are:

Trade Department: Responsible for Hong Kong's commercial relations with foreign Governments.

Hong Kong Economic and Trade Offices:

Represents Hong Kong's economic and trade interests abroad and deals with both the public and private sectors.

Hong Kong Trade Development Council:

In charge of Hong Kong's trade promotion both in Hong Kong and abroad, with a network of 40 offices in 27 countries.

It organises up to 16 annual trade fairs in Hong Kong and keeps a computer database containing details of 400,000 companies worldwide, which helps Hong Kong's businesses to develop overseas markets.

Hong Kong also holds full membership in major international organisations including WTO (World Trade Organisation) and APEC (Asia and Pacific Economic Co-operation).

2.6 MONETARY AFFAIRS:

As a trade dependent SOE, foreign exchange rate is of crucial importance in Hong Kong's development. Between 1946-1971, as a British colony and a member of the Sterling Area, Hong Kong dollar (HK\$) was pegged to sterling. Following the floatation of sterling in 1972, HK dollar switched to US dollar peg for about two years. Between 1974-1982, HK dollar was allowed to float on the foreign exchange market. During that period HK dollar was subject to constant speculative attacks, and its exchange rate was volatile. Once again in 1983, HK dollar returned to US dollar peg at a rate of US\$/HK\$7.78, a 20% instant devaluation. This fixed exchange rate has been successfully maintained over the past 14 years.

The exchange rate policy in Hong Kong has greatly benefited the economy. First, with the adoption of the linked rate system, the exchange rate is no longer a variable in the economy's adjustment process. Interest rate, the money supply and the level of monetary activity adjust automatically over time to balance of payments pressures. Second, the US dollar as the pegging currency was a correct choice. I) The US economy is the largest in the world and the US dollar is a stable currency. II) The US was Hong Kong's largest trade partner between the 1960's - the 1980's, and it was Hong Kong's largest export market until 1994. III) Hong Kong's trade with China - the second trade partner at the time, was paid by US\$ since the Chinese currency was not convertible. Therefore the US dollar has covered more than 50% of external trade in Hong Kong.

Hong Kong's fixed rate system has played a vital role in the economy since it was introduced. The link with US dollar has provided the necessary stability for HK dollar, this in turn has contributed to the sustained competitiveness of Hong Kong's exports. HK dollar is now a hard currency in the

Far East region, and is frequently used to settle regional trade and financial deals. A side effect of pegging to US dollar is the relatively high inflation and interest rates in Hong Kong since the 1980's - as a small economy, Hong Kong carries an interest rate premium (**Appendices 3, 4**).

However, the high inflation and interest rates are not solely influenced by the rates of US dollar. The biggest threat to inflation in Hong Kong has been the ever rising property prices, which resulted from a scarcity of land and a strong demand. The perception of an over-valued property market in Hong Kong has cast doubt on the real value of HK dollar, this led to the series speculative attacks on HK dollar on the foreign exchange market, following the collapse of currencies in Thailand and Malaysia on October 1997. Owing to its sufficient pool of foreign reserves (**the 3rd largest in the world**) and a fiscal reserve of US\$ 20 billion; in addition to a healthy macroeconomic foundation (**a positive growth in GDP, a low unemployment rate, a consistent current account surplus, a balanced budget and good prospects in the economies of major trade partners - China and the US**); speculators failed to break Hong Kong's US dollar link, the exchange rate of HK dollar remained intact. The exchange rate policy in Hong Kong has been so far a success.

The process of economic development in Hong Kong over the last four decades has been briefly analysed. On the 1 July 1997, the sovereignty of Hong Kong was handed back to the Chinese Government. The hand-over marked the end of one hundred years of British colonial rule. Hong Kong, as a special administrative district of China, continues to enjoy economic autonomy and financial independence. The integration of Hong Kong's economy into China will be accelerated, and a bright future for the economy in Hong Kong is expected.

A case study of Singapore, another city state that is similar to Hong Kong in respect of size, location, economic structure, culture and history, is given in the next chapter.

CHAPTER 3: CASE STUDY OF SINGAPORE

3.1 PROFILE OF SINGAPORE:

Singapore is an island city state with an area of 618km², and a population of 2.93 million (1996). A British colony until 1959, Singapore separated from Malaysia in 1965 and became an independent republic. Singapore is strategically located in the centre of Southeast Asia and on the cross-roads of shipping routes between the Far East, Middle East and Europe. Similar to Hong Kong, Singapore possesses no natural resources except for a deep natural harbour and a central location. Before the 1950's, the natural advantages of Singapore (its location and harbour) and free trade policies of the Government were sufficient to establish its role as an entrepot for China and its region.

Soon after the Independence in 1965, the Singapore Government launched industrialisation through its direct involvement in every aspect of the economy. The success of the industrialisation and later the Second Industrialisation (1970's-1980's), established and sustained Singapore's position as a high-tech and high value added manufacturing base for multinationals, as well as an important regional centre for international services.

Its achievements in social and economic development over the last three decades have made Singapore one of the most successful small and open economies (SOEs) in the world. Singapore today is considered to have achieved a highly modernised full-employment economy.

An illustration of Singapore's position in the world economy is as follows:

Total External Trade per head (1996, US\$84,309)	1st
Foreign Reserve in Total (1996, US\$76.8 billion)	4th
Foreign Reserve per head (1996, US\$25,600)	1st
Harbour Cargo Throughput (1995, 125 million tons)	2nd
Airport Traffic (1992, 3,087 passenger/k.m)	9th
Energy Consumption (1992, 5,952 kg./per capita)	10th
Road Density (1993, 4.72 km/sq.km of land)	1st

The Most Competitive Economy in the World

by the "World Competitiveness Report" 1995-97 2nd

Fortune's best city for business 1996 1st

Ownership of merchant shipping fleet in 1994
(11.9 million gross tons) 9th.

(Sources: EIU, EU, The World Bank)

Given its size, population and short history of industrialisation, Singapore's achievements are impressive.

3.2 ECONOMIC GROWTH AND STRUCTURAL CHANGE:

3.2.1. THE INDUSTRIALISATION AND THE ECONOMIC GROWTH

It was believed that due to its small and open features, Singapore's economy was vulnerable to the influences of international markets and it was necessary for the Government to intervene in the economy to ensure its viability and stability. The Singapore Government was therefore obliged to play a very active role in social and economic development. The role the Singapore Government played in its economic growth is vital and is regarded as the most successful in the non-communist world. The contribution of the Government to Singapore's economic success will be analysed in detail in Section 3.5.

Singapore's industrialisation took place in the 1960's. It took 20 years for Singapore to transform its economy from a small entrepot trade entity to a regional centre for international services, in addition to a competitive industrial sector. Singapore has also become an attractive location in the Far East for multi-national investments in both manufacturing and services.

Since its industrialisation, Singapore has achieved a fast economic growth and transformation. In 1977, 12 years since Independence, Singapore was officially removed from the UN's roster of **Developing Societies**. In February 1988, as part of a move to protect its own economy, the United States removed Singapore from its general system of preferences applied to developing countries, along with three other NIC's in the Far East: Hong Kong, Taiwan and South Korea. This was in fact an acknowledgement of Singapore's achievement (**Ravenhill, 1994**).

Table 15 provides a broad picture of economic growth in Singapore during the last three decades. See also Tables 2 - 4 in p.33-34 as well as **Appendix 5** for statistics in relation to Singapore, in respects of growth in GDP, GDP per head and international trade in an international comparison.

Table 15 indicates that Singapore's economic growth is an **export-led**, trade dominated growth. The growth in exports was faster than the growth in GDP. The rises in GDP per head and in employment were contrasting with the decline in the unemployment rate. The expansion of official foreign reserves shows the success of the export-oriented economy in Singapore.

Table 15:

Major Indicators of Singapore's Economic Growth 1965 - 1995			
	1965	1995	%1965-'95
Total External Trade (S\$M)	6,811	343,830	4,454
Total Exports (S\$M)	3,004	167,510	4,714
Total GDP (current Prices, S\$M)	2,707	120,628	4,356
GDP per head (S\$)	1,435	34,788	2,324
Total Employment	519,000 (66)	1,748,100	237
Rate of Unemployment	9.0 (66)	2.0	
Foreign Reserves (US\$M)	121 (66)	68,547	56,550
Size of Budget (S\$M)	899	38,315	4,160

Sources: Chen, 1983. Singapore Government's Web site.

3.2.2 CHANGING ROLE OF MANUFACTURING

The rapid growth in manufacturing in Singapore was the backbone of industrialisation. There were two factors that contributed to the development of manufacturing:

a) Government Intervention

The Government was directly involved in the economic transformation in Singapore. Fiscal policies which aimed to improve manufacturing in certain areas were implemented; statutory boards which invested in major manufacturing industry on the Government's behalf were established. In addition, a growing number of wholly or partially state-owned enterprises were set up in major manufacturing sectors. Government intervention was regarded as vital by many commentators to the growth of manufacturing in Singapore.

b) Foreign Direct Investment.

Prior to the 1960's, manufacturing in Singapore was characterised mainly by small establishments, low technology and low value-added. In 1960, manufacturing in Singapore only contributed 12% of total GDP, and generated less than 10% of total employment. The role of indigenous manufacturing in the national economy was unimportant.

Since Independence, the growing inward foreign investment has played a fundamental part in transforming Singapore's manufacturing. The contributions of FDI were significant in terms of generating resources, improving productivity and developing overseas markets for Singapore's manufacturing exports. Detailed discussion is given in Section 3.4.

Table 16 demonstrates the changing importance of manufacturing in Singapore's national economy. From the mid 1960's to the mid 1970's, manufacturing experienced a significant expansion owing to the successful industrialisation. The shares of manufacturing in both total GDP and total employment were increased. Singapore's ability to export was also greatly improved which was resulted in manufacturing exports making a dramatic gain in the share of total output.

Table 16:

The Changing Face of Manufacturing in Singapore, 1965 - 1995						
	1965	1970	1975	1978	1990	1995
Manufacturing % of total GDP	15.3	20.5	22.6	22.6	28.8	28.0
Manufacturing % of total employment	9.8	19.2	23.7	23.5	28.5	25.6
Domestic Exports % of total exports	32.7	41.7	64.6	66.5	65.9	60.1
Exports % of total output in manufacturing	32.6	44.6	59.8	63.9	91	90

Sources: Chen, 1983. EIU, Singapore.

The Second Industrialisation took place in Singapore in the mid 1970's, which was initiated by the Government who re-focused its development strategy from manufacturing to services. Led by the recovery of entrepot trade, the growth in market services in Singapore eventually outpaced the growth in manufacturing. According to the World Bank, from 1981-1990 the annual growth in manufacturing in Singapore was 6.4% compared to 7.5% in services. This was the reversed situation to the previous decade, when manufacturing grew 9.8% compared to 8.8% in services between 1971 - 1980 (**World Development Report, 1992**).

In addition to the growth in entrepot trade, transport and communications, and tourism sectors; the most striking feature of the Second Industrialisation was the evolution of the finance sector in Singapore. The finance sector has achieved rapid growth since the 1970's in terms of contribution to GDP, employment and the number of financial institutions (**Appendices 5, 6**). The success of the finance sector established Singapore's status as a major international financial centre in the Asian-Pacific region. Consequently the importance of manufacturing in Singapore's economy declined.

3.2.3 GROWTH OF SERVICES SECTORS

a) External Trade:

Similar to other SOEs, Singapore's economy is characterised by a high dependency on foreign trade. Since its industrialisation, the diminishing trade sector in Singapore has recovered swiftly and is now more than doubled its GDP contribution. Singapore has also achieved the highest external trade per capita in the world (**Tables 17, 18**).

Table 17:

Comparison of External Trade per capita (US\$) 1996, and world ranking		
World ranking		US\$
1	Singapore	84,309
2	Hong Kong	60,600
3	Ireland	27,230

Source: EIU, CSO.

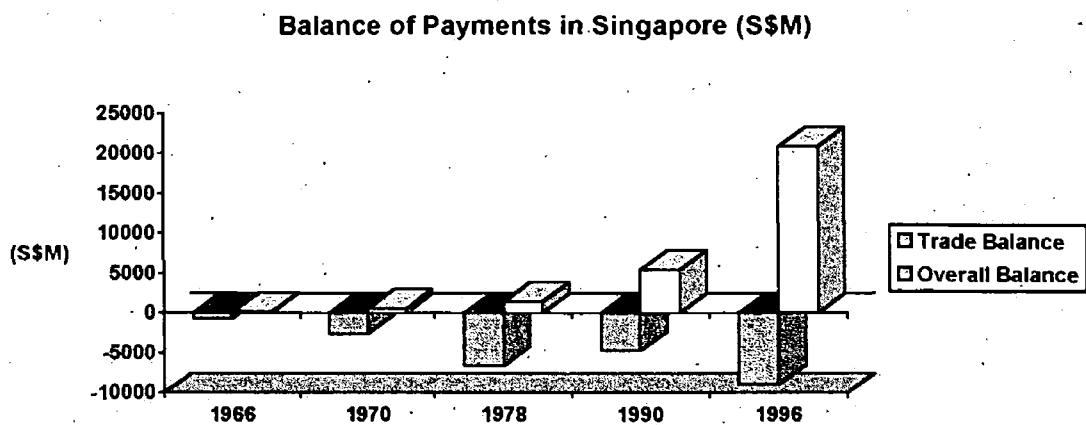
Table 18:

	The Importance of External Trade in Singapore's Economy (current S\$M)				
	1960	1970	1980	1990	1996
Total External Trade	7,555	12,290	92,800	205,020	361,383
Total GDP	1,985	5,320	28,750	67,705	132,600
External Trade % GDP	381%	231%	323%	303%	273%

Sources: Chen, 1983. EIU. Singapore Government's Web site.

Similar to Hong Kong, a key feature of the balance of payments in Singapore is its consistent surplus in services. Singapore's trade balance has always been in deficit since the early 1950's. However, the growing surplus in services has managed to keep Singapore's overall balance of payments in the black since 1966 (**Figure 7**).

Figure 7:



Sources: World Bank. EIU.

As a result of the accumulation in overall surplus, Singapore's foreign reserves amounted to over US\$70 billion in 1996, compared to less than US\$2 billion 30 years earlier. Foreign reserve per capita in Singapore was the highest in the world in 1996 (Table 4, p.34).

b) Financial Services:

Although improving rapidly, Singapore's manufacturing faced limited land spaces, lack of natural resources and stiff competition from other progressive developing countries during the 1970's. In recognition of the restraints on the further development of manufacturing industry, the Singapore Government initiated the Second Industrialisation. The economic strategy was to diversify and to upgrade Singapore's industry. Meanwhile, in the services sector, the emphasis was on the development of tourism, transport, warehousing and in particular, financial services.

In order to turn Singapore into a regional financial centre, numerous fiscal incentives were implemented, along with the complete removal of foreign-exchange controls. As a result, the financial sector in Singapore has become the largest economic sector in terms of share of GDP (27.4% in 1995). In 1994, there were 209 banks in Singapore compared to 37 in 1970, the number of people employed in the finance sector was 198,600 and accounting for 12% of total employment (Appendices 5, 6).

The factors contributing to the dynamic growth of the financial sector in Singapore are its geographical location; political and monetary stability; relatively developed financial infrastructure and its traditional function as a commercial and trading centre. The most important factor that attributed to Singapore's successful **Off-shore** banking business is the development of the Asian Dollar Market (**ADM**).

The ADM was launched in 1968, at a time when expanding economic development in Southeast Asia rapidly increased the demand for foreign funds; the need of a regional centre to carry out the necessary intermediate functions was apparent. Singapore offered the ideal location and infrastructure. It also enjoyed a special advantage over Tokyo, another potential financial centre in the same region, with respect to time zone (Singapore is in the same time zone as Hong Kong). Since the formation of ADM, Singapore's banking sector has experienced fast expansion, its combined assets and liabilities increased at an average annual rate of 77.5% between 1969 and 1979. Singapore has become the third largest financial market in the Far East (**Regional Survey of the World: Australasia and the Far East, 1996**). Singapore's foreign exchange market is the fourth largest in the world, with a daily turnover of more than US\$100 billion.

c) **Other Service Sectors:**

As pointed out earlier, Singapore's service trade has achieved a continuous surplus over the last few decades. The largest component of incomes from the trade in services consists of port disbursements by ships and aircraft, payments and receipts of passenger fares, and miscellaneous services such as management, professional and consultant services.

Two sectors in the services are major players in terms of earning foreign exchange - transportation and tourism.

◆ **Transport:**

Two of the segments of Singapore's transport system are most significant - shipping and civil aviation. Shipping has been Singapore's traditional activity due to its entrepot history. Harbour facilities and shipping industry in Singapore have been well developed, and Singapore Harbour has become one of the four largest harbours in the world since the

1970's. In 1996 Singapore Harbour handled 125 million tons of cargo, and dealt with over 100,000 vessel departures, making it the busiest in the world. The growth of Singapore's shipping industry is also remarkable (see Table 7, p.41).

The state-owned Singapore Airlines is one of the most profitable airlines in the world. Singapore International Airport has become increasingly important as a hub for long haul flights between Australasia, Asia, and Europe. In 1996 the airport handled over 20 million passengers, of whom 1.4 million were transit passengers.

◆ Tourism

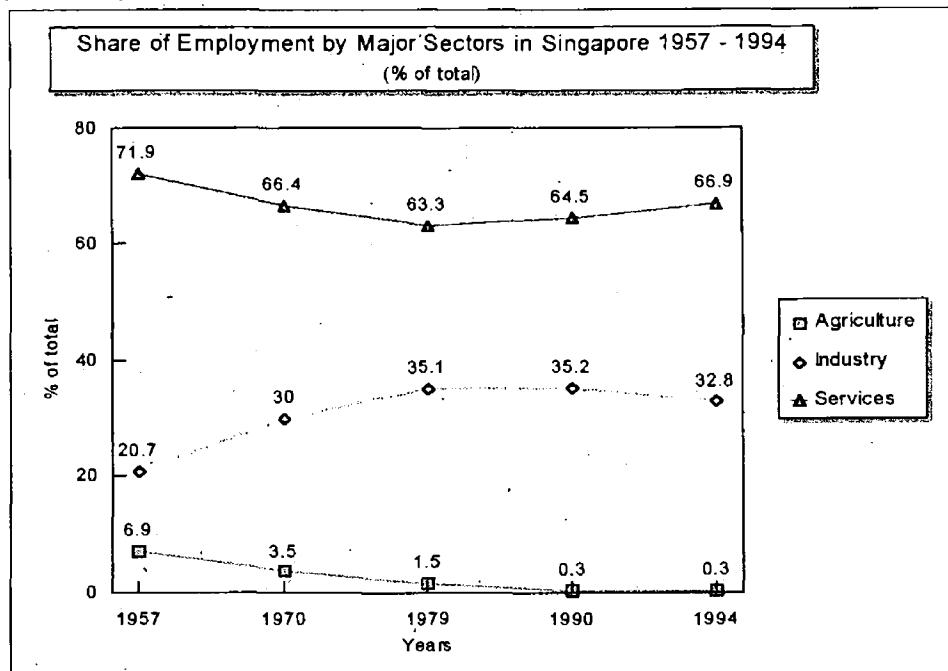
Although small in size and lacking in natural landscapes, Singapore turned herself into a popular tourist destination with the help of a buoyant economy and a cultural diversity. The tourist industry in Singapore plays an important part in earning foreign exchange. There were 25,000 hotel rooms, with an occupancy rate as high as 86.6% in 1994. Total tourist earnings amounted to S\$2,605 million, and accounted for 5% of the total services exports. The number of tourists visiting Singapore increased from a mere 90,000 in 1960 to 2.8 million in 1981. In 1996 Singapore attracted more than 9 million visitors (EIU).

3.3. EMPLOYMENT IN SINGAPORE

Prior to industrialisation, Singapore's employment situation was characterised by a high level of unemployment and unrest in industrial relationships. The rapid growth of the economy since industrialisation successfully reduced unemployment, and state controlled unions also effectively improved industrial relations. The man-days lost due to strikes were reduced from over 150,000 in 1960 to under 3,000 in 1970 (Chen, 1983). Since the mid-70's Singapore has became a **strike free economy**.

The overall development of Singapore's labour market is reflected in Figure 8 and Table 19. Except for the shift of employment from agriculture to manufacturing and services between the 1960's - the 1970's, the sectoral share of employment in Singapore has been relatively stable over the last two decades. Services have dominated Singapore's employment structure throughout the post-war period (Figure 8).

Figure 8:



Sources: Chen, 1983. EIU.

Table 19:

Changes in Population, Labour Force, and Employment in Singapore, 1957-1996							
	1957	1960	1970	1980	1990	1996	%57-96
Population '000	1,446	1,646	2,075	2,414	2,705	2,987	106.6
Labour Force '000	472	472	693	1,053	1,564	1,795	280.3
Total Employment '000	449	449	644	1,021	1,537	1,748	289.3
Unemployment Rate %	4.9	4.9	6.0	3.0	1.7	2.6	
Participation Rate %:							
Male	87.7	N/A	82.3	80.7	78.3	78.4	-9.3
Female	21.6	N/A	29.5	40.9	48.4	50.9	29.3

Sources: Chen, 1983. Singapore Government's Web site.

"Regional Survey of the World: the Far East and Australasia, 1996."

Singapore's labour market suffered from over-supply and inadequate demand in the early 1960's due to the fast growth in population and a weak economy, unemployment rate was at its highest level in the history of the state. The Government therefore focused its industrial promotion on labour intensive industries at the early stage of industrialisation, and population control policies were also implemented. Table 19 reflects the success of the Government intervention; the unemployment rate

in Singapore was reduced to 3% in 1980. Since the 1980's, the unemployment rate has been low; Singapore has effectively become a **full employment economy**. Singapore experienced labour shortages in recent years, subsequently a growing number of foreign workers are allowed into Singapore's labour market. The number of foreign workers in Singapore in the early 1990's reached 200,000 which accounted for over 13% of total employment (**EIU, Singapore**).

Table 19 also represents the development of population and employment in Singapore over the last few decades. The growth of total employment was faster than the growth of the labour force, that resulted in a fall in the unemployment rate. The total labour force has been growing faster than the growth of the population, owing to the increase in the female participation and to the importation of foreign workers.

3.4. FOREIGN INVESTMENT IN SINGAPORE:

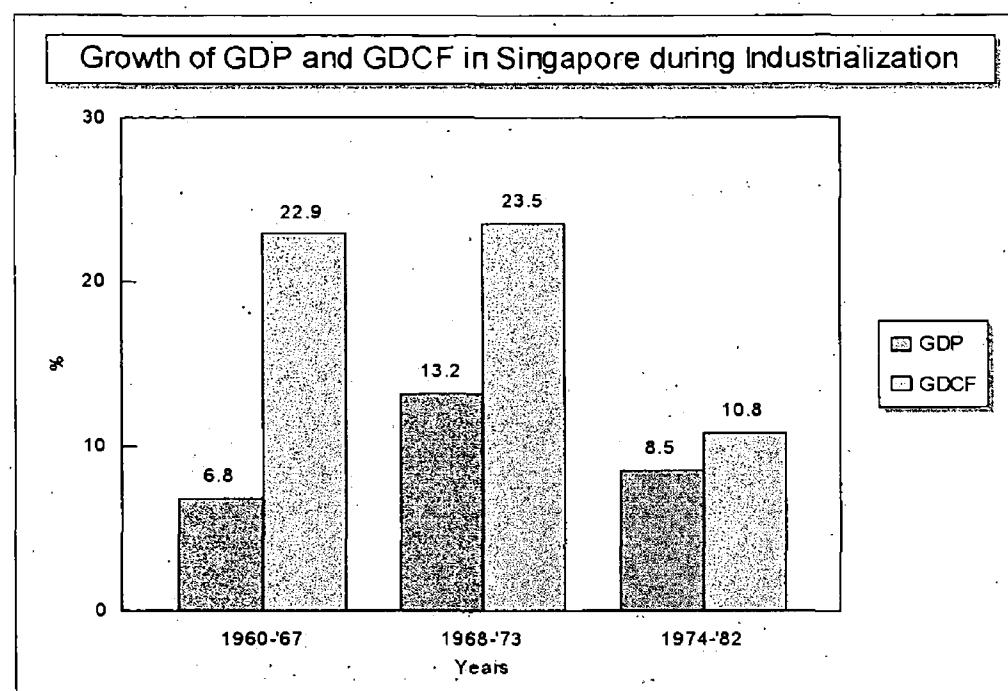
The role of foreign direct investment (**FDI**) is fundamental to the post-war economic development in Singapore. Foreign interests are extensive in the economy, the contributions of FDI towards Singapore's industrialisation and modernisation are significant. Foreign investment in manufacturing in particular, is predominant, and the Government plays an important part in attracting international mobile capital. The aim of this section is to summarise the impact of foreign investment in the process of Singapore's economic growth, and to focus upon the manufacturing industry.

3.4.1 GENERATING CAPITAL INVESTMENT

Industrialisation in any developing country means intensive capital investment. As a developing country, Singapore was no exception. From the early 1960's to the 1970's, the Gross Domestic Fixed Capital Formation (**GDCF**) in Singapore was growing at an average of over 20% annually, the growth in GDP was also high (**Figure 9**). When the economy underwent such a high speed growth, domestic investment was inadequate to meet the demand despite the high growth in GDCF. Thus, generating capital from foreign sources was imperative. Under these circumstances,

public borrowing from abroad could have occurred as it has happened in other countries. However, the majority of Singapore's external capital requirement was met by private foreign investment. Inward FDI in Singapore has completely outweighed public external debts (Table 20).

Figure 9:



Source: Chen, 1983.

Table 20:

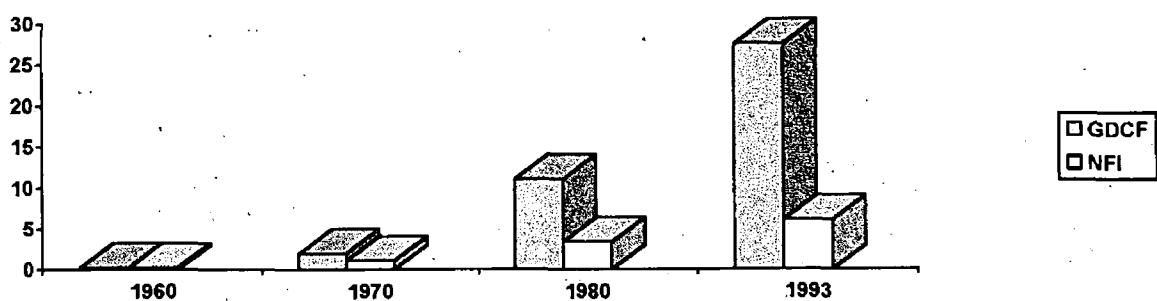
	Foreign Investments and External Debts in Singapore (S\$M)				
	1965	1970	1980	1990	1996
Public External Debt	63	174	67	68	0
Net Foreign Investment (NFI) *1993	307	1,115	3,349	4,004	6,062*

Sources: The World Bank, "Liberalizing Foreign Trade" 1991. EIU.

Foreign investment accounted for a considerable percentage of total investment in Singapore throughout industrialisation, although its importance in Singapore's economy has become less significant since the last decade. Figure 10 provides a detailed account.

Figure 10:

The Importance of Foreign Investment in Singapore (S\$B)
(NFI=Net Foreign Investment)



Source: Chen, 1983. EIU.

3.4.2. CORNERSTONE OF INDUSTRIALISATION

The impact of foreign direct investment on the transformation of Singapore's manufacturing industry can be perceived from its massive scale (**Table 20**). The involvement of foreign investment in Singapore's manufacturing industry has been extensive throughout the last three decades. Underlying the predominant position of foreign firms in Singapore is its high % share of assets, investment, output, value added and exports in Singapore's manufacturing industry (**Chen, 1983 and Rodan, 1990**). Given that the success of manufacturing in Singapore is the key element of the successful industrialisation, the role of foreign investment in Singapore's industrialisation was crucial. Foreign investment also prevails in many other sectors of Singapore's economy. There were 197 foreign companies listed on the Singapore stock market in 1989, compared to 136 domestic firms.

Apart from bringing in new technology and fresh capital, FDI in manufacturing also played a vital part in improving and upgrading Singapore's industry in terms of viability, productivity and job creation. FDI is welcomed in most areas of economic activities in Singapore, the only exceptions being the defence industry and mass media. Although there has been a long tradition of foreign investment in services industries in Singapore, there is less foreign dominance in services than in manufacturing apart from banking. There is an extensive presence of foreign banks in Singapore,

due to its status as a financial centre. However, unlike Hong Kong, foreign banks in Singapore are being kept out of the domestic market, their activities are confined to **off-shore** transactions. The domestic market is still dominated by four of Singapore's largest banks. Only in recent years, has the Government begun to prepare to open up the domestic banking market, in response to the requirement of the World Trade Organisation (WTO, of which Singapore holds a full membership), and to accept the reality of international financial integration. Increasing foreign investment in Singapore's banking sector is expected.

3.5. THE ROLE OF GOVERNMENT:

A study of Singapore's model of economic development would not be complete without an analysis of the Government's role. An essential element in past growth in Singapore was the effective implementation of soundly conceived government policies. Many major factors that contributed to the success are also under the influence of the Government. These factors include the competitiveness of Singapore's exports in world markets, the ability to attract foreign investment, the allocation of resources to investment - mostly into infrastructure and human resources rather than social welfare - and the development of international market services. The pervasive and penetrating intervention of the Government is a key feature of the Singapore model.

3.5.1 INVESTMENT

The Singapore Government is directly involved in economic development through public enterprises. Public enterprises in Singapore can be categorised into statutory boards and their subsidiaries which were formed under three holding companies that are directly owned by government ministries. Statutory boards are autonomous government agencies created through special legislation by the Singapore Parliament to perform specific functions. They are financially independent and they enjoy greater autonomy and flexibility than government departments. The first statutory board was formed in 1959, there was a total of 72 statutory boards in Singapore in 1982 (**Chen, 1983**). In the meantime, an evolution of a cluster of public owned companies, both wholly-owned and partially-owned, has taken place. The total paid-up capital in state-owned companies increased from S\$1.2 billion in 1974 to S\$2.9 billion in 1983 (**Ravenhill, 1994**).

Table 21:

Wholly Owned State Companies in Singapore in 1985		
Industry	Number	Percentage Share of Net Profit/Loss
Holding Companies	3	77.6
Manufacturing	10	12.7
Petrochemicals	5	-10.2
Printing	1	0.3
Trading	12	4.0
Financial Services	3	4.8
Ship Building	5	-35.4
Shipping	1	1.6
Aviation/Transport	2	29.0
Tourism	3	-0.1
Properties	3	0.1
Housing Construction	5	14.6
Farming	1	1.8
Health Services	1	-0.8
Consultancy Services	1	-
Total	56	100

Source: **Ravenhill, 1994**

The 56 state companies listed in Table 21 covered all major industries and activities in the economy. The basic reason for forming state-owned companies in Singapore was to pioneer emerging industries, where the private sector was believed to lack the capital and expertise to establish them.

Such an extensive government intervention in the economy via public enterprises appears to be unique to Singapore. Nonetheless, it has not in any way adversely affected the growth of the economy, at least not in the 1960's and 1970's. In fact, public companies in Singapore provided the economic and social infrastructure necessary to industrialisation at the take off stage, and contributed immensely to the successful economic transformation in Singapore. However, some 25 years after the first wholly-owned state company was founded in April 1985, the Minister for Trade and Industry of Singapore announced in parliament that the private sector must at this stage of

development, become the engine of economic growth and a plan for nation-wide privatisation was proposed.

The objectives of privatisation in Singapore were different to similar measures in other countries, Western Europe in particular. Some of these countries' nationalised industries began as rescue take-overs which continue to be inefficient, cost-ineffective and unprofitable, and privatisation is motivated by financial considerations. Whereas in Singapore as evidenced in Table 45, this was not the case. The majority of the state companies were profit making, some of them were among the best in the world in their respective fields in terms of performance, notably Singapore Airlines and Singapore Telecom.

The decision to privatise was based on the recognition of the costs of over-dependence on foreign investors and on the Government. The economic growth in Singapore was believed to have reached the limits of a government-dominated growth strategy. As the objectives of the Government turned entrepreneur were more or less achieved, it was the time for the responsibility for economic development to be passed on to the private sector.

Singapore's privatisation is on a continued, gradual basis. Despite the privatisation, Singapore's state ownership is still a dominant feature of the economy.

3.5.2 FINANCING THE DEVELOPMENT

The Government also plays an important role in financing the economic development. Apart from the influx of foreign investment, the Government provides a considerable part of the capital that is required for rapid growth.

a) Central Provident Fund (CPF):

CPF is a central fund which is under 100% of government control. Every employee in the country pays a percentage of his/her wages into CPF, as social security contributions. He/she is entitled to withdraw from the fund on retirement; being permanently out of work; leaving the country, or for medical purposes. The employer contributes the same percentage as the employee into CPF. The Government used CPF funds to form part of its

development expenditure. Development expenditure is distributed through statutory boards and public enterprises. The Government thereby played a useful role as an intermediary to match savings and investments. On the one hand the Government borrowed from the private sector through CPF, while on the other hand it uses the funds to stimulate growth and industrial development. CPF is the biggest resource of the Singapore Government's development expenditure. Detailed discussion of CPF, and its possible implications to Ireland is given in section 5.8.1.

b) **The Development Bank of Singapore Ltd. (DBS):**

As mentioned above, the Government uses statutory boards to channel development expenditure into industry. Among the statutory boards, DBS carries out most Government funding projects. The DBS was incorporated in 1968 as a public limited company, to operate as a bank to take over the Government's industrial financing operations. Its primary function is to provide loans to Singapore's industry. In terms of total assets, DBS is the largest local commercial bank in Singapore.

3.5.3 INFRASTRUCTURE

The Government is directly involved in the development of infrastructure in Singapore. The state-owned airport, port, public transport systems and telecommunications system in Singapore are all rated world class. The state also offers financial back up to private firms in the infrastructure industry. As an example, in early 1997, Singapore's **The Strait Times** reported that the Government launched a S\$100 million (US\$70 million) scheme to share up to 50% of the cost of development projects with the telecommunications industry. To qualify for this grant, according to the Minister for Communications, firms must:

"Foster the strategic development of info-communications and postal services and enhance the competitiveness of Singapore as a global and regional business hub", also, the grant will support projects that **"encourage technology transfer by foreign companies."**

(The Strait Times, April 2, 1997).

Jurong Town Corporation (JTC) is another statutory board formed in 1968, with the aim of accelerating industrial infrastructure. Its main function is to improve the standard and supply of industrial buildings, land and supporting infrastructure. JTC has been building massive high-standard industrial estates to cater for the needs of Industrialisation. The expansion undertaken by JTC has relied heavily on loans from the Government. JTC has since become the largest private land owner in this country.

3.5.4 FISCAL POLICIES

Forming and implementing appropriate fiscal policy is another important step taken by the Government to promote industry.

a) Fiscal Incentives for Investment

In order to attract investment to certain **targeted** areas, the Singapore Government provided the following fiscal incentives:

- ◆ **The Pioneer Industries Ordinance (1959):**

Certain newly developed, capital intensive, high-tech industries were ratified as **pioneer industry**, and were regarded as priority in the economic development. **Pioneer industries** are exempt from company tax for 5 years.

- ◆ **The Industrial Expansion Ordinance (1959):**

Tax exemptions for existing enterprises whose investment expansion was approved.

- ◆ **The Economic Expansion Incentives (1967):**

Whereby profits on approved manufactured goods were to be taxed at only 4% instead of the standard 40% company tax for a period of 10-15 years.

These incentives were subsequently revised and more incentive schemes have since been introduced, covering business activities ranging from manufacturing to international consultancy, warehousing, investment and employee training. These incentives have been successfully facilitating the economic transformation in Singapore.

b) **Deregulation**

The trade policy in Singapore was characterised by a very liberal regime before 1960 owing to its entrepot tradition. However, the regulations of trade were becoming increasingly restricted in the early 1960's, due to an import-substitution policy adopted by the Government when Singapore was part of Malaysia. Since its separation in 1965, Singapore has vigorously pursued an export-oriented strategy. The main policies encouraging exports were officially announced in 1967, which marked the beginning of significant and continuous reductions in import tariffs and quotas. By 1973, not only were all quotas abolished, but a large number of tariffs had been removed (**Table 22**).

Table 22:

Liberalisation of Trade in Singapore 1965 - 1973:					
Number Changes in Quotas and Duties:					
	Number of Import Quotas	Number of Import Duties			
1965	230	175			
1967	72	20			
1969	7	3			
1971	0	0			
(B) Tax Reliance Ratio by Broad Categories:					
Year	Income and Profit Tax	Property Tax	Payroll Tax	Goods and Services Tax	International Trade Tax
1966	26.0	18.5	2.2	19.4	33.9
1969	29.4	18.0	2.1	28.0	22.5
1974	34.1	16.5	2.4	30.0	17.0
1977	38.4	15.5	2.4	28.1	15.6

Source: World Bank, "Liberalizing Foreign Trade", Vol 2, 1991.

3.5.5 PUBLIC HOUSING

Singapore faced the problem of over-crowding and housing shortages as early as the beginning of this century. This problem deteriorated to critical proportions in the post-war period due to rapid population growth and a stagnation in the economy. In the 1950's, there were over 70% of the population in Singapore living in shop-houses in the city centre and in temporary structures in the suburbs, quality accommodation was in short supply.

When Singapore gained self-government in 1959, the housing problem became top priority to the new Government. The Housing and Development Board (**HDB**) was accordingly established in 1960 to undertake large-scale public housing programmes, slum clearance and urban renewal. The Government has since given HDB full financial backing for its housing development programmes. In addition, HDB was given the power to acquire compulsorily, through the Lands Acquisition Act of 1966, any private land it needed for housing development. The percentage of population living in HDB housing in 1959 was 8.8%, which increased to 90% in 1996 (**EIU**).

The impact of the public housing programme on Singapore society:

a) Re-distribution of income

One of the main objectives of public housing is to provide low-cost housing for low-income groups as well as helping ordinary people own decent residences. HDB's housing is sold to the public at subsidised prices, which usually counts just the cost of construction as the value of land is not calculated. Therefore compared to private properties, the prices of HDB housing are 70% cheaper. In addition, people can use their share in CPF to pay for their HDB housing, thus the significance of accommodation costs in terms of total living expenses is reduced.

b) Stabilising property market

The success of the public housing programme in Singapore not only contributed to the redistribution of income but also served as an important measure to counter-check the ever-rising prices of housing purchasing and rental in a land-scarce society. Increased house prices could give rise to inflation and, in turn, increasing production costs (as has happened in Hong Kong). This would weaken Singapore's competitiveness in the international market in terms of production cost.

c) Social Effects

Another important effect of successful public housing was its contribution to the improvement of social welfare, and subsequently gaining political stability and domestic confidence.

3.5.6 SOCIAL POLICIES

a) Education

In an attempt to generate an adequate quality and quantity of skilled labour to support the economic growth, the Singapore Government has been making efforts to expand education. During the last two decades, Singapore has witnessed a rapid growth in Government spending on education, the education expenditure in 1994 reached S\$827 per person, compared to S\$14 in 1978. As a result, schools in Singapore achieved the highest scores in recent international survey (**Appendix 2**).

b) Family Planning

The concept of family planning may be against some people's religious beliefs, but Singapore's small size combined with rapid growth of population and young population structure, make family planning a prerequisite for its survival. Since the Singapore Family Planning and Population Board (SFPPB) formed in 1966, Singapore's demographic conditions have improved (**Table 23**). Both the birth rate and natural growth of population have reduced, and the fall in the infant mortality rate was very impressive.

Table 23:

Demographic Statistics of Singapore:				
	1959	1969	1979	1995
Population ('000)	1,580	2,043	2,362	2,987
Crude birth rate 0/00	39.5	21.8	16.9	15.7
Natural Growth %	4.3	1.5	1.2	1.9
Infant Mortality rate 0/00	36.0	20.9	12.6	4.0
Net Population Increase over the previous decade %		29.3	15.7	*26.5
* 1979 - 1995				

Sources: Chen, 1983. EIU, Singapore.

c) Wage Policy

In 1972 the National Wages Council (NWC) was formed. A tripartite body having equal representation from the Government, employers and unions, the NWC has been formulating

wage policies and guiding wage increases. By formulating wage guidelines for the economy, NWC ensures that the development in wages is in line with economic and social development, so as to create a conducive investment climate for both domestic and foreign investors. The principle policy of NWC over the past 25 years has been a policy of wage moderation, with the only exception between 1979-1981 when a short lived high wage policy was adopted. Since the early 1980's, NWC has been seeking a moderate increase in the national wage level, with the purpose of maintaining Singapore's competitiveness in the world market. While NWC's recommendations were not mandatory, they were accepted in full by the public sector, and widely followed by the private sector. The Government has been using NWC's influences to implement its development strategy, thereby to sustain a fast and balanced growth in the economy.

d) Union Policy

Before Independence, Singapore had an influential union movement which caused frequent upsets to the economy and resulted in deteriorating industrial relations. Strikes were common. In the late 1960's, labour laws were enacted to curb the power of unions and to provide for a subsequent **symbiotic relationship** between the trade union movement and the ruling political party (Chen, 1983). Trade unions also underwent restructuring during the same period. New unions were formed, which eventually came under State control. In more recent years, the union movement has played a positive role in contributing to industrial peace.

3.6 MONETARY AFFAIRS:

Similar to Hong Kong, before 1972 Singapore was a member of the Sterling Area with its currency, the Singapore dollar, pegged to sterling. Following the floatation of sterling in 1972, and a short period of fixed exchange rate with US dollar, the Singapore dollar switched to a managed floating rate system. The exchange rate of Singapore dollar moves against a trade weighted basket of 15 currencies of its main trade partners; the weight of each currency has been kept in secret.

As the result of the breakdown of the fixed exchange rate regime and the complete abolition of foreign exchange control in 1978, the floating exchange rate policy has become an important

instrument for economic stabilisation in Singapore. The Monetary Authority of Singapore (MAS) was established in 1977 with a function of a central bank, and is responsible for the stability of Singapore dollar within the target band. The economic development in Singapore over the last two decades has demonstrated the successful track record of MAS, in terms of low interest and inflation rates and a strong Singapore dollar.

Although growing rapidly and open to international money markets, Singapore has enjoyed a structurally low inflation rate (except for 1973-74, during the oil crisis. **Appendix 3**). It was a result of an appropriate exchange rate system, free trade policy (which keep imports prices low), wage control, non-inflationary fiscal policy based on a budget surplus, and a strong currency through the intervention of MAS.

All the factors mentioned above contributed to the strength of the Singapore dollar over the years. The appreciation of the Singapore dollar against the US dollar was significant - from US\$/S\$ 2.28 in 1973, to S\$ 1.41 in 1996, a 100% increase. The effective exchange rate of Singapore dollar has also appreciated rapidly since 1990 (**Appendix 7**), this has caused concern over its effect on Singapore's competitiveness. However, the centralised wage control which is carried out by NWC in Singapore has achieved a moderate increase in labour costs over the last decade (**Appendix 8**), and consequently very stable relative export prices (**Appendix 9**). As a result, Singapore's exports have been competitive while the Singapore dollar remains a strong currency - a prerequisite for a low inflation and low interest rates macroeconomic environment.

This completes the case studies part of this thesis. Rapid economic growth in both Hong Kong and Singapore since the post-war period has been exceptional; Chapters 2 and 3 draw a broad picture of development and transformation in both economies. Analytical discussions are carried out in the next two chapters in order to evaluate the experience of Hong Kong and Singapore in the light of the literature review and theoretical proof.

CHAPTER 4: ASSESSMENT AND ANALYSIS

The previous chapters dealt with literature review and case studies. It is the intention of this Chapter to analyse the economies of Hong Kong and Singapore within the framework discussed in Chapter 1, in order to discover the rationale behind the success of both economies.

4.1 FINDINGS OF THIS STUDY:

It was discovered in the case studies in Chapters 2 and 3 that a significant feature of economic development in Hong Kong and Singapore has been the evolution of service sectors since the 1970's. Internationally competitive market services have become the source of growth in both cases over the last two decades. This has resulted in a fundamental transformation of their national economies, which is characterised by their emergence as regional international centres for trade and services. The development of service sectors has accounted for a majority proportion of increases in output, exports and employment. The service sectors have been the **engine of growth** in both economies.

However, little has been found in this regard in the literature under review. The importance of service sectors in Hong Kong and Singapore has been overlooked by most researchers; the only exception was Herrick and Kindelberger as they pointed out that:

“Each country has unique characteristics. In our enthusiasm for uncovering features common to the development process in many countries, we should not lose sight of local differences. Some countries' development has depended on agricultural productivity growth and corresponding primary exports (e.g. Denmark, New Zealand, Argentina). Others have emphasised advanced commerce and business services (e.g. Singapore, Hong Kong, Beirut before 1975, Panama).”

(Herrick and Kindelberger, 1983, p.81)

Unfortunately Herrick and Kindelberger's observations in the early 80's has been generally ignored. When dealing with East Asian NIC's, economists emphasise manufacturing development and manufacturing exports. The fact that both Hong Kong and Singapore have the best overall performances in economic growth in spite of a less impressive indigenous manufacturing sector was overlooked.

Industry is traditionally deemed to be the backbone of an economy. Studies on growth and development are therefore focused on manufacturing, although Herrick and Kindleberger remind us that this is not the case in reality. Misconceptions stemmed from ignorance result in incorrect conclusions. This is why some studies of Hong Kong and Singapore offered no real lessons. O'Malley's (1989) brief comparative study of Hong Kong and Singapore was one of the few Irish studies of this kind. O'Malley observes that neither of Hong Kong and Singapore's indigenous industries "has shown clear signs of overcoming the constraints on late industrialisation which are apparent in Ireland's case." In determining the reasons for the success of Hong Kong and Singapore, he was on the right track initially by recognising that:

"Rather they have found it possible partially to evade these constraints by exploiting exceptional and limited opportunities which exist in the world economy. They have done this to an extent which had a substantial impact on their very small economies but would not appear to hold out great prospects for larger countries or the underdeveloped world in general."

(O'Malley, 1989, p.210)

O'Malley's conclusion would have been a perfect one if it was meant for the development of international services in Hong Kong and Singapore. Unfortunately, similar to other literature on East Asian NIC's, the focus of O'Malley's study was on manufacturing which was indicated in its title: "**Industry and Economic Development**". Since his discussion was confined to the manufacturing sector, O'Malley came to this conclusion:

"These exceptional and limited opportunities were, for Singapore as in the case of Ireland, primarily the possibility of attracting a particularly large share of a globally limited amount of mobile export-oriented foreign industry. And Hong Kong has succeeded in capturing a large share of export markets for the limited range of products of labor-intensive, small-scale and technologically mature indigenous industries."

(O'Malley, 1989, p.210)

Thus no lesson can be drawn for Ireland.

Researchers tend to ignore the fact that there is no absolute positive correlation between success in manufacturing and success in economic development, in particular in small economies. It is not the intention of this study to discredit the crucial role of manufacturing progress in the development of world economy as a whole. However, it is true that the economic structures of individual countries vary, and Hong Kong and Singapore's experiences have demonstrated that there are other ways to achieve success.

A useful thinking was found in Ireland, which was represented by O'Grada and O'Rourke:

"The logic of Ireland's quest for manufacturing jobs is however unclear. Is this really where Ireland's comparative advantage lies? If it lies elsewhere, then promoting industry at the expense of other sectors of the economy misallocates resources, reduces the value of A (constant output) in the aggregate production function, and lowers the level (and possibly the growth rate) of GDP."

(O'Hagan, 1995, p.222)

Are there any other sectors in the Irish economy more promising than manufacturing? In order to find out, this chapter will be followed by a comparative study of Ireland, Hong Kong and Singapore.

Another important finding of Chapters 2 and 3 which contradicts some recent empirical evidences, is technological progress in Hong Kong and Singapore. Empirical tests of long term growth by Boskin and Low (1992) and Kim and Lan (1992) showed that there has been no technological progress in the NIC's, with more than 80% of their economic growth being explained by capital accumulation (Ito and Krueger, 1994, p.56).

However, significant technological progress in services sectors in Hong Kong and Singapore has taken place, which was overlooked by most commentators. These two economies can achieve successes in international traded market services, not only because of an adequate input of capital and human resources, but also the extensive technological improvements that have taken place in both economies. Technological progress helps to sustain the competitiveness of service sectors in Hong Kong and Singapore in the increasingly competitive international market. The focus of technological transformation in Hong Kong and Singapore is information technology, which forms the nerve systems of major activities in their economies, e.g. finance, trading, business services. In order to maintain its stature as an international financial and trading centre, Singapore has established a sophisticated communications and information technology infrastructure; continuously upgraded the skills of its work force to keep up with the more challenging demands placed upon it; and closely monitored relevant global technological developments, absorbing them as quickly as possible.

As a result of this aggressive strategy and efforts, Singapore's telecommunications system received the highest score in the World Competitiveness Report 1991, followed by the US and Japan. In

1989, Singapore became the first country to achieve 100% ISDN (Integrated Services Digital Network) availability, compared to less than 2% range offered by an American company in the same year. In 1991, Singapore Telecom introduced the first videophone booth in the world on streets of Singapore, that was connected to 10 cities in Japan. Another example offered by Sisodia clearly demonstrates the role of technological progress in improving productivity in Singapore's service sectors.

"Trade Net", one of the many computer networks set up by the Singapore Government is: "a project that saves Singaporean traders approximately one billion US dollars a year."

Sisodia explains:

"International trade has traditionally involved an enormous amount of paperwork. With TradeNet, traders simply fill out one electronic form, which can be submitted by modem to the Trade Development Board's main computer 24 hours a day. Information is then routed, again electronically, to the appropriate Government agencies from among the 18 involved in issuing trade documents. Approvals, often generated with the help of expert systems, are deposited in the electronic mailbox of the trader, typically within 15 minutes, application fees and custom duties are automatically debited from the trader's bank through electronic funds transfers. TradeNet also automatically routes approved permits to the Port and Civil Aviation authorities to facilitate the physical clearance of goods".

(Sisodia, Rajendra, Harvard Business Review,
May - June 1992, p.40 - p.42)

Hong Kong's telecommunication system possesses advanced technology as well, as discussed in Chapter 2. Progress in technology therefore, did take place in Hong Kong and Singapore and contributed to the growth of the economy.

4.2 A BRIEF CONCLUSION;

Among the small economies in the world, significant differentiation of characteristics is observed. According to their economic backgrounds, all small economies can be put into four categories.

- a) **Small, with abundant natural resources.** Economies included in this group are: United Arab Emirates and Kuwait in the Middle East; Brunei in Asia and Norway and Iceland in Europe. The possession of abundant valuable natural resources, notably oil reserves, has provided these economies with an unparalleled advantage over other small economies in

terms of economic development. Natural advantage plays a vital role in economic growth and social development in this group of countries.

- b) Small, with sufficient natural resources, located next to economic superpowers.** Most of the small economies in Europe belong to this group, including Belgium, Netherlands, Denmark, Austria and Luxembourg, as well as New Zealand. The close economic relationships between these countries and powerful large economies including Germany, France and Australia, have had enormous impact on their economic growth and industrialisation. Technically, Ireland belongs to this group, but the declining importance of the British economy has had a negative effect on Ireland. The location of Ireland has been regarded as **peripheral**, at least since its **Independence** in 1922.
- c) Small, but can survive by relying on a single traditional industry owing to its natural advantage.** Such advantage consists of natural landscapes which promote tourism, such as the Caribbean states, Cyprus, Malta and Mauritius. Although it is not the only economic activities in these states, the tourist industry has a predominant position in their economies in terms of income and employment.
- d) Small, with neither natural resources nor wealthy neighbours, but with a strategic location.** Hong Kong and Singapore are in this group. The geographic location and fine harbour are the only advantages they have with entrepot trade as the main industry. Ireland also belongs to this group, in the sense that the proximity to Britain is considered as a disadvantage (**Mjøset, NESC, No.93, p.255**).

Due to the different economic backgrounds, small economies in the world exhibit different patterns of economic growth and economic structures. Among them, groups A and B enjoy high levels of income and comfortable living standards. It is undeniable that their natural advantages are important contributors to their economic success. Small economies in the other two groups are not so fortunate. With no valuable resources to depend on, their economic development requires extra effort.

Clearly for the economies in groups A and B, economic success is expected. In contrast, few countries in the other groups have achieved a satisfactory economic growth, with the exceptions of Hong Kong and Singapore. Therefore to study economic growth in Hong Kong and Singapore can be helpful for other small economies in the same situation.

One distinct feature of economic growth in Hong Kong and Singapore is, as the case studies have revealed, the two stages of industrialisation in both cases. The first stage was a typical export-led growth model, that export growth set up a virtuous circle of growth, i.e. once a country is launched on the path, it remains in its competitive position in world trade and performs continually better than other countries. Manufacturing exports were the main source of growth.

The first stage of industrialisation in Hong Kong and Singapore was also a typical case of **dualism** **export-led growth**, which is the consequence of the significant role played by foreign direct investment in manufacturing. **Dualism**, defined by Thirlwall:

“A description of a condition in which developing countries may find themselves in the early stage of development, the extent of which may have implications for the future pattern and pace of development. There are a number of possible definitions and interpretations of the term 'dualism', but in the main it refers to economic and social divisions in an economy, such as differences in the level of technology between sectors or regions, differences in the degree of geographic development and differences in social customs and attitudes between an indigenous and an imported social system.”

(Thirlwall, 1994, p.128)

Apparently, **dualism economy** is an appropriate way to describe the early stages of development in Hong Kong and Singapore. Export was the impetus for economic growth. Technology **dualism** in industry prevailed and social dualism in both societies also prevailed. Since the Second Industrialisation however, the growth of services has resulted in the decline in importance of manufacturing in both economies. Foreign dominance has been falling in both terms of economic and culture significance. The characteristic of **dualism** has diminished in Hong Kong, and considerably improved in Singapore. Exports are no longer the goal of the economy. Export-led growth in Hong Kong and Singapore has evolved into a different formation of growth, e.g. an international services led growth.

An illustration of the process of economic growth in Hong Kong and Singapore is given in **Appendix 10**. This chart is derived from the case studies conducted earlier. It traces the path of Hong Kong and Singapore's socio-economic development during the last three decades, and summarises the different stages of the process of their economic transformation. It should serve as the conclusion of the general description of Hong Kong and Singapore's economic development from a broad perspective. The differences between these two economies are dealt with below.

4.3 AN ASSESSMENT OF HONG KONG AND SINGAPORE:

Although the paths of socio-economic development in Hong Kong and Singapore in the past are identical, fundamental differences between these two economies were revealed during this study. This section is devoted to discussion of factors which distinguish them from each other.

4.3.1 GOVERNMENT INTERVENTION

The different approaches towards economic affairs by Hong Kong and Singapore Governments have often been described as two opposite extremes. One maintains a free market and free competition, as a textbook model of **laissez faire** economy; while the other depends on strict discipline and keen scrutiny, being an example of rigid interventionism. Singapore's rapid development has largely been the outcome of a political process by which the national leaders assumed the responsibility "**to get an unique society set up out of extraordinary circumstances, of near despair**" (the Prime Minister, Lee Kuan Yew in Parliament, 1985). Apparently the Singapore Government believed that society could be remodelled through the intervention of the state to achieve higher standards of living and better forms of economic structure. Therefore, the State took on the fundamental role of comprehensively planning, engineering and guiding the process of social and economic development. Whereas in Hong Kong, the Government advocates a **positive non-interventionism**, a term used to describe the particular way the Hong Kong Government deals with the economy. The consistently applied philosophy of the Hong Kong Government is based on a commitment to market forces, free enterprise and free trade. It was believed that in creating an environment with minimum Government regulation and interference,

plus maximum Government support in terms both of infrastructure and law and order, the economy can flourish.

Table 24:

Comparison of Government Ownership in Hong Kong and Singapore		
	Hong Kong	Singapore
Public Transport	partially state owned	state owned
Airport and Harbour	state owned	state owned
Airlines	private	partially state owned
Telephone	private	partially state owned
Television	private	state owned
Electricity	private	state owned
Land	state owned	majority state owned
Broadcasting	private	state owned
Economic Sectors	none	extensive

Sources: Lethbridge, 1983. Chen, 1983. Ravenhill, 1994.

There are different ways to assess the scale of government intervention in an economy, the first is government ownership in economic sectors. Table 24 demonstrates the distinct differences between Hong Kong and Singapore in terms of government ownership. Explanations for this difference can be found in the histories of these two states.

After obtaining self-rule from Britain in 1959 and following the separation from Malaysia, Singapore became one of the smallest Republics in the world in 1965. As a sovereign state, the Singapore Government has to look after its own interests in both political and economic affairs. Government intervention in Singapore was imperative.

The situation in Hong Kong was different. After the ratification with the Chinese Government in the early 50's, Hong Kong's political status quo was to be maintained as a British Crown Colony. As a colony, Hong Kong has no state government at all except for a few administrative bodies. Hong Kong's defence and foreign affairs had been the responsibility of the British Government until the **hand-over** (the Chinese Government after the **hand-over**). A **small government** therefore, has become a tradition in Hong Kong. The **small government** approach in Hong Kong in dealing

with political affairs was also extended to the handling of economic affairs, which is reflected in the minimal government ownership in Hong Kong.

In addition to government ownership, there are various indicators which also reflect the scale of government intervention in the economy. Table 25 compares the degree of Government intervention in Hong Kong and Singapore in respect of: Government Expenditure % GDP; levels of Taxation; Government Consumption % GDCF and Government Fiscal Policies. By all accounts, the degree of Government intervention in Singapore is proved to be much higher than that in Hong Kong.

Table 25:

Indicators of Government Intervention in Economy:				
		Hong Kong	Singapore	
Government Expenditure % of total GDP	1960	12.6%	14.4%	(1965)
	1970	10.6%	22.7%	
	1980	16.4%	26.9%	
	1996	14.1%	18.4%	
Taxation 1994:	Company Tax	16.5%	27%	
	Personal Tax	2 - 20%	30%	
	VAT	No	3% (since 1994)	
Government Consumption % of GDCF (Gross Domestic Fixed Capital Formation)	1970	33.9%	33.4%	
	1980	19.0%	24.0%	
	1990	28.1%	31.2%	
Fiscal Policies:				
	Tax Incentives	No	Yes	
	Subsidised Loan	No	Yes	
	Grant	No	Yes	
	Wage Policy	No	Yes	
	Government Investment Funding	No	Yes	
Monetary Authority		No (until 1993)	Yes (Since 1971)	

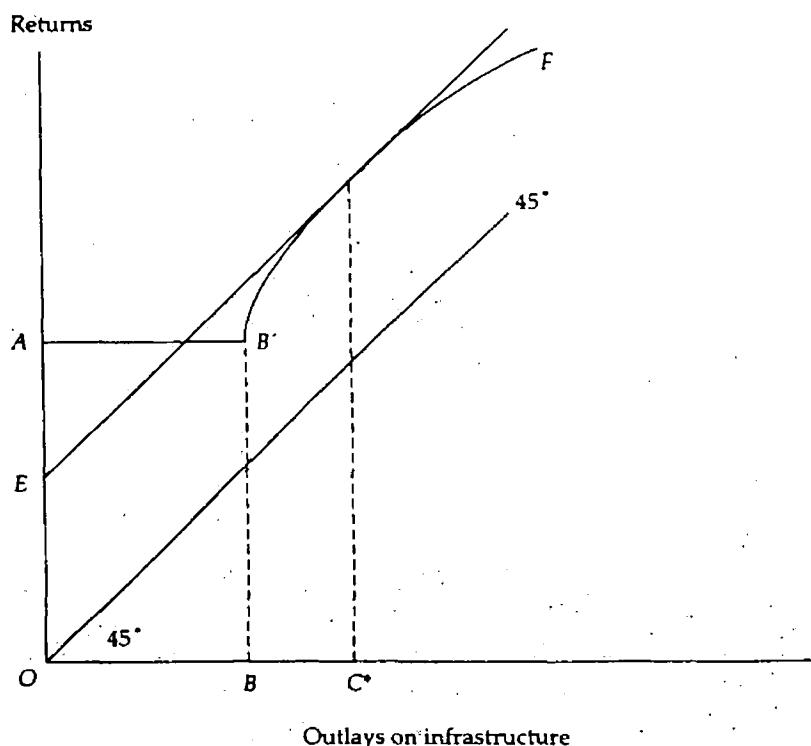
Sources: Lethbridge, 1990. Chen, 1983. EIU.

As discussed in Section 1.3.1, that there is no consensus on how to assess the role played by Governments in economic development in NIC's. One way to compare Hong Kong's *laissez-faire* strategy with the rigid intervention of Singapore is to examine the infrastructure outlays by the Government that were specifically designed to attract foreign investment.

The chart in Figure 11 compares the outlays with the present discounted value of the future returns that were brought in by FDI, and net of all repatriated profits.

Figure 11:

Government Intervention



Where OA measures the income that FDI would generate for the host country in the absence of any incentives. It represents the laissez-faire policy of Hong Kong would have achieved. Under the presumption that there is a discontinuity in the relationship between infrastructure outlays and the net income from FDI due to the return curve AB'F is flat from AB', thus, outlays below the level of OB do not bring in any additional income. Beyond OB the return is positive, but with diminishing marginal returns as indicated by the concave segment B'F of the return function.

The 45° line indicates the cost on the vertical axis of the corresponding outlays on infrastructure. Obviously the optimal strategy is to choose a level of outlays OC at which the slope of the return function is equal to unity, i.e. marginal return is equal to marginal cost. The point E, indicates a surplus of return OE from the extra outlays on infrastructure BC.

Figure 11 implies that there is no clear reason why either strategy should be preferred. The Singapore solution calls on the State to play a more active role than does Hong Kong's

decentralised approach. Thus the choice appears to be guided primarily by political factors. In Hong Kong the Government acted as if it was one of the local authorities in the UK, owing to its colonial connection. Whereas in Singapore the Government assumed a leadership role that was required for a government of any sovereign state, and it has extended this role into handling economic affairs with a hands on approach. Nevertheless these two states have achieved the same goal by different means. Thus, no positive correlation between Government intervention and economic growth was established.

4.3.2 FOREIGN INVESTMENT

Foreign direct investment in Hong Kong and Singapore has different features. Firstly, the approaches of the two Governments towards FDI are different as discussed earlier. Contrary to Hong Kong where foreign investment is equally treated, the Singapore Government vigorously pursues a strategy to encourage foreign investment to Singapore. Fiscal incentives which aimed at high-tech, capital intensive industries known as **pioneer industry**, are proved attractive to FDI, since the majority of investment in these areas comes from abroad. The State body in charge of investment, the Economic Development Board (**EDB**) also devotes itself to attract multi-nationals setting up in Singapore. The initiative by the Singapore Government has proved successful as foreign investment is flourishing in Singapore; **Appendix 11** has the evidence.

Secondly, the importance of foreign investment in the two economies is different, in manufacturing in particular. Foreign interests are extensive in both Hong Kong and Singapore's services sectors. However, the importance of foreign investment in manufacturing in Singapore differs from that of Hong Kong. Foreign capital occupies a predominant position in Singapore's manufacturing industry, whereas in Hong Kong foreign investment in manufacturing is less profound. In 1993, inward direct investment in Hong Kong accounted for 13.7% of manufacturing employment and 25% of domestic exports (**Hong Kong Yearbook 1995**). In comparison, foreign firms contributed 91% of Singapore's manufacturing exports in 1990 (**UN World Investment Report, 1995**).

In conclusion, although FDI has played important part in industrialisation in both economies, there is no definite correlation between inward FDI and economic success.

4.3.3 BANKING AND MONETARY AFFAIRS

Although Hong Kong and Singapore are both international financial centres, Hong Kong's financial markets are completely open to competition. Foreign banks can operate in both off-shore markets and in domestic markets (subject to license); whereas in Singapore the domestic market is insulated from foreign competition. No foreign banks are allowed to operate in Singapore's domestic market, where the four largest local banks dominate. The operations of foreign banks in Singapore are limited to off-shore trading only.

A fundamental difference between Hong Kong and Singapore's financial systems is their foreign exchange regimes, as described in Sections 2.6 and 3.6. While Hong Kong represents an SOE with perfect capital mobility and a fixed exchange rate, Singapore is an SOE with perfect capital mobility and a floating exchange rate. Hong Kong's experience has substantiated the prediction of the IS-LM model, i.e. for an SOE with perfect capital mobility and a fixed exchange rate, monetary policy tends to be ineffective and fiscal policy gains control of monetary policy.

Hong Kong Government usually pursues a budget surplus strategy as the framework of its fiscal policy. However, when a recession occurs, the Government does not hesitate in expending public expenditure to stimulate the economy. Appendix 12 shows that on two occasions, in 1974-75 and in 1982-83 which corresponds to the periods of recession in Hong Kong (Appendix 13), budget deficits appeared. Both recessions were short lived and the growth in GDP recovered swiftly. This reflected the fiscal rectitude of the Hong Kong Government.

A more frequently applied fiscal measure in Hong Kong is tax reduction, as a result its tax rates are among the lowest in the developed world. This has also proved effective in helping the economic growth.

Singapore is another example of the well known IS-LM model in application, but in a different version: IS-LM model with a flexible exchange rate. In contrast to the case of Hong Kong, monetary policy would be preferred in Singapore instead of fiscal policy, as any attempt to increase domestic demand by fiscal expansion or tax reduction, will be offset by the appreciation of exchange rate and consequently the fall in exports. The Singapore Government therefore,

concentrates its financial strategy on creating a low interest rate and low inflation rate environment, to induce the economy to grow (**Appendices 3, 4**).

4.4 APPLICATION OF MICHAEL PORTER'S THEORY TO HONG KONG AND SINGAPORE:

The purpose of this study is drawing lessons for economic development of an SOE in a similar situation. To serve this purpose, an analysis of Hong Kong and Singapore under the guideline of Porter's is carried out in this Section.

According to Porter's study, the reason a nation succeeds, is that the determinants of national advantage contribute positively towards the system. This is the impetus for the development and evolution of the nation's economy. Therefore, an examination on Hong Kong and Singapore's economy is given below, in accordance with each of the determinants.

a) Factor Conditions

Porter classified factor conditions of a nation into the following categories:

- ◆ “**Human resources**

The quantity, skills and cost of personnel [including management], taking into account standard working hours and work ethic. ...”

Hong Kong and Singapore have adequate low-cost, skilled and disciplined labour supplied through natural increases and immigration. In addition, both Governments have been spending around 20% of annual expenditure on education, to ensure that the quality of the labour force is in line with the development of the economy. The bilingual feature of the labour force in both economies is clearly an advantage for international services.

- ◆ “**Physical resources**

The abundance, quality, accessibility, and cost of the nation's land, water, mineral, or timber deposits, hydroelectric power sources, fishing grounds, and other physical traits.... a nation's location.....”

Neither Hong Kong nor Singapore has sufficient natural resources in relation to manufacturing. However, their advantages in terms of geographic location, deep sea harbour and time zone have greatly benefited the development of international services in both economies.

◆ **Knowledge resources**

The nation's stock of scientific, technological, and market knowledge bearing on goods and services....”

Owing to the entrepot history, the people of Hong Kong and Singapore possess the knowledge of international trade, which is invaluable to the evolution of international market services. Both states are also leading nations of expertise in terms of international banking, transport and communications, import and export, and other business services.

◆ **Capital resources**

The amount and cost of capital available to finance industry...”

In the early days of industrialisation, Hong Kong and Singapore suffered from lack of capital resources. This situation has been reversed since the 1980's. The much improved economy has provided increasing financial resources. Financial stringency has become a thing of the past, Hong Kong and Singapore have been experiencing an increase in outward foreign investment in recent years.

◆ **Infrastructure**

The type, quality, and user cost of infrastructure available that affects competition, including the transportation system, the communication system, mail and parcel delivery, payments or funds transfer, health care, and so on.”

Both Hong Kong and Singapore possess highly efficient infrastructure in relation to international services.

Harbour facilities in Hong Kong and Singapore have always been developed a step ahead of the rest of the economy. They both now rank among the busiest harbours in the world. Besides their fine physical condition, the Governments' involvement over the last few

decades has contributed enormously to the development of Hong Kong and Singapore's harbours. In addition, airport facilities, road systems, telecommunications, power supplies and public transport systems in both Hong Kong and Singapore are also advanced.

The analysis above shows that Hong Kong and Singapore have advantages in most factor conditions in terms of international services, except for being limited to a certain extent in capital resources in the early years. What should be borne in mind at this point is that only some of the advantage factors in Hong Kong and Singapore are inherited (such as geographic locations, harbours, quantity of labour supply). Most of their advantages have been created through the efforts of the government and the people.

For example, as Porter observes that:

"Singapore's location on a major trading route between Japan and the Middle East has made it a centre for ship repair".

After the British navy base withdrew from Singapore in 1968, most of Singapore's shipyards faced a loss of business, as these shipyards originally only served the British Navy. The Government took on the responsibility, acquired and maintained the ownership of the four largest shipyards. The ship-building and ship-repairing industry in Singapore has since survived. A geographic location alone could not have created a ship-building industry. Location plus quality shipyards and efficient management have given the industry its viability.

Another example is telecommunications. In both Hong Kong and Singapore, there is a highly efficient, first-class telecommunications system, which is one of the major factors that contributes to their status as international trading and financial centres. Only 30 years ago, telephone systems in Hong Kong and Singapore were primitive, rapid economic growth allowed the telecommunications system to be transformed and upgraded. The telecom company in Singapore is state-owned, whereas in Hong Kong it is in private hands; achieving the same goal by different means. This advantage in Hong Kong and Singapore was created by innovation (evidence in Section 4.1).

Finally, Porter concludes:

"The most significant and sustainable competitive advantage results when a nation possesses factors needed for competing in a particular industry that are both advanced and specialised. The availability and quality of advanced and specialised factors determine the sophistication of competitive advantage that can potentially be achieved and its rate of upgrading."

As we have witnessed in Hong Kong and Singapore, there are basic factors such as strategic location and fine natural harbours. There are also upgraded and innovated advanced factors including traditional commercial knowledge possessed by the people; a well educated, English speaking labour force; excellent infrastructure and a network of financial markets. All these factors of production contributed to the formation of the economic structure in Hong Kong and Singapore. That is, a trade dominated international regional centre for business and services.

b) Demand Conditions

Porter's original concept for this determinant was **Home Demand Conditions**. His definition of home demand conditions was the composition, the size and pattern of the domestic market, as well as the mechanism "**by which a nation's domestic preferences are transmitted to foreign markets.**"

Obviously, Porter's definition hardly fits in the context of Hong Kong and Singapore's economy. Due to the size of their domestic markets, the influence of home demand on the economy is insignificant. All industries in Hong Kong and Singapore rely heavily on overseas markets for the consumption of the majority of their output. Therefore, an amendment to this determinant has to be made to form a broader concept: **Demand conditions**, which refer to market demand for certain industries without distinguishing between the demand in the home and international markets. Market demand in international markets has played a vital role in Hong Kong and Singapore's economic transformation.

When industrialisation was taking place in both economies between the 1950's - 1970's, the industrial world was also undergoing a profound economic revolution. Rapid economic growth was spreading across Western countries, and the sustained growth created an expanding consumer market. Trade restrictions were few, and international trading was increasing fast. The international environment at that time was conducive to Hong Kong's

and Singapore's export-led manufacturing industries. The growing international demand provided the necessary market for the growth in exports and the economy in Hong Kong and Singapore during their industrialisation..

Since the 1970's, the rapid growth in the Far East region created the need for international trading and financial transactions. This market demand provided the opportunities for Hong Kong's and Singapore's international service sectors to develop, as a result, both economies have become regional centres for international services.

c) Related and Supporting Industries

Porter believes that for a nation to succeed in an industry, the presence of a cluster of industries which are in a supporting role to the main industry must be found, and the supporting industry has to be as competitive as the main industry.

It has been made clear that the main industry in Hong Kong and Singapore is international market services. Most major lines of business in Hong Kong and Singapore are related to it, namely finance, transport and communications, external trade, tourism and other business services. All market service sectors in both economies are internationally competitive as discussed earlier in Chapter 2 and 3, this is the key reason behind Hong Kong and Singapore's success.

d) Firm Strategy, Structure and Rivalry

Unlike the other three determinants, which are macroeconomics concepts, the last determinant of national competitive advantage is microeconomics related. This broad determinant of national competitive advantage refers to the way of which firms are created, organised and managed, as well as the nature of domestic rivalry. The goals, strategies, and ways of organising firms in industries vary widely, and a good match between these choices and the sources of competitive advantage in a particular industry will constitute a national advantage. The pattern of domestic rivalry also has a profound role to play in the process of innovation and international success.

Obviously this condition is a complex one which requires in-depth research in firms in Hong Kong and Singapore. Due to the limited space of this study, it is impossible and it is also unnecessary to carry out detailed analysis on this issue. Given that service sectors in both economies have been successful by international comparison, the determinant - **Firm Strategy, Structure and Rivalry** in the economies of Hong Kong and Singapore should be considered as making positive contribution to the **National Competitive Advantage** system.

e) **The Role of Chance**

Chance event played an important part in Hong Kong and Singapore's development. As stated earlier, in addition to historical events which triggered the industrialisation in both economies; the economic development in the Far East region and the emergence of the Asian Dollar Market were major factors in the development of international financial business in both states.

f) **Role of Government**

The role a Government plays in an economy has always been a controversial issue as discussed before. Porter's attitude towards this was explicit, i.e. interventionism within a moderate scale. In his own words:

"Government plays a prominent role in international competition, but Governments do not control national competitive advantage; they can only influence it. A more subtle and thoughtful, role for policy makers is indicated."

Porter's explanation of a government's role in an economy remains unconvincing somehow. Some of his theories in this regard are subject to further debate. The rôle of government in Hong Kong and Singapore's economic development has been examined in previous chapters. The common factor shared by both models is that both governments have contributed positively towards the economy, by way of creating a sound macroeconomic environment and applying appropriate state intervention. The major difference lies in the degree of involvement in the process of economic transformation by each government, which is well documented and was discussed in detail in this study (Sections 2.5, 3.5 and 4.3.1).

General conclusions now can be drawn on the performance of the economies of Hong Kong and Singapore when set within the framework of Porter's **National Competitive Advantage**.

Briefly, the economic success of Hong Kong and Singapore during the past 30 years was engineered and maintained via an extremely proficient operation of the **National Competitive Advantage** system; where all determinants related to services were favourable or were made to be so by creation and upgrading.

4.5 DISCREPANCIES AND MODIFICATIONS:

Although Michael Porter's **National Competitive Advantage** was successfully adopted as the rationale for the analytical discussion of Hong Kong and Singapore's model of economic growth, Porter's theory is not beyond dispute as it was evidenced in Section 1.4.1.

No theory can be expected to be universally correct, one must admit. Porter's theory is based on studies of economies in normal circumstances in terms of size and population. When the theory was applied to some extreme cases, such as Hong Kong and Singapore which were characterised by small size and openness, discrepancies occurred. Modification of Porter's theory therefore is required.

a) Role of Foreign Investment

The previous chapters of this study have shown that economic growth in small economies such as Hong Kong and Singapore (which are not only small in size, but also constrained by their natural resources), could benefit enormously from inward foreign investment if it is available. Foreign investment in such an economy could be pervasive, and not only confined to the manufacturing industry. From this point of view, foreign investment plays the same important role as Chance and Government in influence **National Competitive Advantage**.

b) Demand Conditions

Demand Conditions is a modified version of Porter's **Home Demand Conditions** (see Section 1.4.2). The role of economy of scale also applies to firms in an SOE. However, due

to the small size of its domestic market, foreign markets normally account for much larger sales than domestic sales. **Demand Conditions** therefore, in the case of an SOE, would mean both domestic and foreign markets.

c) Political Influence

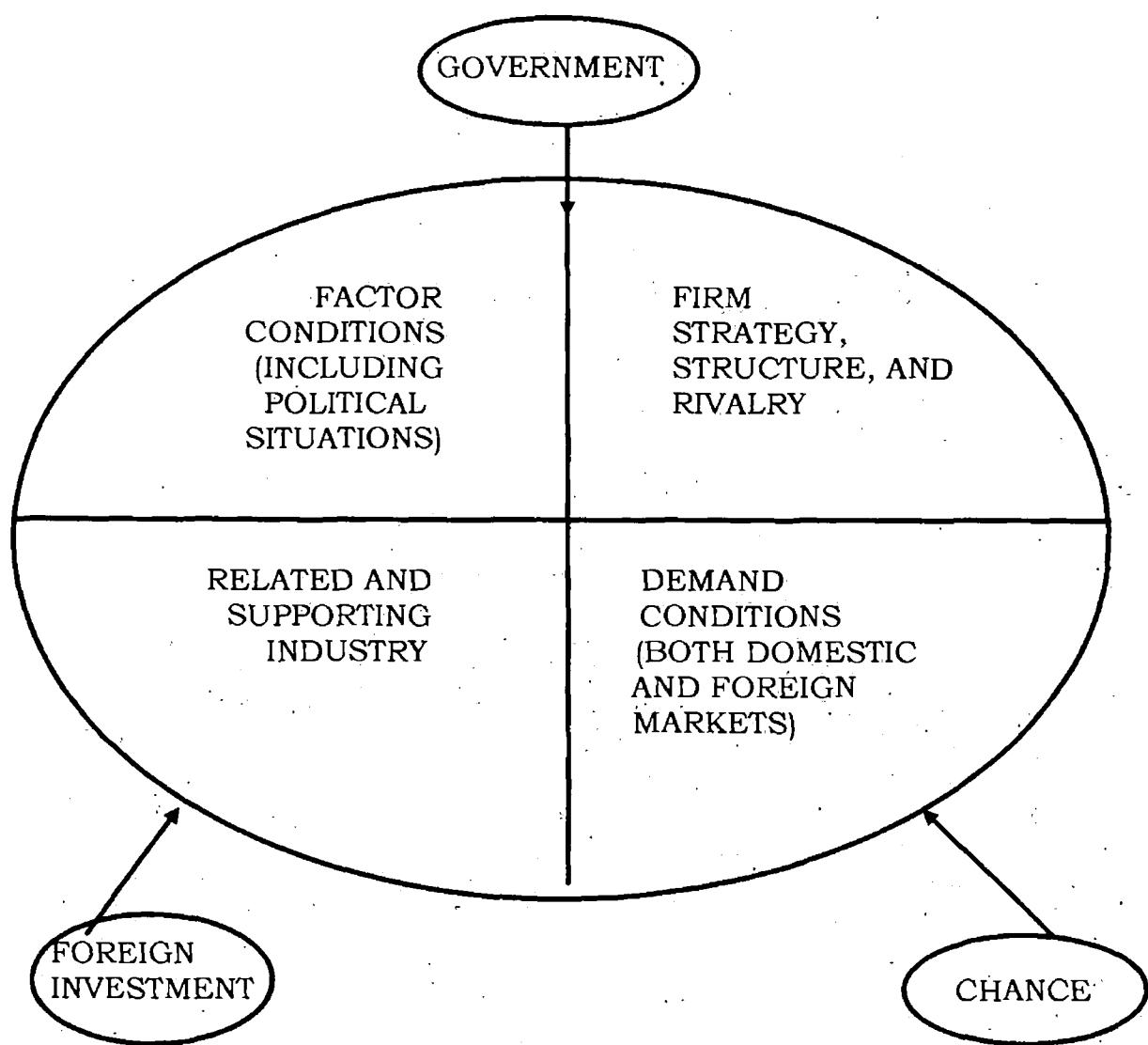
For reasons unknown, Porter's research on economic growth was completely insulated from political realities. It is illogical and impossible to try to insulate economic activities from political influences. History has shown, including experiences of Hong Kong and Singapore, that an appropriate political system is a pre-condition for economic success. It is necessary to include political systems in the factor conditions, as the stability or instability of the political system determines a nation's performance in economic development.

d) Revised System

Having described the differences between the conclusions of this study and Porter's original system of **National Competitive Advantage**, the final step is to draw up a revised system which differs from Porter's original. This new system however should be regarded as a sub-system under the general system which represents economies in general circumstances.

Political situations were included as one of the factor conditions, and demand conditions were extended to overseas markets. Foreign investment was introduced as the third factor which is interactive with other factors and determinants. This new system only serves to assess a nation which belongs to the category of small, open economy with neither natural resources nor traditional industries. In order to achieve an improved visual presentation, some graphic changes were also made (**Figure 12**).

Figure 12: Revised System of "National Competitive Advantage":



Source: author.

CHAPTER 5: COMPARATIVE STUDY - IRELAND

Throughout previous chapters the path of socio-economic development in Hong Kong and Singapore was established, as was the theoretical rationale underlying the success of the two economies. This chapter compares Ireland to Hong Kong and Singapore from a macroeconomic perspective. The focus of this chapter is the economic growth and development in all three cases since the post-war period.

The reasons for comparing Ireland to Hong Kong and Singapore are:

- a) As an attempt, to examine the Irish economy in a global context, instead of the traditional European concept. New ideas and fresh opportunities may be discovered in relation to economic development in Ireland.
- b) In addition, a number of similarities between Ireland, Hong Kong and Singapore in economic terms make this comparison possible, which are dealt with below.

Given that both Hong Kong and Singapore is a city-state, the optimal choice is to compare the Dublin area with the contrasts as suggested by Mr. Michael Mulreany of the Institute of Public Administration (IPA). However, separate economic statistics for the Dublin area are not attainable and ultimately the economy in the Dublin area is an integral part of the national economy of Ireland. Therefore the subject of this comparative study is the Irish economy.

Meanwhile, apparent differences between Ireland and the contrasts in terms of social and geo-economical backgrounds are taken into account. Ireland is a European country with an agricultural background, the path of economic development in such a country would naturally differ to that of Hong Kong and Singapore. However, when economic elements are being abstracted from social backgrounds, a cross-country economic study such as this one could still provide implications on economic development among countries in comparison.

The similarities between Ireland, Hong Kong and Singapore are summarised below:

a) Historical Background

Colonial past. All three were British colonies and they share a common language - English.

b) Economic Background

Small and open economy, dependent on trade. All three economies fit the same general description. In addition, they are all lacking in natural resources and they are late industrialisers.

c) Geographic Location

An **island economy** can be seen as another common feature. They are also located next to a large economic region and are close to main shipping routes.

5.1 DEMOGRAPHIC COMPARISONS:

This comparative study begins with a comparison of the demographic features of Ireland and the contrast countries, in terms of changes and improvements.

Although all three states qualified as a **small economy** in terms of population in 1996, the differences in development between them can be observed in **Appendix 14**. Firstly, there is the increase in population and in the population density. The population in Hong Kong and Singapore has expanded dramatically during the last 35 years, due to the high birth rate in the early years and the consistent influx of foreign workers. As a result, both Hong Kong and Singapore have two of the highest population densities in the world. In contrast, the population growth in Ireland has been static, and the population density in Ireland is also much lower. The low density of population in Ireland was considered a negative factor in terms of economic development. For example, Kennedy *et al.* argue that:

"Low population density gives rise to several economic costs. For example, it tends to increase the cost per head of infrastructure requirements [e.g. roads, railways, telecommunications, electricity network], which have high fixed cost and where running expenses are pushed up because of low utilisation in sparsely populated areas. At the other extreme, however, very high population densities can bring their own problems in the form of increased pollution, congestion, etc."

(Kennedy, Giblin and McHugh, 1988, p.148)

The experiences of Hong Kong and Singapore reveal that the negative effects of high population density are far more serious than **pollution and congestion**. The scarcity of land space has proved to be one of the constraints on their economic growth. As a result of the lack of space, property prices are high compared to the level of income. Enormous financial and material resources were put into public housing programmes in both states, in order to provide accommodation affordable to the public. Construction of physical infrastructure being more costly than what it should be, various exceptional measures were taken such as reclaiming land from the sea. The new airport in Hong Kong is being built on a remote island, and has to be connected to the main Hong Kong island by a bridge across the sea, which will be the largest of its kind in the world.

Due to lack of land in Hong Kong and Singapore, factories have had to be accommodated in multi-story buildings, restraining the diversification of manufacturing industry. In Hong Kong, for example, factories are pre-dominantly in light industries such as clothing and small electrical equipment. The shortage of land also resulted in the volatile property prices (surprisingly this has happened to Ireland lately), which form constant threats of inflation and push up the costs of production. In comparison, the low population density in Ireland may actually have potential for positive effects on the economy other than negative ones.

Appendix 14 also reflects the improvements in survival rates in all three economies in terms of life expectancy and infant crude death rate. According to the World Bank, Hong Kong now has one of the longest life expectancy in the world along side Japan and Switzerland.

These improvements indicate that economic growth in all cases has been translated into social development. Living standards and the welfare of the people have been markedly improved as the results of the economic transformation over the last three decades.

5.2. GROWTH OF ECONOMY AND INCOME:

Appendices 13 and 15 provide a broad view of economic growth in Ireland and the contrasts in terms of output and average income since the 1960's.

Over the last 30 years, economies of Hong Kong and Singapore have achieved rapid growth (**Appendix 13**), as a result, the comparative situation between Ireland, Hong Kong and Singapore has changed. Twenty years ago, the Irish economy was superior to the contrast ones measured by average income. Fast growth enabled Hong Kong and Singapore to emulate Ireland in terms of GNP per capita in the early 1980's (**Appendix 15**). The fact that the gap of income between Ireland and the contrasts has been widening since the 1990's, during the period of economic boom in Ireland, suggests a detailed study of the context of economic growth in all cases, in order to disclose the reasons behind it:

The recipe for the successes of Hong Kong and Singapore can be traced along the path of their development. As reflected in the process of economic growth of Hong Kong and Singapore (**Appendix 10**), the path of post-war economic growth in both economies can be summarised as:

Industrialisation -- Second Industrialisation -- Post-Industrialisation

(1950's-1970's)

(1970's-1980's)

(1990's)

Briefly, Industrialisation was a take off stage which featured rapid growth in manufacturing. The Second Industrialisation was characterised by the evolution of international services, which was the turning point of economic transformation in both cases. Industrialisation laid down the foundations for their economic growth, and the Second Industrialisation established the **National Competitive Advantage** system which best suits the characteristics of Hong Kong and Singapore's economy; i.e. an international services dominated intermediate economy.

The post-war development in the Irish economy however, presents a different picture. The **Modernisation** (a term preferred by NESC) in Ireland, was initiated by the implementation of the **Programme for Economic Expansion** in 1959, as generally acknowledged. The unprecedented success of economic growth went on until the mid 70's. Ireland did not escape the world-wide recession triggered by the **oil crisis**, which ended its 15 years of economic booming. Between the late 1970's and the mid-80's, the Irish economy suffered from a recession. The setback in economic growth in Ireland at that time was reflected in all indicators, e.g. high inflation and interest rates, rising unemployment and a deterioration in public finance. By contrast, the period between 1986-87 marked a turning point of development in the Irish economy. Over 5% growth in real GDP has been recorded in Ireland over the last ten years, in addition to huge improvements in

all macroeconomic indicators. Table 26 illustrates the remarkable progresses in the Irish economy since 1986.

Table 26:

An Extraordinary Decade, Ireland 1986-1996		
	1986	1996
GDP per head - Ireland % Britain	63%	100%
National Debt % GDP	120%	76%
Unemployment Rate	17.4%	11.9%
Budget Deficit/Surplus % GDP	-7.9%	0.7%
Trade Surplus % GDP	2.3%	10.2%
Real GDP Growth	-1.1%	7.5%
Exports % GDP	52.7%	80.3%

Source: CSO

The achievement of the Irish economy over the last decade has been well documented both in Ireland and in an international context; a number of factors have been identified as contributing to the current strong growth. A brief assessment of these factors is given below.

◆ **Macroeconomic Framework**

The policy of fiscal contraction that was implemented in 1987 was the first signal of the economic recovery. The fiscal contraction resulted in a fall in public borrowing and budget deficit, which helped to stabilise the economy. The continued fiscal correction by the Government throughout the last ten years has restored the shape of public finance in Ireland, and led to the huge decline in national debt as % of GDP and the eliminating of the budget deficit.

◆ **Human Capital Accumulation**

The latest growth theory suggests that the human capital plays a vital role in economic growth (Section 1.2.3), and this has been substantiated by the Irish experience. Both the quantity and quality of labour supply in Ireland have been improved due to the increasing number of graduates and young workers that entering the labour market in recent years, in addition to a large number of returned emigrants with qualifications and skills. According to ESRI, the growth in human capital index in Ireland has been gradually increasing since the 1970's, and it has reached its peak level in 1991-1996, the highest growth period in Ireland (ESRI 97, p.51).

◆ **Industrial Policy**

The modification of national strategy in industrial promotion took place in Ireland during the late 1980's, which is also believed to be decisive to the current growth. Prior to the late 80's, industrial policy in Ireland emphasised subsidising capital, inappropriate in a country with a surplus of labour. The refocused industrial policy concentrated on improving the investment environment - i.e. taxation concession, infrastructure, education and training, etc. Financial incentives were also extended to market services, a marked change from the previous manufacturing - only approach.

◆ **National Wage Agreements**

The resumed centralised wage bargaining since 1987 has successfully controlled the increases in wages and wage costs in Ireland (**Appendix 16**). This is a crucial element in the sustained competitiveness of the Irish economy and the high growth in exports in recent years.

◆ **Financial Mechanism**

The membership of the Exchange Rate Mechanism (ERM) has had a profound impact on stabilising the Irish economy, and keeping inflation and interest rates low; this forms a part of the macroeconomic framework in Ireland. In addition, the abolition of foreign exchange control during the early 90's gave freedom to international capital flows, which helped to induce FDI to Ireland and to attract international banking business.

◆ **Structural Transformation**

The most important development in the Irish economy in recent years, from the point view of this study, is the growth in market services. With respect to job creation, the market services sector has out performed the rest of the economy since the 1990's. This development led to a sharp rise in market services' share of total employment, and was mostly responsible for the fall in the unemployment rate in Ireland.

◆ **Inward Foreign Investment**

The reorientation of industrial policy has created a sound investment environment, that allows the IDA to attract actively European bound international investment to Ireland. The sector targeting strategy of the IDA has proved successful in that the majority of the FDI to Ireland in recent years are in the high-tech, fast growing sectors with long run growth potential. The IDA has also

extended its development priority to services that led to a significant increase in FDI to the services sector, e.g. international finance, call centres and computer software.

The evident success of the Irish economy has closed the gap of incomes between Ireland and EU countries. However, when compared to the contrast cases, the differences are clear (**Appendices 1, 13 and 15**). A detailed study of all three economies is in the following sections.

5.3 EMPLOYMENT AND LABOUR MARKET:

If there is one feature of Irish post-war economic development which deserves special attention, it is employment development. A few differences emerge from the comparison of the Irish labour market with the contrast countries in **Appendix 17**.

- a) The labour market in Ireland was characterised by the consistent surplus in labour supply until the 1990's. The unemployment rate in Ireland has been considerably higher compared to Hong Kong and Singapore, despite the much improved position of Ireland in a European comparison, which is partly attributed to the deterioration of unemployment in Europe.
- b) In contrast, the development of labour markets in Hong Kong and Singapore has been positive. The net growth of total employment over the last three decades was exceptionally high, in Singapore in particular. Unemployment rates have been low, and both states claim to have achieved a **full employment** economy while most of the developed world has been suffering from high unemployment.

Hong Kong and Singapore have been experiencing a stringent labour supply over the last 20 years or so. The rapid growth of the economy combined with the decline in natural growth of population, created the **problem** of shortage of labour supply (this **problem** would be rather welcomed in most countries in the world). Inevitably a large influx of immigrant workers occurred: foreign workers in Hong Kong and Singapore now account for over 14% and 12% respectively of their total employment.

- c) Another aspect of labour market development in Ireland which forms a comparison to the contrast cases, is its history of unrest in labour relations.

Similar to its European neighbours, Ireland has a highly unionised labour force. By 1994, union members in Ireland accounted for 52.4% of the labour force, the third highest in the EU and considerably higher than the EU average of 37.6% (Eurostat, 1995). Whether or not the highly unionised factor has an effect, industrial relations in Ireland were unstable for much of the 70's and the 80's; significant improvement has been achieved in Ireland during recent years (NESC No.99).

In Hong Kong and Singapore on the contrary, unionisation rates are around the 18% level and industrial disputes have practically disappeared since the mid 1970's. Industrial peace is often cited as a contributor to the sustained rapid economic growth (similar evidence was also found in Sweden by O'Connor, O'Malley and Foley, 1978, p.105), and a major attraction for foreign investors in Hong Kong and Singapore.

5.4. PATTERN OF GROWTH AND SECTORAL CHANGE:

In this section, development and transformation which has taken place during the last three decades is outlined. In addition, due to the importance of the unemployment issue in the Irish economy, attention will be focused on the employment aspect of economic development.

Appendix 18 illustrates the pattern of growth and changes in sectoral share in the Irish national economy and in the contrasting countries.

In the first instance, the declining of employment in agriculture is obvious in all cases, in common with other advanced countries during the same period. However, agriculture in the 90's still holds a relatively large share of the economy in Ireland compared to Hong Kong and Singapore which reflects the agricultural background of the Irish economy. The industrial sectors in Ireland and Singapore share the same pattern of change - growth. The difference is that the pace of growth in Singapore was faster than that of Ireland. Industrial sectors in Singapore increased their share of employment by 20% in 20 years (1961 - 1981), compared to a 6% increase in Ireland. The change in

industrial sectors in Hong Kong, on the contrary, was static. The only change in Hong Kong's employment structure was a small share of employment shifted from the agricultural to the services sectors.

Clearly the early 1980's was a landmark of sectoral change in the process of economic development in all three economies. The new pattern of economic growth featured rapid growth of the services sectors, and a decline in the industrial sectors. The industrial sectors in Hong Kong lost almost half of their share of total employment within 15 years, while in Ireland and Singapore it was 3% and 5% respectively.

However, **Appendix 18** fails to explain why unemployment in Ireland increased dramatically during the early 80's - exactly at the turning point of sectoral change, and why Hong Kong and Singapore have since achieved the opposite results (**Appendix 17**).

Appendix 19 provides a detailed examination of employment changes in the manufacturing and services sectors in all cases. A fall in employment in manufacturing since the 1980's took place in both Hong Kong and Ireland. The pace of growth in manufacturing employment in Singapore was significantly reduced. Meanwhile, both Hong Kong and Singapore recorded rapid growth in services employment from the 1970's. In comparison, the growth in services employment in Ireland was slow.

A few conclusions can be drawn from the comparisons in **Appendices 18** and **19** regarding the employment situation in Ireland and the contrast countries.

- a) The growth of the services sectors in Hong Kong from the 1970's to the 1990's, in Singapore from the 1980's to the 1990's, was the impetus of the growth in employment in both economies. The growth of services in both cases has been independent of the growth in manufacturing. In addition, the growth in market services in Hong Kong and Singapore has been largely generated from international markets, and was evidenced by the job growth in international services sectors such as finance, import & export, tourism and transport (**Appendix 20**).

b) The pattern of economic growth in Ireland prior to the 1980's was similar to that of Hong Kong and Singapore, featured by increases in employment in both manufacturing and the services sectors. From the 1980's employment in the manufacturing sector has suffered considerable losses. The services sector employment has gained moderate increases. However, the pace of job creation in the Irish services sectors prior to the 90's was below what was achieved by services in Hong Kong and Singapore.

c) The Second Industrialisation played a fundamental role in the process of economic growth in Hong Kong and Singapore during the 1980's. It transformed the structure of both economies. As commented by Chenery:

"East Asian countries can be regarded as successes as much for the efficient ways in which they have transformed their economic structures as for the rapid growth that was maintained during the process".

(Hughes, 1988, p.40)

d) In order to increase further employment in Ireland, attention has to be focused on both the manufacturing and services sectors, in particular the market services sectors. The evidence produced in this study firmly support the similar view expressed by Forfás and NESC (NESC No. 96, p.346 and No. 99, p.131).

The following sections are devoted to discussions of the employment development in both the manufacturing and services sectors in Ireland, in the light of the experiences of Hong Kong and Singapore.

5.5 MANUFACTURING INDUSTRY:

Over the last three decades, economic growth in Ireland has been led by the transformation of manufacturing industry. The composition of Irish manufacturing industry has been transformed from primary production dominated, low technology, labour intensive industry into a mixture of high technology, capital intensive modern industry and an improved natural resources related traditional industry.

The pattern of growth and transformation of manufacturing industry in Ireland in the past obviously was very much similar to that of Hong Kong and Singapore, however the pace of growth and the magnitude of transformation in Ireland differs from the contrasts.

A few facts were observed through the comparison of manufacturing:

- a) Significant growth of manufacturing in terms of both output and employment between the 1950's and the 1970's, with exports accounting for a large proportion of total output, is the common feature shared by all three economies, in spite of the differences in the pace of growth.

From the 1980's, manufacturing in Ireland achieved the highest rate of output growth in the OECD (NESC. No. 96), where a decline in manufacturing employment was also recorded. Whilst manufacturing in Hong Kong lost more than half its jobs since 1980 (Appendix 20 B), the employment in Singapore's manufacturing continued to increase although the growth decelerated compared to the previous two decades.

Between 1961 and 1995, manufacturing in Singapore delivered the best result among the three, although the performance of manufacturing in Ireland over the last three decades was satisfactory when compared to EU member states or OECD countries (NESC. No. 96).

- b) Pervasive foreign investment was the impetus for the growth of manufacturing in both Ireland and Singapore, and to a much lesser extent in the case of Hong Kong.

The role of FDI in manufacturing of the contrasts have been discussed in Sections 1.4. and 2.4. The experience of Ireland has been similar to Singapore's. As one of the original countries opened to foreign investment, high-tech industry in Ireland is dominated by overseas-owned companies. The influence of multi-nationals in the Irish manufacturing sector has been highlighted in many literature, including reports of NESC (e.g. NESC No. 95, p.38). According to Forfas, foreign firms now in Ireland contribute 100,000 direct employment in manufacturing, 55% of manufacturing output, and over 70% of industrial exports (Forfas 1996, p.30).

Foreign investment has less influence in manufacturing in Hong Kong. In 1993, foreign manufacturing firms in Hong Kong only accounted for 13.7% of employment and 25% of domestic exports. As a result, the transformation in manufacturing in Hong Kong was not as profound as it was in Ireland and Singapore.

- c) The growth of manufacturing in both contrast economies has been in a stage of stagnation since the 1980's in terms of output and employment. Although manufacturing in Singapore still gained employment increases between 1980 - 1995, its share in total employment and GDP has declined (**Figures 13, 14**).

Figure 13:

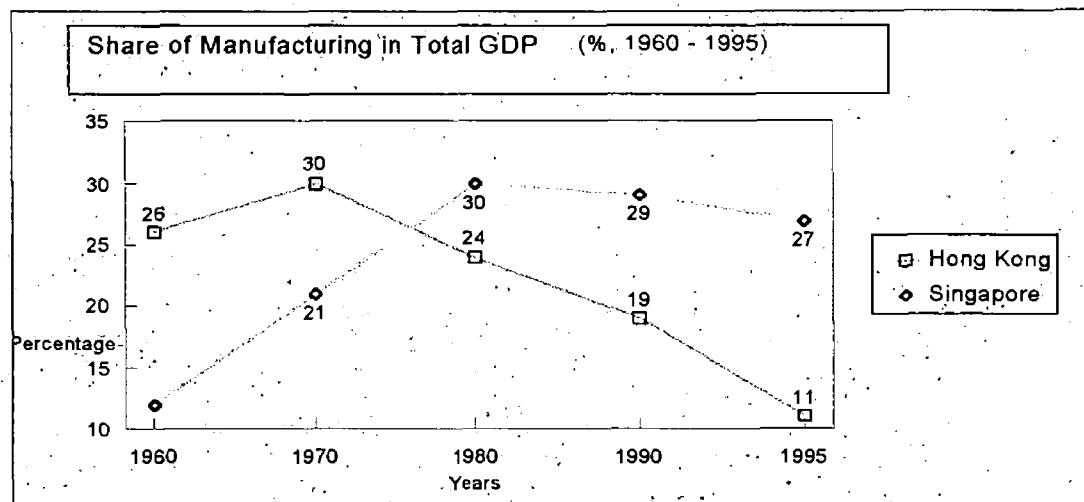
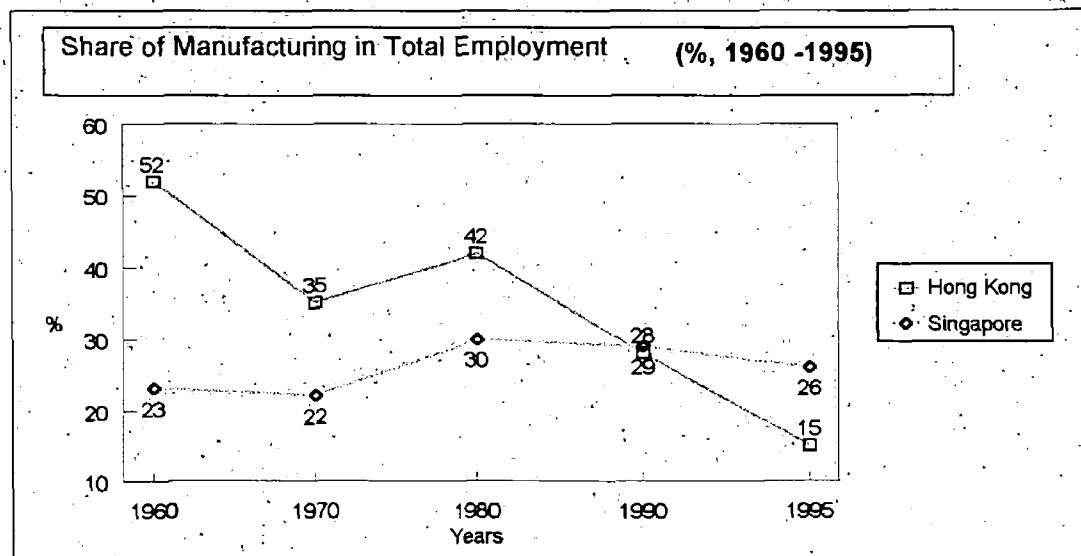


Figure 14:



Sources: EIU. The Asian Development Bank.

The growth of manufacturing in Ireland during recent years has been significant, and the number of foreign investments in high-tech industry has been increasing. However, the growth of output has outpaced the growth of employment, which indicates the potential of job creation in manufacturing is limited (**to be dealt with in Section 6.2.1, p.128**).

5.6. SERVICES SECTORS:

The growing importance of the service sectors in all developed countries has been observed. The services sector now account for the largest share in both total output and employment, and virtually all of the employment growth in the industrialised world.

In fact, Ireland has not been an exception as far as the growing share of services is concerned. Table 27 illustrates the path of sectoral employment development in the Irish economy over the past 35 years. The growth in private services between 1961-1981 was slow, but the public services almost doubled its share of total employment during the same period. Employment in private services Ireland has been improved since the 1980's - private services created almost 150,000 jobs between 1981-1996, while both agriculture and manufacturing suffered from employment decline. Over the last 35 years, total jobs created in services were close to 400,000 compared to less than 100,000 in manufacturing.

Table 27:

'000	Level and Structure of Employment in Ireland, 1961-1996 (% of Total Employment in Brackets)				
	1961	1971	1981	1996	61-96
Agriculture	360	272	196	136	-224
Industry	253	320	363	350	97
Services	405	457	587	798	393
Of which: Public (%)	118 (11.6)	150 (14.3)	237 (20.7)	301 (23.4)	183
Private (%)	288 (28.3)	304 (29.0)	350 (30.5)	497 (38.7)	209
Total Employment	1,018	1,049	1,146	1,284	266

Source: CSO, Labour Force Survey.

5.6.1 AN OVERALL COMPARISON

Appendices 18, 19 provide an overall view of sectoral development in all cases over the last three decades. Obviously, in both Ireland and Singapore, services sectors have been the major source for employment growth. In Hong Kong however, services were the only source of job creation since the 1970's.

In Singapore, services sectors have contributed a net job creation of 772,600, a 233% increase over the last 37 years and accounted for 64.4% of total net employment growth, compared to manufacturing's 354,500 new jobs. Although manufacturing in Singapore has overtaken the trade sector as the largest employer in the economy since the mid 70's, the gap in the share of employment between manufacturing and trade sectors has reduced from 9% in 1980 to less than 3% in 1995. The services sectors as a whole remains pre-dominant throughout Singapore's Industrialisation. In terms of output, finance sectors in Singapore have achieved the best record of growth, even in absolute terms (**Appendix 5**). The finance sector has become the largest contributor to GDP in Singapore.

The experience of Ireland has been somehow different, although both the manufacturing and services sectors have attained net job increases. The huge employment decline in agriculture offset nearly two thirds of jobs created by the other two sectors, consequently the net job increases in Ireland over the past three decades were less impressive (**Appendix 20 A**).

In contrast, Hong Kong's performance has been the most striking. After compensating the job losses in manufacturing, services sectors are responsible for every net job created in the economy (**Appendix 20 B**). Since 1980, both the trade and finance sectors in Hong Kong have surpassed manufacturing in terms of output. Services contributed 91% of total GDP in 1996, compared to 64% 35 years earlier (**Table 8, p.42**).

Once again, **Appendices 18 and 19** highlight the pattern of sectoral changes in Hong Kong and Singapore between the 1970's and the 1980's, known as the Second Industrialisation which was characterised by the diminishing in importance of manufacturing and the evolution of a cluster of market services. In the case of Ireland, no major sectoral changes have been observed among non-

agriculture sectors until the early 90's. The overall development of the services sectors in Ireland over the three decades prior to the 90's was less satisfactory, not only in comparison to Hong Kong and Singapore, but also in comparison to EU and OECD countries as pointed out by NESC (NES No. 96, p.6) and other commentators, further discussion is given in Section 6.2.1.

5.6.2. A SECTORAL COMPARISON

Appendix 20 also exhibits the noticeable differences between job creation in services among the three cases. Services in both contrasts have achieved a much higher percentage of job increases than services in Ireland. The best performing sector in the contrasts was the trade sector (includes Wholesale and retail, Import and Export, Hotels and Restaurants), while in Ireland the fastest growing sector was C/S/P sector (Community, Social and Personal Services). The finance sector also performed well in the contrasts which reflect their roles as financial centres. The majority of the jobs created in Hong Kong and Singapore were in market services, where in Ireland the biggest contributor was the C/S/P sector - which comprises public services and all other non-market services. In spite of the strong growth in market services employment in Ireland in the 1990's, in a long run comparison, the development in market services in Ireland has been relatively slow. This perhaps could partly explain the high unemployment in Ireland in the past.

5.7 THE ROLE OF GOVERNMENT:

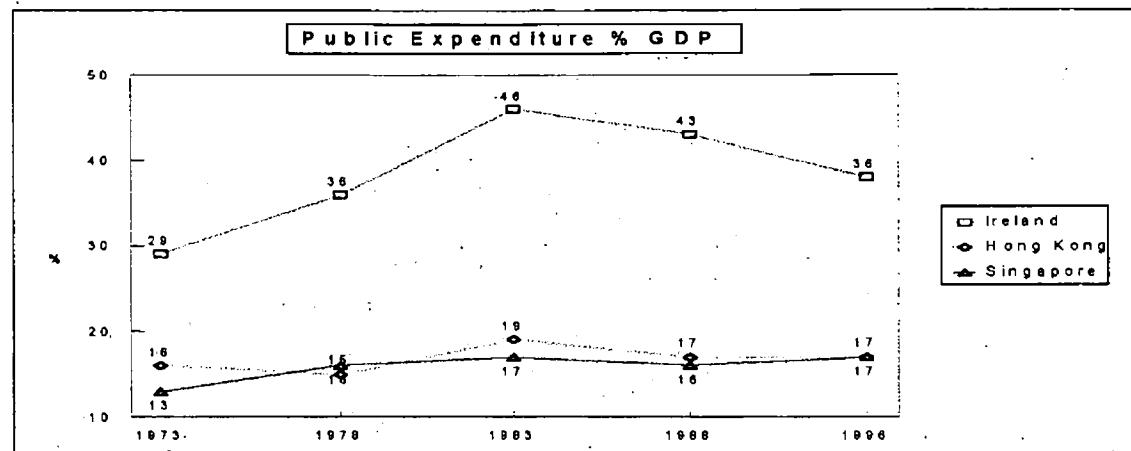
It is generally acknowledged that the Irish Government has been playing an active role in economic development since Independence. The impact of widespread government intervention in economic affairs in Ireland is significant, in both positive and negative ways. This section will provide an assessment of the Government's role in the Irish economy from a comparative perspective.

5.7.1 GOVERNMENT INTERVENTION

An indication of the role of government in the economy is the ratio of public expenditure % GDP. In comparison with Hong Kong and Singapore, public expenditure in Ireland expanded considerably faster between the 1960's to the 1980's (Figure 15). Following a sharp reduction since

1987, its current level is much improved. As a well known *laissez faire* economy, Hong Kong's public spending is being kept to a minimum. Although Singapore at the other extreme, is famous for its government intervention in the economy, its public spending/GDP ratio has been surprisingly low.

Figure 15:



Source: EIU.

The fiscal contraction in 1987 in Ireland was followed by a period of high growth in GDP and employment, a phenomenon that contradicts the IS-LM model which was discussed in Sections 2.6 and 3.6. This led to the current debate on the Expansionary Fiscal Contraction (EFC) issue in Ireland. EFC is a term which describes a situation where a fiscal contraction has both impact and delayed effects that caused the overall economy to expand. Some commentators believe that business and households could increase their economic activities when a fiscal contraction takes place, thus the increased private demand would offset the fall in public demand and expand the economy. This explanation is based on the hypothesis of forward-looking behaviour of the private sector, it assumes that the private sector anticipates future tax cuts during a fiscal contraction.

However, a review of the situation in Ireland during the late 80's raises doubt about the EFC judgement. The real GDP growth jumped to 4.9% in 1987 from -1.1% a year previously, the unemployment rate also dropped 4% over three years - from 17.4% in 1986 to 13.7% in 1989. The improvement in the Irish economy was comprehensive, it is doubtful that the future looking behaviour of the private sector can respond so promptly and so effectively.

The lack of empirical base of the EFC explanation was found by Brady and Whelan (1997), researchers have also identified other factors that contributed to the economic recovery in the late 80's (**Section 5.2, p.102-103**). The prevailing opinion is that the crucial role played by the fiscal contraction in 1987 is its contribution towards a balanced public finance in Ireland. The policy of fiscal contraction constitutes the framework of the macroeconomic reform in Ireland, which provided a platform for the current strong growth.

Another indicator of Government intervention is the amount of public enterprise. Unlike in Hong Kong where public ownership is virtually negligible, in both Ireland and Singapore the extensive state ownership is a significant feature. In Ireland, most State-owned companies are in transport and communications sectors, as well as utility sectors. The Irish Government also has a strong presence in the financial sector and in the media. The same scenario applies to Singapore, only in Singapore government ownership spreads even wider, into almost all industries including shipyards, trading, property development, electronics and technology research, etc.

Since the late 1980's, as part of the trend in the world economy, both Ireland and Singapore have experienced privatisation of public enterprises. State ownership however, is still significantly high in both economies by international standards.

5.7.2. PUBLIC FINANCE

Similar to the rest of the Western world, public finance in Ireland has been characterised by high taxation and high levels of national debt during most the past three decades. The rise in public expenditure was accompanied by a large increase in the tax burden. Prior to the 1960's in Ireland, tax revenue had been fairly stable at 22% of GDP. Since the expansion of the public sector beginning in the early 1970's, tax revenue has consistently increased. The tax burden percentage of GDP rose to 31% in 1973, and 43% in 1985. This trend has been reversed in recent years since the fiscal contraction began in 1987, with the tax burden ratio being reduced to 38.7% in 1996 (**NESC, No. 95**). In comparison with Hong Kong and Singapore however, the differences are still significant (**Table 28**).

Table 28:

Comparison of Taxation 1996					
	Corporation tax rate	Personal income tax rate	VAT	Tax revenue % of GDP	National Debt % of GDP
Ireland	40%	27 - 48%	21%	36.6	76%
Hong Kong	16.5%	2 - 25%	None	11.6	None
Singapore	27%	3.5 - 30%	3%*	11.3	None

* introduced in 1994

Sources: EIU.

When the increase in tax revenue failed to meet the demand of over expansion in public expenditure, the government had to borrow. Consequently, the national debt in Ireland rose from 54% of GDP in 1973 to a crisis level of 120% in 1986. Efforts made by the Irish Governments since the late 1980's have brought the debt % GDP ratio down to 76% in 1996, a remarkable achievement in such a short period of time. The budget deficit in Ireland was eliminated in 1996 from -15% GDP in the mid-80's, owing to a much improved trade balance and the correction of Government spending policies. Although Ireland has successfully achieved one of the lowest ratios of both debt % GDP and budget deficit % GDP among the Western countries in the 1990's (NESC No. 99, p.92), the comparisons in Table 28 indicate the potential for further improvement in public finances in Ireland.

In comparison, the way Hong Kong and Singapore Governments manage their financial affairs has been prudent. In most of the years over the last two decades, both Governments have kept their spending below its income level and small deficits only appeared during the recessions in the 80's (Appendix 12).

5.8. SAVINGS AND INVESTMENT:

Conventional theory maintains that savings and investment play crucial roles in economic development, especially for a late developed economy (Section 1.2.).

The World Bank points out in its report on East Asian economies:

"One of the most remarkable aspects of the HPAE's (High-Performing Asian Economies) is their unusually high rates of private investment. Private investment in the HPAE's averaged about 7 percentage points of GDP higher than other low and middle-income economies. As with East Asia's high rate of human capital formation and savings, investment has been fostered by macroeconomics stability and rapid economic growth. Growth, savings and investment interacted in a virtuous circle as high investment initially spurred growth, which resulted in increased savings to support continued high rates of investment."

(The World Bank, "The East Asian Miracle", 1993, p.221)

A number of empirical studies have been carried out over the last 20 years, in an attempt to prove the correlation between investment and growth; results obtained were conclusive. Kim and Lau's study of East Asian NIC's in 1992 has revealed that more than 80% percent of their economic growth being explained by capital accumulation (Ito and Krueger, 1993, p.56).

In addition, according to Krueger, Leving and Renelt (1992) evaluated relationships between a variety of variables and growth rates, consequently:

"they found a 'positive and robust correlation' between average growth rates and the average share of investment in GDP."

(Ito and Krueger, 1993, p.26)

Appendices 21-23 provide a comprehensive comparison of savings, investment and growth rates between Ireland and the contrast countries. While the correlation between investment and the growth in GDP is by no means perfect, the high growth in GDP in Hong Kong and Singapore seems to be related to the high investment in the previous period. This correlation in Ireland was not clear. The differences among saving ratios are apparent (Appendix 24), a gap between Ireland and the contrasts in terms of growth in domestic investment since the 1970's was also observed (Appendix 25). Both savings and investment were underperforming in Ireland compared to the contrasts, as well as the growth rates (until the late 80's).

A key issue to be addressed is that both Hong Kong and Singapore have maintained a high rate of investment while their savings are in excess of investment. In comparison, the investment rate in Ireland has been falling since 1990 when savings continue to rise. The decline in investment in Ireland between 1990-1995 has been causing concern; detailed analysis of savings and investment is given in Section 6.2.2.

The particular high saving ratio in Singapore is largely due to the involvement of the Government. A comparison of **CPF** in Singapore and **PRSI** in Ireland is carried out in the next section. The role of government in generating savings in an SOE is emphasised.

5.8.1 PRSI and CPF

The social welfare system in Ireland is operated as an insurance system. Known as **PRSI**, the Pay Related Social Insurance System is administered by the Department of Social Welfare. The contribution of **PRSI** constitutes a part of state social welfare income. In recent years, the combined yield from **PRSI** and levies amounted to over IR£2 billion. It is the State's third largest source of income after income tax and value added tax.

It is considered that the **PRSI** system is in need of reform and NESC has recommended that **PRSI** should be treated as taxation (NESC, NO 96). Technically, **PRSI** is an insurance scheme, but in reality it is compulsory and pay related, benefit and contribution mismatch. The characteristics of **PRSI** are very much similar to those of taxation, the only difference between the two is the way of administration. Tax is administrated by the Revenue Commissioners while **PRSI** is administrated by the Department of Social Welfare.

The social welfare system in Singapore is completely different. It operates as a pay related central savings fund, called the **Central Provident Fund (CPF)**, and is managed by a statutory board: CPF Board. Every contributor has his or her own account in **CPF**, thus, members own their own contributions. Interest is paid on the balance of **CPF** accounts; this balance is also allowed to be withdrawn under conditions described in Section 3.5.2. From 1978, members have been allowed to use their balance to purchase state approved shares, mainly in state companies. In 1995, members of **CPF** were given a further choice of purchasing foreign shares and bonds traded on the Singapore Stock Exchange.

The balance of **CPF** in general has been used to finance government borrowing requirements. Not only are the member's deposits securely invested, their funds in turn are used to promote economic growth. The Government thus has a cheap source of development funds via the **CPF** which can be

seen as a channel generating domestic saving in the form of social security payments, and directing them to development purposes.

The success of **CPF** in Singapore can be summarised as follows:

1. It is a compulsory saving scheme

Government legislation ensures that a large proportion of national income is saved (the current rate of **CPF** is 40% of gross income). This explains how Singapore has achieved such a significant high rate of savings, and consequently a very high level of investment. According to the World Bank, **CPF** boosted Singapore's national savings by 4% during the 1970's-1980's ("The East Asian Miracle", 1993, p219).

2. Ownership of contribution

Because **CPF** is a savings fund, members of **CPF** own their own contributions, and the more the contribution, the more the benefit. This is why the considerably high rates of contribution to **CPF** are widely accepted. The rate of **CPF** for an employee is 20% compared to 5.5% **PRSI** and the rate for an employer in **CPF** is again 20% compared to 12.2% **PRSI**. The high contribution rate ensures that adequate savings are generated.

3. A source of investment

The balance of **CPF** in 1994 amounted to US\$43 billion, equivalent to 71% of GNP. The growth of **CPF** has been an important source of investment for Singapore. Since high investment has been a major contributor of economic growth in Singapore, the economic significance of **CPF** is obvious.

4. An effective tool

CPF is a major holder of Government Bonds. Members of **CPF** can only invest their balance in state approved projects. The Singapore Government thus uses **CPF** as an effective tool to implement its national development strategy. In the 1960's this enabled the government to build up both its economic and social infrastructure in an inexpensive, noninflationary way. By the late 1970's government surpluses were more than enough to finance public development spending. More and more **CPF** funds were thus used like

foreign reserves, to slow the appreciation of the Singapore dollar and to keep inflation at bay in an era of high wage increases.

A study carried out in 1978 by O'Connor *et al*; discovered that a similar scheme existed in Sweden. According to their study, the Swedish Government tries to increase domestic savings through an obligatory insurance pension fund into which contributions are paid by employers on behalf of employees. This fund, which commenced in 1960, was the biggest in the Swedish capital market in the 70's and a large proportion was lent to the productive sectors of the economy (O'Connor, O'Malley and Foley, 1978, p.105).

The study of CPF in Singapore and the Swedish experience suggest that a centrally controlled compulsory saving scheme in the form of social welfare payments or pension fund could be a viable option for an SOE as a way to generate savings and thus to channel the funds into the domestic economy.

5.9 FOREIGN EXCHANGE POLICY:

For a trade dependent SOE, the foreign exchange rate is of crucial importance. The three economies in this study have demonstrated different ways of managing the exchange rate. While Hong Kong adopted a fixed exchange rate after a period of volatile floatation, Singapore has maintained a managed floating rate for the last two decades. Ireland has switched from one fixed rate to another: sterling peg before 1979, and a member of the Exchange Rate Mechanism (ERM) since 1979.

Despite the different approaches, the exchange rate policies of the contrasts have so far proved to be successful. Both currencies have escaped unhurt from the currency crisis in Southeast Asia during the Summer 1997.

Ireland has been successful in managing the exchange rate with the help of ERM since the 1980's. The nature of ERM - an adjustable peg, allows Ireland to depreciate the Irish pound when it is necessary. This helped Ireland to overcome the difficulties caused by a weak sterling over these years, e.g. in 1986 and 1992. Due to the convergence effect, ERM has also made it possible that

the inflation and interest rates in Ireland have moved closer to the German level. As a result of its membership of ERM and the frequent depreciation of the Irish pound, Ireland has avoided having an over-valued currency as experienced by fast growing economies in the Far East. Although the decision of joining ERM has been a controversial one in Ireland, judged by the performance of the Irish economy over the past decade and the improvement in all macroeconomic indicators, the positive contribution of ERM towards the Irish economy is evidenced.

5.10 WAGE CONTROL:

For an SOE with a high ratio of Export % GDP, the domestic wage level is another vital factor in determining the competitiveness of the economy.

One of the latest theories of wage bargaining - the Calmfors and Driffill theory, has had impact on wage studies recently. The C-D relationship argues that, when measured by the unemployment rate, the superiority of extreme centralisation and decentralisation of wage bargaining is indicated through international comparison. Wage bargaining systems that were either highly centralised (Austria and Sweden), or highly decentralised (the US and Japan) performed better than countries with middling systems (most large European economies). Although different opinions emerged among recent studies as opposed to the C-D theory, e.g. the co-ordinated approach and market conformity, the C-D argument has gained further prove in Hong Kong and Singapore.

While Singapore operates a highly centralised wage bargaining system through its National Wage Council (**Section 3.5.6. c**), Hong Kong has nothing at all by way of wage control, yet both economies have achieved a full employment over a decade.

Ironically the case of Ireland is another example of C-D relationship. The lack of a centralised wage bargaining during the early 80's was blamed for the high unemployment at the time, and the resumed National Wage Agreements since 1987 has been effective in moderating wage increases in Ireland (**Appendix 16**). A point to be made is that the current National Wage Agreement in Ireland is not simply an agreement on wage control. It is an agreement that is based on a wide range of considerations and commitments relate to public finance, social security, monetary policy

and taxation reduction. The level of wages is determined through a partnership approach with understandings established among all parties involved.

The process of economic development in Ireland over the last few decades has been examined in comparison to the contrast cases. A number of features of the Irish economy were observed during the comparative study. Some of the features are determined by Ireland's geo-economic background - a Western European economy with an agriculture background. These features include: a large agriculture sector; relatively high level of taxation and Government spending; high level of State intervention and high unemployment.

Apart from above mentioned, two features of the Irish economy need to be addressed. These two features not only distinguish the Irish economy from the contrasts but also from other developed economies. The first one is the development of market services in Ireland, the second is the levels of savings and investment in Ireland throughout the post-war period.

Detailed discussions of the two issues are given in the next chapter. This, in addition to a brief summary ,will serve as the conclusion of this study.

CHAPTER 6: IMPLICATIONS AND CONCLUSIONS

Previous chapters provide detailed analysis of patterns of post-war socio-economic development in Hong Kong and Singapore, and theoretical evidence for their success. The factors behind the economic success in Ireland over the last decade were discussed in Chapter 5; they were remarkably similar to those of Hong Kong and Singapore. The most common features shared by the three economies were outward orientation and openness, deregulation, high level of human capital accumulation, and fiscal rectitude. In addition, there were identical factors between Ireland and Singapore, i.e. appropriate government intervention, actively attracting FDI, and centralised wage bargaining. Meanwhile, differences also emerged through the comparative study, that clearly separated Ireland from the contrasts.

The differences between Hong Kong, Singapore and Ireland that are identified in this study are: the levels of savings and investment, and the development of the international market services sectors. It is the purpose of this chapter to discuss these issues and their relevance to the future development in the Irish economy.

Prior to the discussions of implications, this chapter begins with a theoretical analysis of Ireland in line with Michael Porter's theory, in order to identify the **National Competitive Advantage** of Ireland.

6.1 NATIONAL COMPETITIVE ADVANTAGE OF IRELAND:

In Chapter 4 it was established that Michael Porter's **National Competitive Advantage** theory provides an explanation of Hong Kong and Singapore's successes. The conclusion was that the economic development in Hong Kong and Singapore were carried out in accordance with their **National Competitive Advantage** system. According to Porter's research, this conclusion also applies to all countries which have achieved economic success; likewise for a country with less success in economic growth, defections and impediments can be found in its competitive advantage

system - or the **diamond** as termed by Porter. An attempt therefore, is made to examine the **National Competitive Advantage** of Ireland under Porter's guidelines.

Given that a main difference between Ireland and the contrasts is the development of international market services, therefore the analysis below is focused on **National Competitive Advantage** in services, and due to the limited space of this thesis, discussion is confined to factor conditions only.

The factor conditions in the services industry differ from those of manufacturing. The first of such conditions mentioned by Porter was **geographic location**:

"Geographic location plays a significant role in some services industries. Singapore's strength in ship repairing benefits from its location on important shipping lanes between the Middle East and Japan."

In addition to ship-repairing, the geographic locations of Hong Kong and Singapore were essential to their roles as international regional trading and financial centres.

How to assess the geographic location of Ireland in terms of economic development is one of the key issues to be dealt with in this section. Conventionally, Ireland was regarded as geographically peripheral compared to other small open economies in Western Europe. This is very true from a European perspective. However, in a global context, the geographic location of Ireland can be viewed differently. The US Central Intelligence Agency (CIA) for example, notes in its country files that Ireland is in a "**strategic location on major air and sea routes between North America and Northern Europe**" (**CIA Country File, 1995**).

Map 1 in **Appendix 26** represents the traditional view of the geographic location of Ireland. Alternatively Map 2 in **Appendix 27** puts Ireland in a global context. It shows that Ireland is located between two of the largest single markets in the world economy: EU and North America. Between them, these two regions contribute about 50% of the World's total GDP and total external trade. The location of Ireland offers advantages for various economic activities such as civil aviation, sea trade, tourism and regional business services. The proximity to both EU and Northern America is certainly a favourable condition that Ireland possesses. In its discussion of recent success in the Irish economy, **The Economist** concludes that:

"Two things Ireland does show beyond a doubt. First, small countries on the fringe of rich trading areas can prosper mightily. The curse of the periphery is a myth. Second, 'globalisation', taken at the flood, is the fastest course to wealth. What is most striking about Ireland's new economy is how tightly it is linked to Europe and the world. If any country lends substance to the cliché that the global economy is an opportunity not a threat, it is Ireland."

(The Economist, 17th May 1997, p.15)

Clearly the geographic location of Ireland should be assessed as an advantage for economic development. Since globalisation has been under way in both manufacturing and services in recent years, the location of Ireland has become more and more attractive to FDI. The fact that Ireland is experiencing an increasing FDI in services reflects its geographic advantage.

Another important factor condition of services is time zone:

"Akin to a nation's location is its time zone. London's status as a financial and trading centre is aided by its location between America and Asia, which means that personnel based in London can communicate with both regions during the normal workday."

Dublin is situated in the same time zone as London. This is an advantage of Ireland in terms of off-shore banking and foreign exchange trading, the recent success of the International Financial Service Centre (IFSC) in Dublin proves this point.

The third factor condition of services is language:

"A nation's language and language skills of its citizens can play an important role in many services industries. Many services demand extensive communication with buyers, not to mention the need for communication between different offices of the firm. English as a native language is a significant benefit to services firms, because English is spoken in many parts of the world and is a second language in most others."

English is the official language used by most international services activities such as import and export trading, banking, transport and communications, commercial law, accountancy, sports, recreation and tourism. The ability to speak good English is often regarded as a skill in non-English speaking countries. As Porter points out:

"Singapore's emergence as a growing centre for services also reflects in part its English-speaking population."

This is also true in the case of Hong Kong, and other emerging international service centres such as Dubai. Ireland, as an English speaking country, could have advantages over its European neighbours in certain services activities as recognised by both Forfas and NESC (NESC No.99, p.136).

The final factor condition in services which was underlined by Porter was **culture institutions**:

"Also significant in many services is the ability to interact easily with many different cultures."

The people of Ireland certainly do not lack ability in this regard. Irish people have been living comfortably in other countries around the world for over a century, and people from different parts of the world have also blended in well in the Irish society. The warm and understanding nature of Irish culture suits many international services. The buoyant tourism sector and the increasing number of **call centres** setting up in Ireland provide the evidence.

In addition, the Chance factor may also play an important role in the development of international financial services in Ireland. According to Mr. Eoin Fahy, Senior Economist in Ulster Bank Group, that in the case the UK fails to participate in the European Monetary Union (EMU) in the near future, Dublin will become an attractive location for non-European banks who are looking for a base in the EMU area to set up their European operations.

The above discussions have proved that all important factor conditions in services that were listed by Porter are very much in Ireland's favour. The success of Hong Kong and Singapore which was characterised by the evolution of international services has provided some encouraging implications for Ireland.

6.2. ECONOMIC IMPLICATIONS:

The first section of this chapter revealed that Ireland has a good prospect in terms of competitive advantage in international services. In respect of this and the experiences of Hong Kong and Singapore, implications regarding further economic development in Ireland are discussed below..

6.2.1. STRUCTURAL TRANSFORMATION

The key feature of Hong Kong and Singapore's success is the transformation which took place between the 70's and the 80's in both economies. This transformation laid down the foundation of their economic structure which was described as a regional hub for international market services.

The Irish economy also underwent a transformation in the past, or to be precise, a **structural adjustment** (NESC No.99). This **structural adjustment** is characterised by a significant fall in the agriculture employment and the growth in both manufacturing and services employment. Prior to 1990, however, the transformation in Ireland was incomplete. The growth in manufacturing and services were not strong enough to compensate for jobs lost in agriculture; this resulted in an increase in unemployment (NESC No. 99, p.19).

Compared to the contrasts, the growth of services in Ireland until the 1990's was slow (Appendix 28), in market services in particular. In addition, the relative underdevelopment of services in Ireland in the past is also reflected in the comparison with the rest of EU. John Fingleton points out that:

"The share of services in output in Ireland, 54.7% (for 1992) is the lowest in the European Union where the average is 64.4 per cent."

Furthermore,

"a sub-sectoral examination reveals that the low share of services in Ireland is entirely a private sector phenomenon. Ireland's share of non-market services at 15.9% is above the EU average of 14.8% ... This high share reflects the fact that the major growth in the services sector in Ireland in the last 20 years has been in the area of government services rather than in market services. Ireland's low share of services arises solely because its share of market services, at 38.6%, is the lowest of any EU country and substantially below the EU average of 49.6%."

(O'Hagan, 1995, p.304 - p.310)

A question that would automatically be raised at this point is: Why was the market services in Ireland underdeveloped when the factor conditions of **National Competitive Advantage** in Ireland are actually in favour? The key to answer this question is in Figure 12 on p.97, it indicates that apart from factor conditions, the other three conditions of the **National Competitive Advantage**

are equally important to the development of a national economy. Unlike most of the factor conditions, these conditions cannot be inherited; they have to be created and to be maintained. Factor advantages alone do not guarantee the success of an industry. Discussions in Section 4.4, p.91 suggest that apart from the location, the involvement of the Government plays a crucial part in Singapore's ship repairing industry. The same scenario also applies to the finance sectors in both Hong Kong and Singapore, as discussed in Sections 2.2.3.b, p.38 and 3.2.3.b, p.60. In addition to time zone, there were other events that are essential to the success of international banking in both economies; i.e. deregulation, inward FDI and the emergence of the Asian Dollar Market.

It was suggested by commentators during the interviews, that a number of elements are believed to have constrained the growth of services in Ireland in the past, namely the lack of an outward orientation in Irish services firms, Government regulations, the discouragement of state industrial policies and the relative underdevelopment of certain infrastructure.

The proximity to some existing services centres in Europe has also had negative effects on the evolution of international services in Ireland, as suggested by Mr. Terry Baker of ESRI. There are considerable difficulties for the Irish services sectors to compete with long established services centres such as finance in London, shipping in Rotterdam and tourism in much part of Europe, whereas services in Hong Kong and Singapore mostly have to compete with each other in the Far East, with little competition from other locations in that region.

The role of the Government has played an important part in the development (or underdevelopment thereof) of services in Ireland. Manufacturing was the focus of attention of both the Government and research institutions in Ireland until very recently. Services sectors were being ignored. Ms. Mary Doyle, Group Economist of ICC Bank, recalls a discouraging response she received during a conversation that between herself and a prominent government minister back in the 80's, when she was trying to explain the importance of promoting services in Ireland.

Conventionally, services in Ireland were viewed as derivative from other producer sectors - mainly manufacturing and agriculture, therefore services were not perceived as an independent source of growth. Most of the state aid and tax concessions in Ireland in the past were designated to manufacturing instead of services, and services were also heavily regulated.

Since the modifications of national economic strategy in the late 1980's, the State has extended its financial incentives to services. The subsequent development of market services in Ireland has been significant in areas such as international finance, tourism, computer software and business service centres. The growth in services employment is also phenomenal. According to CSO's Labour Force Survey 1996, services employment in Ireland in 1996 was 800,000 which represented 61.1% of total employment, a significant increase from 56.7% in 1990. The net job gain in services over the same period was 155,000, a 24% increase compared to a 9% job growth in manufacturing. While the "**growth of services employment in Ireland during the 1980's was the lowest in OECD**" (NESC No.96, p.6), the rapid growth in recent years has to be one of the highest anywhere in the world.

One opinion which emerged during the interviews argues that although services have contributed to the majority of job growth recently, manufacturing has been responsible for most of the growth in GDP. The evidence suggested can be found in CSO's **National Accounts of Ireland**: from 1990-1996 the average annual growth of GDP at constant prices in industry was over 7% (of which chemicals and electrical was 14% and computers was 10%), compared to 5% growth in total GDP at output basis. The industrial sector in Ireland appears growing faster than the rest of the economy.

The key to address this claim is in the difference between GDP and GNP, where GDP has been higher than GNP in Ireland, and the gap between them in 1996 was 12%. Since GDP includes the repatriation of profits from foreign investments and the majority of FDI in Ireland has been in manufacturing, the gap between GDP and GNP in industrial sectors should be greater than that in services sectors. Given that the net outflows of income from Ireland between 1990-1996 increased by 10% every year in real terms, and the manufacturing sectors accounted for most of the growth in this area; the comparison of services and industry in terms of output should be closer to reality if measured by GNP instead of GDP. Even measured by GDP, the growth in market services in Ireland is forecast to emulate the pace of growth in industry from 1998 (ESRI 1997, p.111).

The recent success of Irish services has substantiated the conclusion drawn in Section 6.1, i.e. when preconditions are appropriate, e.g. international business environment and macroeconomic policies, market services in Ireland could become an independent source of growth.

The growing importance of services in the Irish economy has been emphasised by both Forfas and NESC, the results of the interviews also reflect the prevailing recognition of this trend in Irish society. There is no doubt that the Irish economy is at a **turning point** (Forfas), which is characterised by sectoral transformations.

However, the evolution of strong and internationally competitive services sectors requires a lengthy period of time, as the history of Hong Kong and Singapore has revealed. Although growing rapidly, the international market services in Ireland still have deficiencies. The weakness of current market services sectors in Ireland is its performance in export.

Appendix 29 shows that Ireland had the second highest services deficit in the EU in 1995, and Ireland was also the only SOE in the EU with a service deficit. Of the services sectors in Ireland, the tourist and transport sectors have been in surplus every year; therefore the export performances of the rest of the services sectors are disappointing. As showing in **Appendix 30**, that the gap between trade and services balances in Ireland since the mid-80's has been growing. This indicates that the current export-led growth in the Irish economy is mainly fuelled by manufacturing exports, and the growth of services has been generated by the domestic market only. According to ESRI, from 1980 to 1995 the growth in services exports in Ireland was 5% each year compared to 10.2% in merchandise exports. Both the Central Bank of Ireland and ESRI forecast that the growth in services in Ireland in the next few years will continue due to the growing domestic demand. The ESRI predicts that although there will be a sharp improvement in services exports in the medium term from 1995, its percentage of growth will still be below that of merchandise exports (**ESRI 1997, p.125**). In sum, services exports have had and will continue to have little impact on the growth in GDP in Ireland.

This reflected in Figure 4 on p.37 and Figure 7 on p.60, that although merchandise trade in both Hong Kong and Singapore are in deficits, their services surpluses are more than enough to offset these deficits. In 1995, Hong Kong's services surplus accounted for 43.3% of services exports and 11.4% of GDP, the corresponding ratios for Singapore were 44.3% and 10% (1993). This indicates the growth in services in these economies was largely driven by overseas markets and that the services exports make significant contributions to the growth in GDP.

Similar to manufacturing, market services in an SOE are not exempt from the rule of **economy of scale** as the experiences of Hong Kong and Singapore would suggest. In order to survive international competition and to become an independent source of growth, market services in an SOE have to export their products to a large extent. **Appendix 31** provides the evidence of the high volume of services exports in both contrast cases, and the low services exports in Ireland are underlined. The lack of services exports in Ireland was highlighted by Forfas (**Forfas 1996, p.199**) however, the economic importance of services exports has not been given sufficient attention in other recent literature on the Irish economy.

6.2.2. SAVINGS AND INVESTMENT

a) Investment

The level of investment in Ireland in the past has been low, not only compared to Hong Kong and Singapore but also compared to other developed countries. **Appendix 32** compares investment rates among EU member states over the last four decades, Ireland was among the lowest except for a number of years between 1974 and 1986.

O'Grada and O'Rourke studied investment performance in Ireland between the 1950's and the 1980's in comparison with the rest of EU. They concluded that Ireland was substantially underinvesting during much of the period, and they believed this could be a reason for slow growth in Ireland during the early 80's (**O'Hagan, 1995, p.215- p.217**). Given the strong correlation between investment and growth in a catching up economy, the low investment in the Irish economy in the past should be responsible for its relative slow growth.

During the 1990's, the pattern of investment development in Ireland went through two stages. The first stage was between 1990-1995, when a strong growth in GDP was accompanied by a simultaneous fall in investment rates. This phenomenon puzzled commentators, and attempts were made to explain it. One interpretation was that the reason for a falling investment rate producing a growing output, is a rise of private investment in total investment, which led to a fall in the incremental capital/output ratio (**Leddin and Walsh, 1997, p.16**). In other words, the improvement in the quality of investment in Ireland has offset the fall in the quantity of investment.

Although evidence was not provided to support this claim, statistics found in an OECD report can be used to ratify this situation. **Appendix 33** contains OECD's calculations of returns on capital in member states. While great care should be taken when using this chart for cross-country comparison, due to differences in measurement as warned by OECD, the impressive progress made in Ireland can be seen. However the current earning ratio in business investment in Ireland has already reached the European average, and is approaching the OECD average, so the potential for further improvement is likely to be limited. This suggests that a further improvement in the capital/output ratio in Ireland will be marginal, so that a substantial increase in the volume of investment is desirable, otherwise the growth potential of GDP will be capped. The low investment in Ireland between 1990-1995 caused attention, and both Forfas and NESC have expressed their concerns (**NESC No.99, p.130 and p.148**).

Appendix 34 presents a detailed analysis of domestic investment in Ireland from 1990 to 1995. Chart (A) shows that the growth of GDP in Ireland during this period was mainly contributed by consumption and exports, and that investment was declining every year at constant prices. Chart (B) shows that when the overall investment level in Ireland was falling, residential investment was increasing; it has achieved 45.6% of accumulated growth from 1990 to 1995 while non-residential investment has been falling consistently. The ratio of non-residential investment % GDP in Ireland was also reduced from 13.7% in 1990 to below 10% in 1995, as shown in Chart (C).

The second stage of investment development took place in 1996, when Ireland recorded a record year in fixed investment. The total value of investment increased almost 20% from the previous year, and the investment % GDP ratio reached 18%, the highest level since 1984. However, the recovery in investment was led by residential investment, as investment in Building and Construction accounted for 65% of total fixed investment in 1996. Obviously the property boom in 1996 has had an impact on the rise in investment, the number of new houses completed was also a record - 33,725 in total, a 10.3% increase from 1995. In comparison, the recovery of investment in Machinery and Equipment was slow.

It was commonly recognised that one period's capital formation is the next period's source of output: i.e. that investment creates the capacity for increased production in the future. When dealing with the current investment in Ireland, what has to be borne in mind is that economic

growth in the next few decades will be based on the capital stock which is built now. Experts pointed out during the interviews that the public investment in education and infrastructure in Ireland during the 70's and the 80's was one of the main contributors to the current growth. Also according to **The Irish Independent**:

"One study found that Ireland had the highest investment in second-level education in the OECD from 1960-1985. This is now translating into higher participation at third level and may be fuelling this decade's boom."

(**The Irish Independent, 17th July, 1997**)

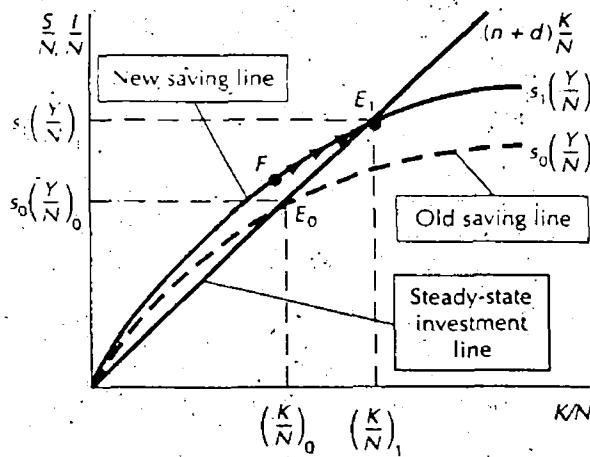
The high standard of education and good infrastructure in Ireland are often cited to be the main attractions for inward FDI, which also believed to contribute to the current economic growth. Therefore, it is right to be concerned that when current investment is too low it does not affect current growth but growth in the future. This is evidenced by **Appendices 21-23**, where one period of high investment is followed by a period of high growth in GDP: Hong Kong 1977-1983, Singapore 1978-1985, and Ireland 1976-1985.

The case studies and growth theory review in previous chapters outlined the importance of investment in economic growth. Above discussion has also indicated that the capital investment in Ireland in the first half of the 1990's was very low, in fact it was one of the lowest even compared to most Western countries (**Forfas 1996, p.74**). ESRI believes that although there are some plausible reasons for the fall in investment such as the improvement in the quality of investment, congestion in the infrastructure network in Ireland has been observed, and an increase in infrastructure investment is imperative now in Ireland in order to achieve further economic growth (**ESRI, 1997 p.154- p.155**). In conclusion, a further improvement in non-residential investment in Ireland is expected, in order to achieve a high growth in the long run.

b) Savings

When investment is low, focus turn to savings; domestic savings, that is, which provide the main resource for domestic investment. Savings play an important part in conventional growth models, its positive correlation with growth in average income was highlighted by Solow. Figure 16 depicts the equilibrium of savings and investment in the Solow model; it demonstrates how an increase in savings can produce higher income.

Figure 16: The Solow Model



Where $\frac{K}{N}$ is capital/labour ratio, and $(n + b) \frac{K}{N}$ is the steady-state investment per person. Steady-state investment is a situation where output and capital input grow at the same rates, implying a fixed ratio of output to capital input. $S(\frac{Y}{N})$ is national savings per person. A higher savings rate S_1 implies the new savings line. Obviously when savings move from S_0 to S_1 , the economy jumps from E_0 to F . Now savings and actual investment are above steady-state investment, so $\frac{K}{N}$ grows until the economy reaches E_1 . The Solow model concludes that an increase in the savings rate raises the standard of living, since the higher $\frac{K}{N}$ ratio at E_1 produces a higher output/labour ratio.

A point to be made is that the Solow model is intended for long-run analysis, the effect of savings on growth can only be identified by comparing statistics over decades (Appendix 34).

The results of interviews (section 6.3) show that there is little recognition of the importance of savings in economic growth in Ireland. The popular view is that Ireland does not lack savings, and savings in Ireland do not constrain investment due to the nature of the Irish economy - an SOE.

One opinion maintains that inadequate investment in Ireland is not a result of lack of savings; rather, a **mismatching between savings and investment** in Ireland should be blamed. NESC believes that Ireland does not suffer from a lack of savings and an inadequate level of investment in indigenous businesses is more likely to reflect the pattern of deployment of savings in Ireland (NESc No. 96, p.389).

In its report No.99, NESC further stresses its concern about the outflows of savings from Ireland which is blamed for the falling rate of investment (**NESC No.99, p.285**).

Evidences supporting this claim can be found in the national account of Ireland. In national account, savings are defined as **National Savings** which consists of private savings, business savings and public savings. National savings equal investment plus trade balance:

$$S = I + NX \quad (6.1)$$

Where national savings (**S**) are determined by investment (**I**) and net export (**NX**).

Rearranging equation (6.1), a new equation is obtained to help explain how savings determine investment.

$$I = S - NX \quad (6.2)$$

Obviously, in countries where the trade balance is close to zero, savings would always be equal to investment - the more a country saves, the more it invests.

Equation (6.2) helps to explain why before the late 80's, savings in Ireland were considerably lower than investment (**Appendix 23**). The large trade deficit which occurred in Ireland before the mid-80's (**Appendix 30**) prompted the Government to borrow abroad; the subsequent decline in public savings resulted in reduced national savings. The gap between savings and investment between the early 60's and late 80's indicates a net inflow of capital - public borrowing. By comparing **Appendix 24** with **Appendix 12**, it was suggested by Mr. Austin Hughes of Irish Intercontinental Bank, that the changes in savings can be explained by the pattern of budget deficits. When budget deficits were high between 1974-75 and 1981-82 (**Appendix 12**), savings were low correspondingly (**Appendix 24**), and vice versa in 1977-78 and 1990-91. In sum, as Mr. Hughes suggests, the Government **dissaving** was responsible for the lack of savings in Ireland in the past. Likewise, what happened since the 90's was the reversed situation, an increasing trade surplus allows public borrowing to be reduced and the growth of savings outpaced the growth of investment. This implies growing net outflows of capital from Ireland.

A brief conclusion on savings in Ireland can be drawn:

1. There was a shortage of savings between the 1960's and the 1980's in Ireland, due to Government **dissaving** - an excessive public borrowing which led to the negative Government contribution to **National Savings**. The capital required by the high level of investment in the meantime was met through foreign borrowing.
2. Since 1990, thanks to a growing trade surplus and a fall in public borrowing, savings in Ireland have been improved and have been in excess of investment. Equation (6.1) reminds us that when the trade surplus is growing, in order to maintain the rate of investment, there should be a corresponding growth of savings. However, Irish savings remained unchanged between 1990 and 1995 while the trade surplus continued to rise, so the fall in the investment rate was inevitable.
3. The sharp improvement in investment in 1996 was made possible by a rise in the national savings rate, which accounted for 20% GDP. Again, the rise in savings contributed to the reduction in the public borrowing which kept the Government dissaving to a minimum.

According to the above observations, the lack of savings in Ireland in the past was apparent, which is underlying the correlation between low savings and low investment, and consequently low growth rates in Ireland prior to the 90's. The high savings since the early 90's were the result of a large trade surplus and the reduction in government borrowing. Under such circumstances, savings are obliged to be higher than investment in the national account. Whether the savings rate in Ireland between 1990-1995 was sufficient to support an adequate investment level, is the subject of detailed discussion below.

6.2.3. SUSTAINABILITY

According to growth theories discussed in Chapter 1, economic growth depends on variables such as the possession of natural resources, the quality and quantity of labour supply, the progress in technology, the performances of savings and investment, macroeconomic policies and so on. An analysis of the recent economic growth in Ireland is vital in order to understand the growth and thus how to sustain the growth.

There are three key issues which are considered to relate to the growth potential of the Irish economy. Namely: how to sustain the current strong growth, how to prevent the over-heating in the economy, and the EMU issue. These issues are dealt with in turn in this Section.

I. Factors concerning the current Irish economy

Chart A in **Appendix 34** depicts the situation of the Irish economy between 1990-1995 - a typical **export-led** growth. The weakness or potential weakness of the growth in Ireland during the 1990's can be identified as: 1) As discussed in Section 6.2.1, the current growth of exports is attributed to merchandise exports only. As an SOE, the Irish economy is vulnerable to external shocks, any deterioration in foreign markets will be swiftly translated into the Irish economy. An improved services exports will help to maintain the sustainability of economic growth in Ireland in the future. It was evidenced by the high growth in Hong Kong and Singapore between the mid-70's and the mid-80's (**Appendix 13**), when the industrial world (their main merchandise exports markets) was in a prolonged recession. 2) The underperformance of investment in Ireland since the early 90's was apparent, Chart (A) in **Appendix 34** shows that domestic investment did not contribute to the growth of GDP in Ireland at all from 1990 to 1995. In this section the focus is therefore on the availability of capital supply in Ireland from domestic resources, in other words, the domestic savings issue.

The crucial role played by savings and investment in economic growth was identified by Harrod and Domar (**Section 1.2.2. p.5**), and the importance of savings and investment in growth has been proved both theoretically and empirically at an international level.

Apart from the correlation between investment and growth, there is also a correlation between savings and growth which has been proved at an international level.

Robert Gordon observes a striking correlation between the national saving rate and the economy's growth rate (Gordon 1993) through his study of a number of countries' growth histories which is shown in Appendix 35. The long-term effects of savings on growth rate were evidenced.

Paul Samuelson believes that the lack of savings should be blamed for the slow growth in US in the 1980's, and it could not guarantee a healthy level of investment. He recommends that:

"The most obvious way to grow more rapidly is to increase national savings and investment rate; this could be accomplished by changing the mix of fiscal and monetary policy toward one more favourable to capital accumulation."

(Samuelson 1989, p.866)

Recently, the economic growth in Chile has attracted attention. By introducing a compulsory pension scheme and consequently increasing the savings rate, Chile has achieved over 6% of growth in GDP over the last few years. As commended by **The Economist**:

"The Chilean system boosted the country's savings rate significantly and (in 1997) after two years of above average growth the economy will slow but will remain among the best-performing in the region."

(The Economist, "The World in 1997", p.55)

Between 1990-1995, the savings rate in Ireland remained at 18%, an adequate level among advanced countries in general. However, when compared to countries in a similar situation, i.e. countries with a large trade surplus, savings in Ireland were low. Appendix 36 compares savings in members of OECD which had a substantial current account surplus in 1994; of them Ireland had the second highest surplus % GDP but the second lowest savings rate. In terms of savings/surplus (GNS/NX) - a ratio that indicates the availability of savings for domestic investment, Ireland was the lowest of the countries in comparison.

The implication of the above discussion is that although there is no evidence that savings determine growth, savings' positive impact on growth on the long-run should not be ignored. The virtuous circle of high savings, high investment and high growth which was represented by the experiences of East Asian NIC's (p. 22), also has an implication for the Irish economy. In order to maintain the

sustainability of the growth in Ireland, the role of savings in economic growth has to be emphasised.

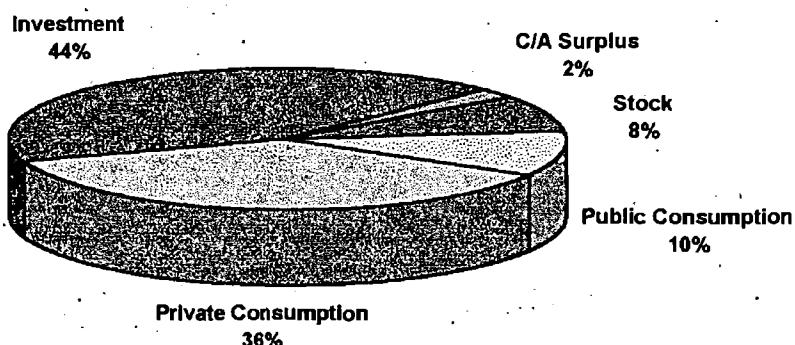
According to UN World Investment Report 1995, the investment rate in developed economies from 1981-1993 was an average 20% GDP. Presuming that Ireland needs an investment rate of 20%, according to equation (6.2), savings in Ireland have to be much higher than 20% compared to an average 18.4% in Ireland between 1990 and 1996. The relatively low savings plus a surplus on the current account, have resulted in the low investment in Ireland.

While the growth in GDP in Ireland between 1990-1995 was contributed mainly by the growth in private consumption and exports (**Appendix 33, Chart A**), the growth in 1996 presented a different scenario. The recovery in the savings rate in 1996, which was led by the consistent fiscal corrections, made a direct contribution towards the growth in GDP by boosting investment to a record level. Figure 17 shows the compositions of GDP growth in Ireland in 1996.

Figure 17:

Growth in GDP in Ireland, 1996

(Net increase in the value of GDP over the previous year, total GDP growth = 100)



Source: CSO.

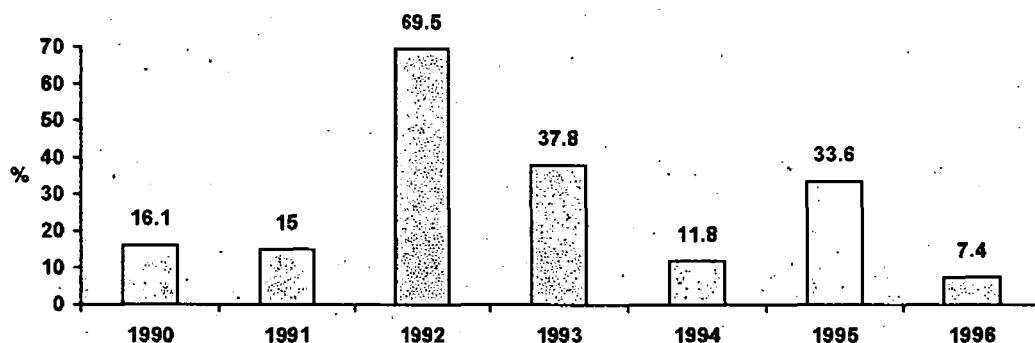
Fixed investment was the largest component of GDP growth in 1996, it accounted for 44% of net value increase in GDP. In other words, without the recovery in investment, the rate of real GDP growth in 1996 could have been below 4.5% instead of 7.5%. Figure 17 forms a sharp contrast to the Chart A of Appendix 34, showing that investment became one of the driving forces behind the growth in GDP in 1996, in comparison to the decelerated growth in the trade surplus.

The fall in the growth rate of merchandise trade surplus in Ireland in 1996 was significant (**Figure 18**), a simultaneous fall in the GDP growth was prevented through a rise in savings and investment. The reason for the moderate increase in trade surplus in 1996, was that the growth in imports outpaced the growth in exports, as the fast expansion in both production and consumption has created a rising demand for imports. It is doubtful that Ireland can repeat the hyper-growth in trade surplus that happened in the early 90's. Therefore a continued rise in savings and investment seems important in the future, in order to sustain a high growth rate in GDP.

Figure 18:

The Growth in Trade Surplus in Ireland, 1990-1996

(% increase over the previous year)



Source: CSO.

A factor that will affect the savings in Ireland in the near future is the EU funding. The EU funding to Ireland has been included in **Disposable National Income in National Accounts**, which is a part of **National Savings** and constitutes over 30% of **Gross National Savings** in Ireland in recent years. The scheduled phasing out of EU funding from 1999 could directly result in a decline in **National Savings** in Ireland, which will put pressure on domestic saving to rise in order to maintain an adequate investment level.

One school of thought insists that it is impossible for an SOE to generate and to maintain a high level of domestic savings due to the integration of international financial markets. This argument is based on the assumption of **perfect capital mobility**, i.e. the free flow of capital across borders between an open economy and foreign markets, to where the interest rate is higher. However, the cases of Hong Kong and Singapore demonstrate that it is possible for an SOE to generate and to maintain an adequate level of domestic savings for a sustainable long term period. Where market

mechanisms failed to operate efficiently, introducing an appropriate government intervention would be necessary, as the discussion of CPF in Singapore implies. The conclusion of the above analysis is that, in order to continue the improvement of the investment level in Ireland, a rise in the savings rate is desirable. This can be achieved in an SOE through appropriate government initiatives.

Another issue which deserves attention is the emerging shortage of skilled workers in Ireland recently, mainly in fast growing sectors i.e. construction and electronics. The main concern over this issue is that this will discourage FDI to come to Ireland, and this will also lead to wide spread labour shortages in Ireland, consequently raising the wage level and weaken the competitiveness of the Irish economy. An obvious solution to overcome this problem is taking measures that aim to improve the quality of labour supply, e.g. investing in education and training, encouraging skilled emigrants to return home, etc. In addition, Hong Kong and Singapore's experiences also suggest that by creating an open labour market with a perfect labour mobility, such a dilemma could be prevented, as both states have accommodated large number of foreign workers in recent years, to satisfy the demand of the domestic labour market.

II. The Dangers of the over-heating in the economy

When an economy has sustained a period of high growth in output, concerns over the danger of over-heating would be raised. Between 1994-96 in Ireland, the annual growth in real GDP was 7.5%, in employment was 4%, in M3 was 13.2% and the growth in foreign reserves was 10.5% each year. Such an expansion in the domestic economy and money supply would certainly put the inflation rate under pressure. However, this danger of high inflation is a potential element. It could be prevented from becoming a reality by implementing proper macroeconomic policies.

With an appropriate macroeconomic framework in place, the major uncertain variable in the current Irish economy is the national wage level. The centralised wage bargaining system has had an excellent record in the past in moderating wage increases. As pointed out by many respondents during the interviews, it is vital for Ireland to continue to operate this wage control system, in order to sustain the competitiveness of the economy. In addition to wage control, an over growth in credit is also detrimental. The Central Bank has been carefully monitoring the level of credit and money supply in Ireland, hopefully an unprecedented rise in inflation rate can be avoided.

III The European Monetary Union (EMU) issue

An essential issue that determines the future of the Irish economy to a large extent, is the contentious **EMU** issue. According to Ms. Criona Hart of the Central Bank of Ireland, despite of strong oppositions from both the academic and business sectors, the Irish Government have made a commitment to join **EMU** in the first wave. It is a political decision, and Ireland is one of the countries that qualify for all criteria of the membership of **EMU**.

The assessment of **EMU** is related to two different aspects: the cost of adopting **EMU**, and the long term prospect of the Irish economy in **EMU**. These two issues are dealt with in turn in this Section.

First, the cost of currency conversion and its significance to the welfare of Irish people. When converting a national currency into a new currency, an enormous amount of work is involved (this does not happen very often in any country), e.g. replacing equipment, changing work practices, removal and disposal of old currencies, rewriting books and accounts, etc. The overall cost of adopting the euro in Ireland could run into hundreds of millions. It is a cost that is difficult to predict, and although it is a once off payment, it might be a price that too high to pay. Ultimately it is a risk, the transition cost issue is a **cost of risk** issue.

Generally this cost is expressed as a proportion of national products, according to EU's prediction that for a trade dependent SOE, the transition cost could be in a region of 1% GNP - i.e. IR£ 370 million for Ireland in 1996. It is difficult to measure how this cost will be allocated among different sectors, and its effect on average people. Under a different approach, an attempt is made below to treat the transition cost as part of national income. Any cost to the economy would be translated into a loss of income, e.g. a loss in Government revenue, and a loss in Government revenue would directly result in a fall in average income. By measuring the loss in Government revenue and its relevance to the average income, the significance of the cost of risk can be quantified and assessed.

An argument put forward by Arrow and Lind forms the basis for the theory of risk-pooling and risk-spreading, i.e. the risk of a public project can be spread over a large number of people, for the cost of risk to be negligible. A empirical test is carried out based on Arrow and Lind methodology.

The Arrow and Lind cost equation takes a form of

$$C = \frac{-\nu''}{2\nu'} \frac{\text{var}(Y)}{n}, \quad \text{var}(Y) = \left[\pi_1 \left(\frac{Y_1 + Y_2}{2n} \right)^2 + \pi_2 \left(\frac{Y_1 + Y_2}{2n} \right)^2 \right] n^2$$

Where the average cost C is determined by the average income $\text{var}(Y)$, the number of unit n (e.g. person, or household), and a degree of risk aversion $-\nu''/\nu'$. Presume that Government revenue in Ireland Y_1 is IR£ 50 million annually, and when cost of transit occurs, the revenue suffers a 20% fall to Y_2 , IR£ 40 million (a large enough percentage to cover any cost over-run of transition), and chances for Y_1 and Y_2 are even: $\pi_1 = \pi_2 = 50\%$. The cost is spread over one million households in Ireland, and all other components of national income are fixed.

So the expected return

$$E(Y) = \pi_1 Y_1 + \pi_2 Y_2 = 5(10)^6$$

The mean return

$$\text{var}(Y) = \left[\frac{1}{2} (45)^2 + \frac{1}{2} (45)^2 \right] 10^{12} = 2025(10)^{12}$$

The average household income in Ireland is IR£ 25,000. Therefore

$$\frac{-\nu''}{2\nu'} = \frac{2Y^2}{2Y^3} = \frac{1}{25000}$$

Hence

$$C = \frac{-\nu''}{2\nu'} \frac{\text{var}(Y)}{n} = \frac{1}{25000} \frac{2025(10)^{12}}{(10)^6} \approx (0.08)10^6$$

The average cost of risk is $(0.08)10^6$, which is negligible compared to expected return of $5(10)^6$. Given that the fall in Government revenue that caused by the cost of transition to EMU is unlikely to be higher than 20% (20% Government revenue was close to 8% GNP in 1996), the cost of transition on the average income in Ireland is negligible.

Discussions now turn to the long run effect of **EMU** on the Irish economy. The basic concern over Ireland joining **EMU** has been the uncertainty of the British membership. Since Britain is still a market for a quarter of Irish exports, there is possible negative effect on the Irish economy if Britain decides to stay outside the Monetary Union.

The brighter side of the coin is that, as commonly anticipated, the membership of **EMU** should bring in low interest and inflation rates, a strong currency to Ireland, and a free flow of intra-EU trade. For an SOE such as Ireland, the membership of **EMU** will also release the Government from dealing with the foreign exchange rate and other monetary issues. The Irish Government will no longer have to worry about currency speculations which often undermines the stability of a small economy. The Irish exports to the EU markets will also benefit due to the elimination of money exchange and other financial barriers.

Unfortunately on October 1997, the Labour Government of Britain declared that Britain will not consider joining **EMU** before the next election, i.e. in another four years time. This effectively rules out the possibility of Britain joining **EMU** at the first wave (1999), and the signal is not clear on when Britain will consider joining. According to the experience of **ERM**, the direction of the British Government is often unpredictable, as during the 18 years history of **ERM**, Britain only managed to stay on board for 18 months. Therefore it is quiet clear now that all discussions of **EMU** will have to be based on the scenario of **Ireland in, Britain out**.

The decision of the British Government has overcast the future of the Irish economy in the **EMU**. The **Ireland in, Britain out** is a long familiar situation to the Irish economy. Over the 18 years in **ERM**, Ireland has taken every opportunity - including 19 realignments and 2 devaluations, to try to keep the balance between a weak sterling and a strong **ERM**. As a result, the central rate of the Irish pound in **ERM** has depreciated 21% since **ERM** established in 1979. The main difficulty that Ireland will face in **EMU**, is that while the devaluation of sterling can be repeated, the devaluation of the Irish pound can not.

EMU is not an extension of **ERM**. **EMU** is a single currency, it gives no chance to participating countries of implementing any monetary adjustments, that would normally be available for a

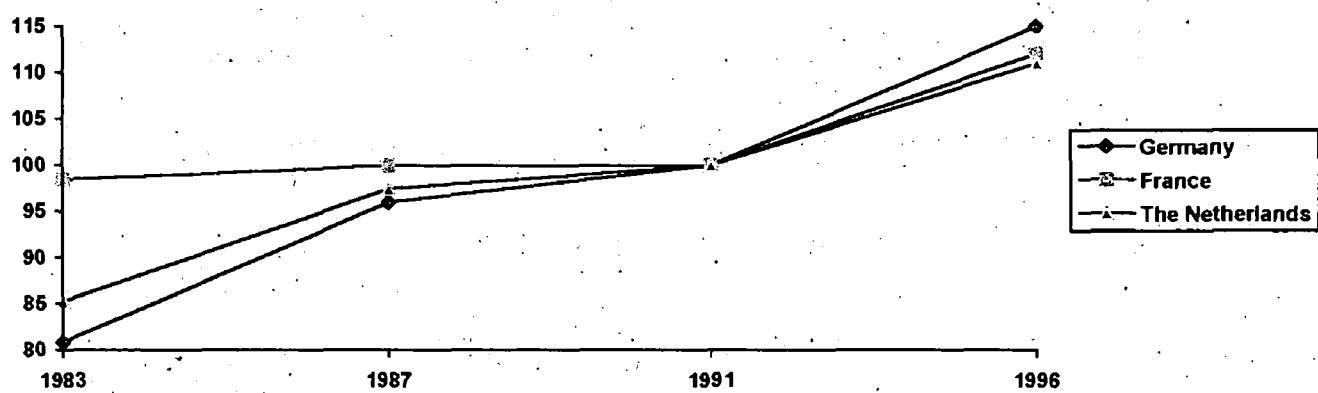
Government or a monetary authority of a sovereign state. The roles of EMU also prevent the EU from bailing out any member state in the event of domestic economic difficulties.

The negative effects on the Irish economy of EMU can be summarised as:

- a). If a member state is suffering from an over-valued, or a strong euro relative to its non-EMU trade partners during a recession, and consequently is losing out on exports, a devaluation would not be available. This of course, is referring to what happened in 1986 and 1993, when the Irish pound was forced to be devalued within the ERM due to the depreciation of sterling.
- b). It is generally anticipated that the euro will carry significant characteristics of the DM, i.e. a strong currency with a tendency of being over-valued against other major currencies, sterling and US dollar in particular (Figure 19). This will pose problems to Ireland due to the structure of the Irish external trade. While the EU without Britain, roughly comprising all EMU members, purchase 50% Irish exports; non-EU countries + Britain account for another 50% Irish exports. A strong euro could affect the competitiveness of the Irish economy in the world market.

Figure 19:

History of Effective Exchange Rate, EU core currencies



Source: OECD.

Discussions below are dealing with these issues in turn.

IV EMU and managing external shocks

How to manage external shocks during a recession is a vital issue to an SOE due to the exposure of its domestic economy to the world market. Whether an SOE will be able to manage it effectively determines its long run growth potential. Both Hong Kong and Singapore have demonstrated abilities of responding to external shocks in the past. **Appendices 7-9 and 13** provide an illustrated explanation in this regard. A key element in their mechanism of managing external shocks is exchange rate policy.

When the world economy was hit by a deep recession in 1985, Singapore responded with a depreciation of the Singapore dollar through the adjustment of its floating rate, the effective exchange rate of the Singapore dollar reduced more than 10% in 1986. In Hong Kong meanwhile, when its US dollar peg taking effect, the HK dollar also fell in value by more than 15% (**Appendix 7**). The depreciation was effective, so that unit labour costs in both economies were reduced sharply, consequently their export prices were held down (**Appendices 8, 9**). By reducing export prices, Hong Kong and Singapore were able to increase their market share and in turn to expand their total output instantly, the recessions were short lived (**Appendix 13**). During the same period, Ireland responded to the recession with the same instrument - a 10% devaluation of the Irish pound within the ERM. The devaluation in 1986 and the second one in 1993, were considered crucial for the current strong growth in the Irish economy.

History has revealed that the secret behind successful SOEs, in terms of managing external shocks, is an appropriate exchange rate policy. However after 1999, Ireland will no longer have monetary autonomy. How to respond to external shocks without devaluation is an issue that requires immediate attention. The NESC made four recommendations on how to address this problem, these range from a flexible and efficient wage adjustment, an improved competitiveness in the sectors involved, a further cost reduction and the use of hedging - when it is necessary, to minimise the negative effects (**NESC No. 99, p.278**). These recommendations should help the Irish economy to improve the ability of self-adjustment.

In addition, Hong Kong's experience with its fixed exchange rate also sheds some light on this issue. When the Hong Kong dollar was pegged to the US dollar in 1983, it was fixed at US\$/HK\$

7.78, a 20% devaluation. This rate has been maintained for over 14 years, while the economic growth in Hong Kong has been sustained. This implies that the entry rate of the Irish pound in EMU is a key element, an appropriate entry rate of the Irish pound can help to prepare the Irish economy for future shocks.

V. EMU and competitiveness

While the contrast cases applied the same mechanism in response to external shocks - devaluation, their approaches to sustain competitiveness appeared different. Discussion below is also based on the illustrations in Appendices 7-9.

Hong Kong maintains its competitiveness through the fixed exchange rate. The stability of the US dollar has resulted in a stable effective exchange rate of the HK dollar since 1986 (Appendix 7). In spite of the rising labour costs due to the absence of a wage bargaining system (Appendix 8), the stable exchange rate has been able to keep the relative export prices under control (Appendix 9), so as to maintain the growth in the economy over the last decade (Appendix 13).

Whereas in Singapore, the competitiveness has been maintained by a centralised wage bargaining system. In order to achieve a low inflation environment, Singapore has intentionally created a strong currency since 1987 to prevent imported inflation (Appendix 7). Meanwhile a state involved national wage bargaining process is in place, to ensure that the wage increase is in line with the interest of the national economy (Appendix 8). Therefore despite the appreciation in the currency, the export prices in Singapore have been competitive (Appendix 9).

The implication of above discussion is that, although Ireland will lose its control over exchange rate within EMU, a rigidly enforced nation-wide wage bargaining could still provide the necessary mechanism to sustain the competitiveness of the economy.

6.3 RESULTS OF INTERVIEWS:

Total number of interviews completed: 17.

Question A

"Studies of economic growth in Hong Kong and Singapore have revealed that internationally competitive market services sectors in both cases have been the engine of growth during the last two decades. As a result, services in Hong Kong and Singapore account for a much larger proportion in both GDP and employment contrasting with Ireland. In your opinion:

- [A1] In a global context, are the market service sectors (namely finance, tourism, transport/communication, and business services) in Ireland internationally competitive?
- [A2] Whether or not, the market service sectors in Ireland can be an independent source of growth, and why?
- [A3] Which segment of services sectors in Ireland is most likely to contribute to further growth, and why?"

Total sample: 17. Total replies: 16. No comment: 1.

[A1]: Only one respondent believes that market services in Ireland are not internationally competitive, the remainder believe the opposite. However the underdevelopment of market services in Ireland before the 90's was acknowledged, and that market services in Ireland in need of further improvement was also pointed out by most respondents.

[A2]: Eleven respondents believe that services has been the main source of growth in recent years in Ireland, in terms of employment in particular. They also believe that services will continue to grow independently for the next number of years, although its long-term future is unclear. Five respondents are in favour of manufacturing, as they believe that manufacturing has been, and will continue to be the **engine of growth** in the Irish economy.

This survey shows that there has been a fundamental change of view on services in Ireland over the past few years. The importance of services in a modern economy has been recognised in Irish society.

[A3]: Sectors of future growth in services have been identified, including: Tourism, Finance, Computer Software and Services Centres.

Question B

"An obvious and positive correlation between the savings and growth rate has been observed in both Hong Kong and Singapore. The records of savings rates in both economies have been exceptionally high, Singapore in particular; so is their investment rates. In comparison, both savings and investment rates in Ireland in the past have been relatively low. In your opinion:

- [B1] Have the savings rates in Ireland been high enough to sustain economic growth?
- [B2] If the savings rates in Ireland have not been high enough, do you have any suggestion on how to improve them?
- [B3] If you consider the savings rates in Ireland have been sufficient enough, then what is your explanation for the low investment rates in Ireland?"

Total sample: 17. Total replies: 13. No comment: 4.

[B1]: Only two believe that savings in Ireland are low. The remainder disagreed. The popular opinion is that when compared to high saving economies Irish savings appear low, but under European comparison Irish savings are satisfactory. However, statistics in Appendix 37 show the opposite.

[B2]: The most suggested measures were Taxation Reform and a Public Pension Scheme.

[B3]: Twelve out of thirteen respondents do not believe that investment in Ireland has been low in recent years, although some admitted the current percentage of investment is low by international standards, but is believed sufficient to sustain the current growth.

An additional question was put to interviewees in the finance sector, about how do they assess the possible effect of EMU on the Irish economy. Among four respondents, three believed that there will be a negative effect on the economy when Ireland joins EMU without Britain.

6.4 SUMMARY AND CONCLUSION:

Rapid economic growth has become a world-wide phenomenon during the second half of this century. Countries in North America and Western Europe have managed to hold on to their lead in

the world league of economies. Countries from the Far East region have been catching up progressively, led by Japan, followed by East Asian NIC's. A few NIC's have already achieved a higher average income than some of the Western countries that are traditionally classed as **developed** and **high income** economies. This emerging new economic order has been widely acknowledged, however, a systematic study of economic growth and transformation in the Far East region is still absent in Ireland.

This thesis is an attempt at comparing the Irish economy with successful small economies outside Europe. Efforts have been made during the preparation of this thesis to avoid simplistic comparisons. The huge differences between Ireland and the contrasts in terms of culture and geo-economic background have been taken into account when conclusions were being drawn.

This study demonstrates that the experiences of Hong Kong and Singapore provide valuable implications for other small economies in a similar situation (with neither natural resources to rely on nor an industrial tradition, except for a strategic location), on how to maximise **National Competitive Advantages** in order to achieve a rapid economic growth and social development.

This thesis focuses on the structural change in Hong Kong and Singapore, which was characterised by the two stages of their industrialisation. The first stage featured the rapid growth of export-orientated manufacturing industry, a common experience shared by many developing countries during the last few decades. The second stage, which fundamentally transformed the economic structures of Hong Kong and Singapore, witnessed the evolution of a cluster of international market services that eventually led to the establishment of the status of both economies as regional centres for international services and trade.

Theoretical discussions of the experiences of Hong Kong and Singapore have been carried out within the framework of Michael Porter's **National Competitive Advantage**. The secret behind the success of both cases is discovered, and it shows that all determinants of their **National Competitive Advantage** are in favour of international market services - where they succeeded. When Porter's theory was applied to analyse Ireland, similar conclusions were drawn: i.e. factor conditions of **National Competitive Advantage** in Ireland are in favour of international services. This implies the potential for development of international market services in Ireland, as it has been proved by the case studies.

The findings of this study indicate that:

- a) Among other factors, i.e. a sound macroeconomic environment, an outward orientation, and accumulation of human capital; high rates of investment and savings are also important for an economy in a catching up situation. Savings in particular, has positive effect on growth on a long run. It is not the intention of this study to suggest that Ireland should match the rates of savings and investment in the contrasts, however low savings in Ireland in the past were emphasised (**Appendices 24 and 37**), and the correlation between savings and investment in Ireland was discussed which led to the conclusion that savings in Ireland in the near future should be in a rising trend in order to allow the current improvement in investment to be continued. It is possible to generate domestic savings in an SOE as suggested by the case studies, and to channel the savings into domestic investment.
- b) This thesis found that growth in Hong Kong and Singapore over the last 20 years has been led by international services sectors, the traditional **export-led** explanation was inadequate when the role of services exports was overlooked. Implications for Ireland are: 1. Manufacturing is by no means the only source of growth for an SOE; 2. International market services are not derivative sectors to manufacturing, they can be an independent source of growth in an SOE. This conclusion has been substantiated by the development in market services in Ireland since the 1990's, as the majority of the jobs created during the 1990's were in the services sector, and the contribution to GDP by services has also improved.

In the case of Ireland, where international market services are relatively late developed and the services balance has been in deficit for decades; in order to achieve a faster and sustainable growth in a long run, an outward looking market services sector in Ireland is indicated. **Appendix 38** compares the distribution of employment among services sectors in Ireland and contrast cases, and indicates where the potential lies for further growth in services in Ireland: i.e. international market services - Trade, Finance, Transport and Communications sectors, instead of C/S/P sector (The biggest employer and the largest contributor to job growth in the Irish economy between 1961-1996, **Appendix 20 A**).

To develop market services further in Ireland requires an improvement in services exports. The growth potential could be capped if Irish services sector continue to seek demand in the domestic market, while the increase in the trade surplus is decelerating.

OECD recommends that:

"Structural reform in a broad range of areas will be important to raise medium-term growth of output and employment, and to enable OECD countries to exploit the opportunities provided by an increasingly open world economy. The economies of the OECD are becoming increasingly integrated as a result of technological developments and of large increase in flows of international trade, financial capital and foreign direct investment. Many economies in the non-OECD area are also maturing and their role in international trade and finance is growing rapidly. These developments-which have been described by the term 'globalization'- will continue to have far-reaching implications for economic policy."

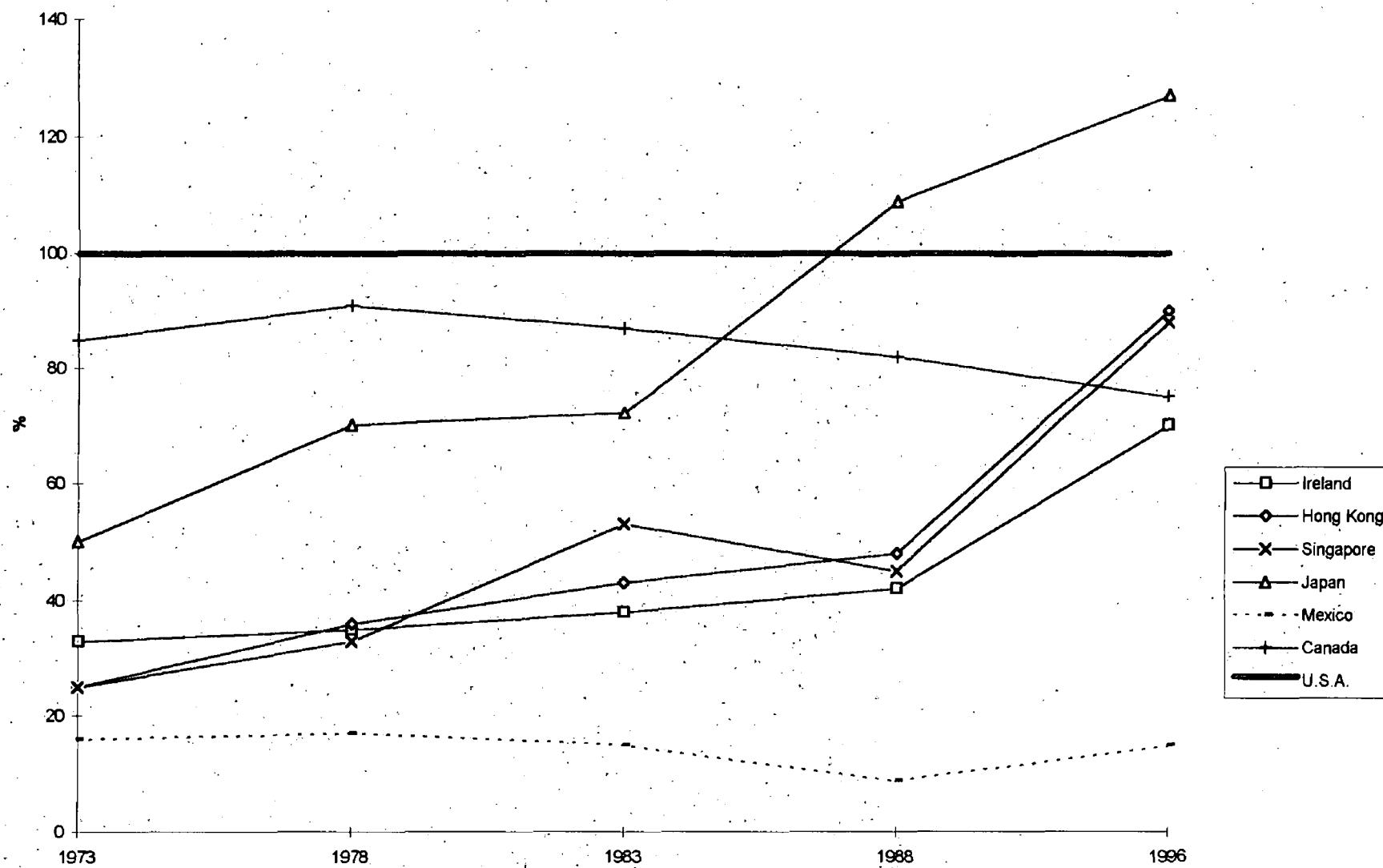
(OECD, Economic Outlook, June 1996, p.xiii)

The assessment of the Irish economy in this thesis has concluded that most of the fundamental elements in the current Irish economy are very positive: i.e. a correct macroeconomic framework, a consistent fiscal correction, a nation-wide wage control, and a positive outlook of the international economy. Provided that further improvement in savings, investment and services exports can be achieved, and all eventualities surrounding EMU are being dealt with sufficiently, the strong growth in the Irish economy is set to continue.

"If Ireland has another decade as successful as the last one, it will be a miracle economy indeed".

(The Economist, May 17th, 1997, p.26)

Appendix 1: International Comparison of Convergence, 1973-1996;
GNP per capita, USA=100 (Source: World Bank, EIU:)

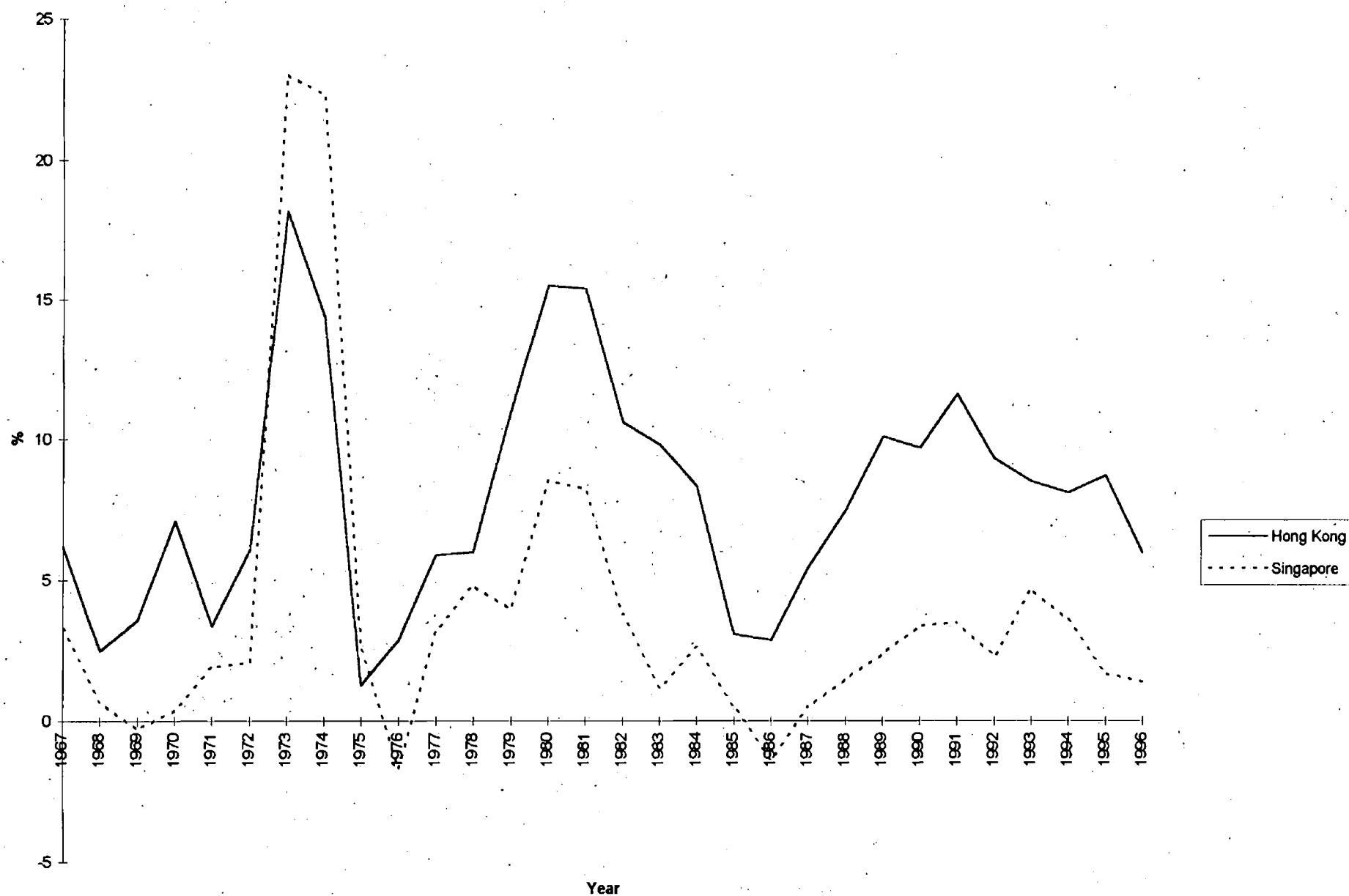


Appendix 2:

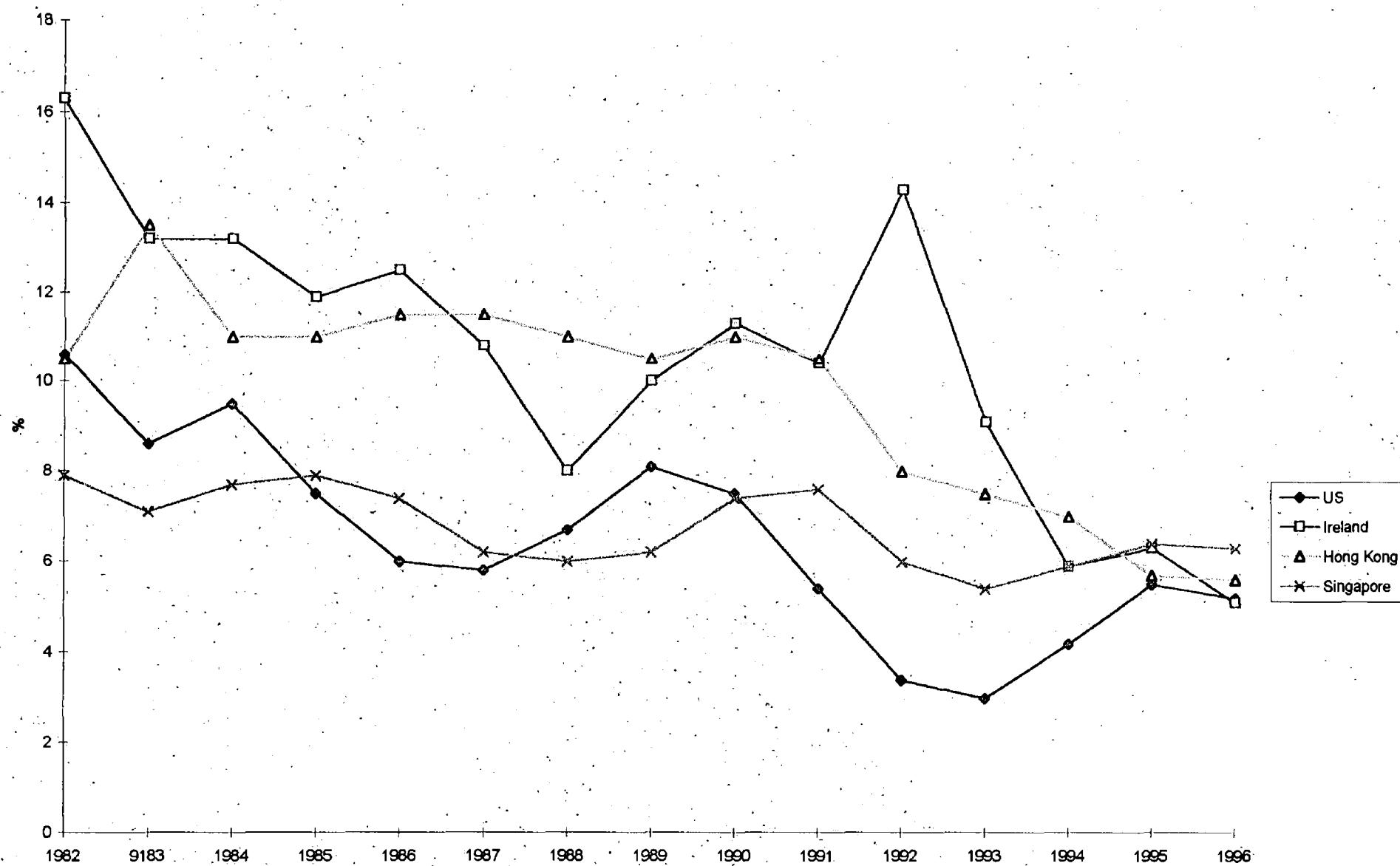
World Education League, 1997 **(Adapted from: "The Economist", p.21, March 29th, 1997)**

Rank	Maths		Science	
	Country	Score	Country	Score
1	Singapore	643	Singapore	607
2	S. Korea	607	Czech Rep.	574
3	Japan	605	Japan	571
4	Hong Kong	588	S. Korea	565
15			Ireland	538
17	Ireland	527		
24			Hong Kong	522
28 (International average)	U.S.A.	500	France	498

Appendix 3: History of Inflation in Hong Kong and Singapore, 1967-1996 (Sources: Asian Development Bank, EIU.)



Appendix 4: History of Interest Rate, 1982-1996 (Source: OECD)



Appendix 5:

Contribution of GDP by Major Sectors in Singapore, 1960-1995
(current factor cost, S\$ Million)

	1960	1970	1980	1986	1995	%1960-95
Total factor cost	1,985	5,320	23,272	35,181	120,629	5,977
Agriculture	81	153	395	330	256	216
Manufacturing	236	1,048	7,088	9,558	30,519	12,832
Services	1,704	4,229	17,199	28,622	95,524	5,506
of which:						
Utilities	50	148	529	801	1,789	3,478
Constructions	72	386	1,595	3,000	6,273	8,613
Trade	713	1,608	5,532	6,706	20,869	2,827
T/C	283	595	3,415	5,531	13,631	4,717
Finance	225	757	3,855	8,143	33,052	14,590
Others	361	735	2,273	4,441	19,910	5,415
Less:						
Imputed bank charge	35	110	1410	3,329	5,670	16,100

Sources: Asian Development Bank.
 "Regional Survey of the World: the Far East and Australasia, 1996"
 Singapore Government's Web site.

Appendix 6:

Development of Banking in Hong Kong and Singapore, 1970-1994 (Foreign in Brackets)

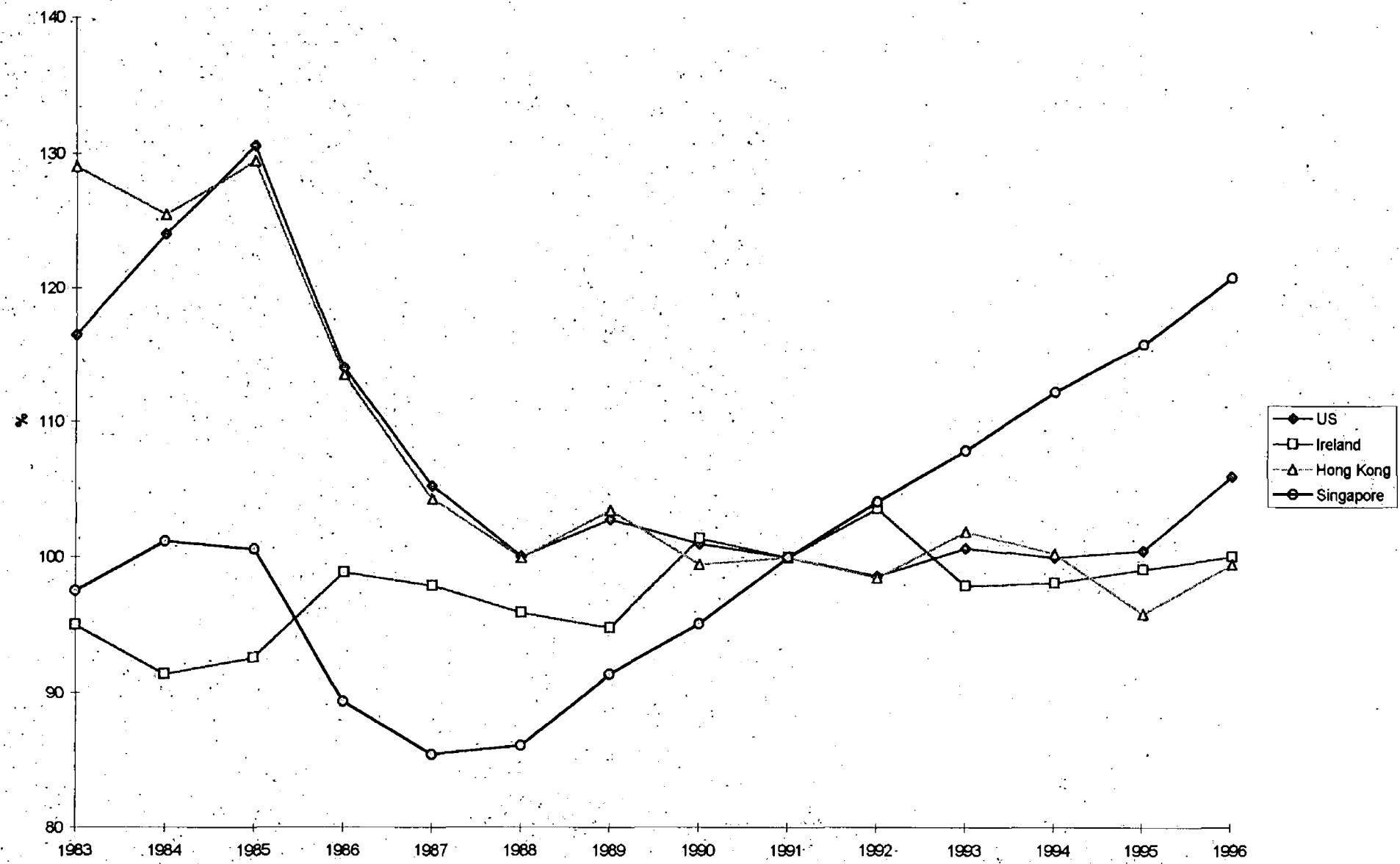
Singapore Financial Institutions	1970	1980	1994
Commercial Banks	37 (26)	100 (87)	141
Representative Offices	8 (8)	50 (50)	44 (44)
Merchant Banks	2	39	68
Finance Companies	36	34	28
Insurance Companies	69 (45)	74 (52)	n/a
Money Brokers	n/a	7	8
Employment*	26,000	79,700	198,600
* including estate and business services			

Hong Kong Financial Institutions	1973	1994
Number of Banks	73	180 (148)
Representative Offices	n/a	157 (157)
Insurance Companies	n/a	229 (126)
Finance Companies	n/a	200
Stock and Commodity Trading Companies	n/a	1,112 (253)
Employment	n/a	151,557

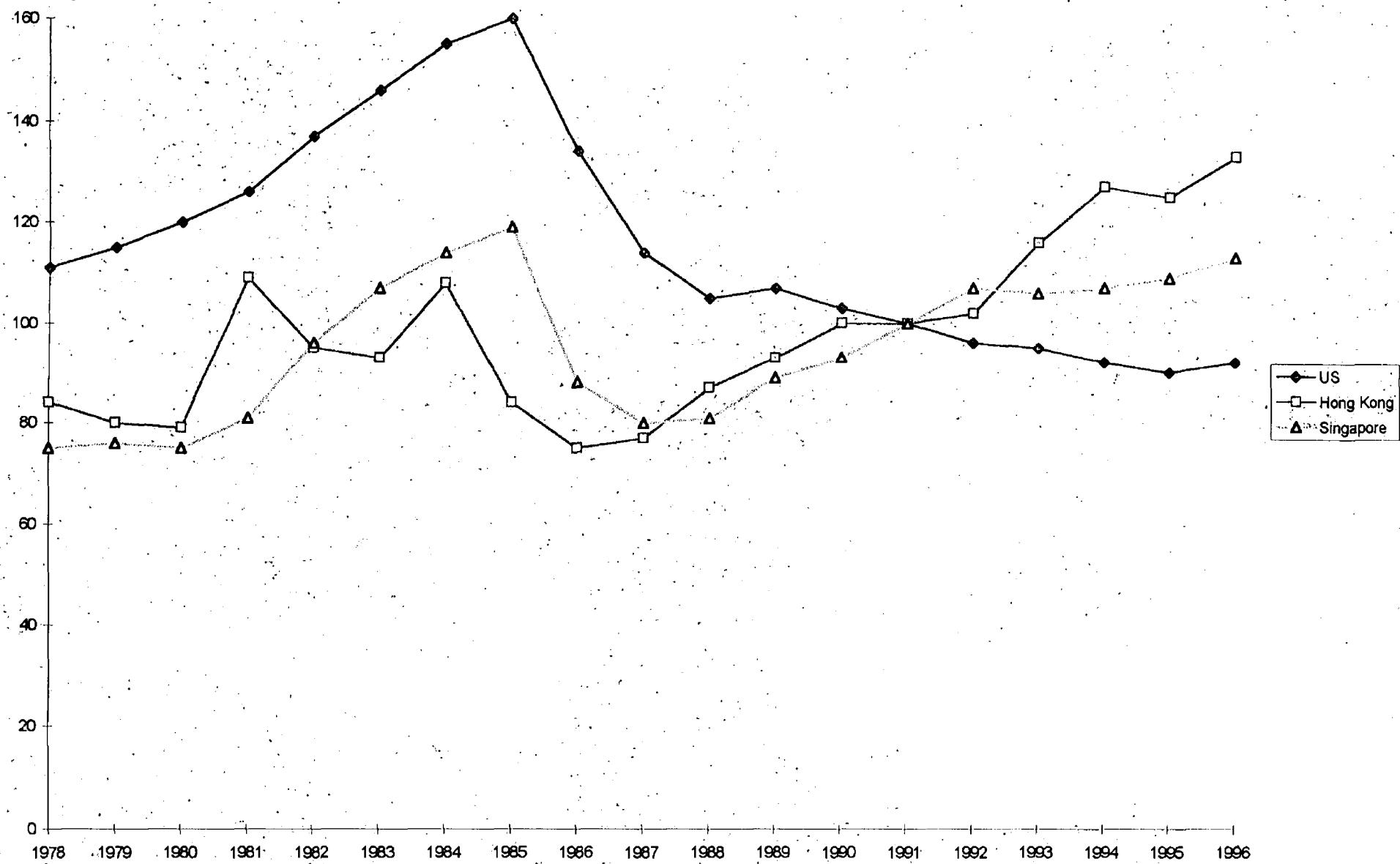
Bank Assets	1970	1983	1990	1994	%1970-1994
Singapore (S\$M)	1,600	26,900	134,002	201,953	12,522
Hong Kong (H\$M)	19,985	596,580	5,254,000	7,333,000	36,593

Sources: Lethbridge, 1983. Chen, 1983. EIU. "Hong Kong Yearbook, 1995"

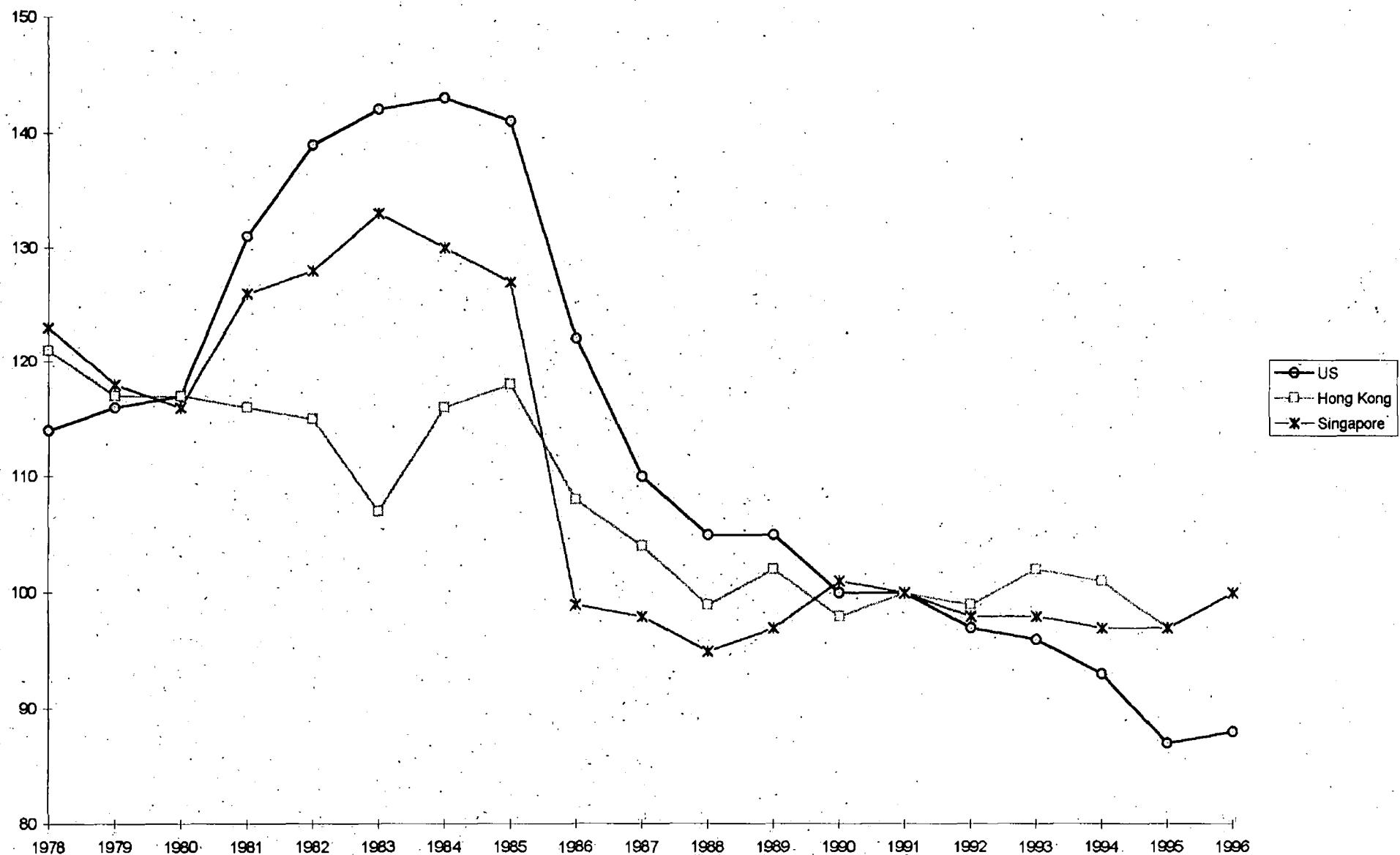
Appendix 7: History of Effective Exchange Rate, 1983-1996 (1991=100, average of daily rates. Source: OECD)



Appendix 8: Relative Unit Labour cost (1991=100, Source: OECD)



Appendix 9: Relative Export Prices (1991=100, source: OECD)



Appendix 10:

The Path of Post-War Economic Growth in Hong Kong and Singapore

Background (1950's)	First Stage (1960's - 70's)	Second Stage (1970's - 80's)	Present Stage (1990's)
<ul style="list-style-type: none">• A weakening economy• A diminishing traditional industry (entrepot trade)• A strategic location• A developing economy• GNP per head was outside the World's top 40	<ul style="list-style-type: none">• Industrialisation <p>An emerging export-oriented manufacturing industry</p> <ul style="list-style-type: none">• Sustained high growth in the economy and income.	<ul style="list-style-type: none">• Second Industrialisation <p>Transformation of national economy, evolution of a cluster of service industries.</p>	<ul style="list-style-type: none">• Establishment of the status as an international centre for trade and services.• A full employment economy• No longer to be classified as a developing economy• GNP per head is inside the World's top 20

Source: author.

Appendix 11:

Foreign Direct Investment (FDI) in Ireland, Hong Kong and Singapore, 1981-1994

(A)

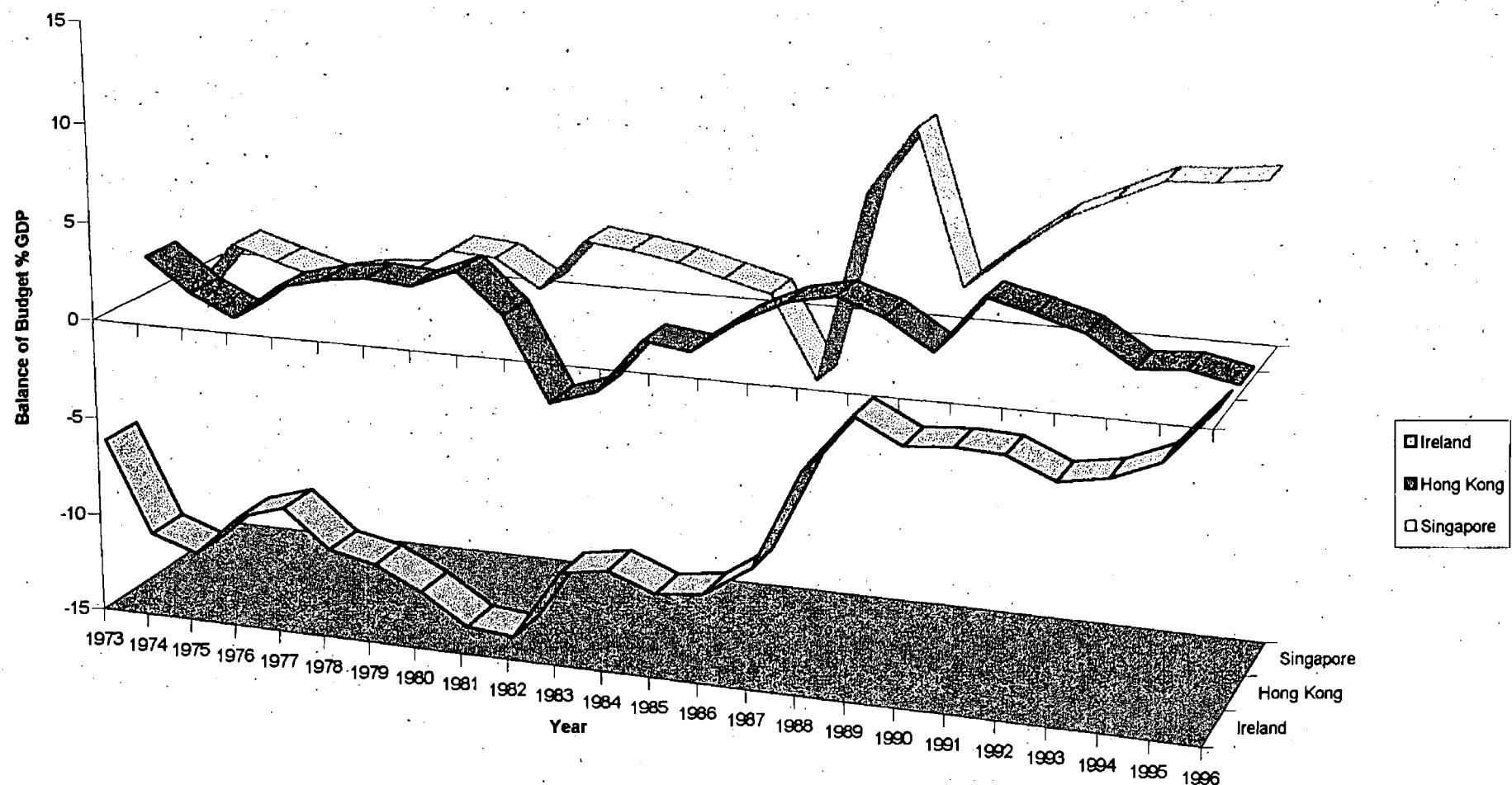
Inflows of FDI (US\$M)	1983-1988	1989-1994	Stock in 1994	per head
Ireland	594	568	5,358	US\$ 1,531
Hong Kong	8,058	9,060	19,669	US\$ 3,278
Singapore	11,682	34,809	58,702	US\$19,567
Outflows				
Ireland	1,668	3,150	n/a	
Hong Kong	8,718	54,153	n/a	
Singapore	882	5,064	n/a	

(B)

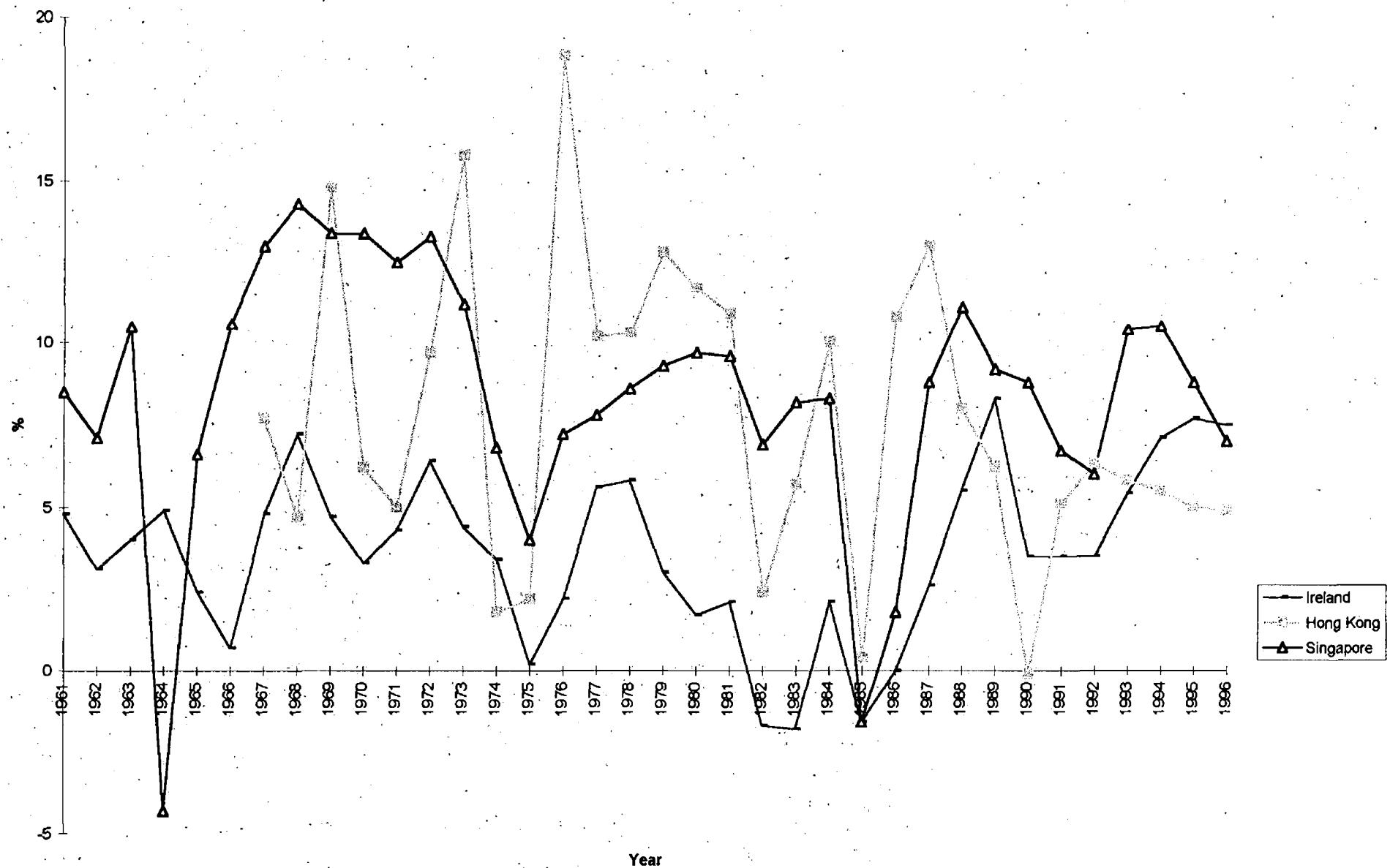
Inflows of FDI % of Gross Fixed Domestic Capital Formations (GDCF)					
	1981-1985	1986-1990	1991	1992	1993
Ireland	4.0	1.1	1.3	1.3	1.3
GDCF % GDP	24.6	17.6	16.7	15.8	15.4
Hong Kong	6.9	12.9	2.3	7.7	7.1
GDCF % GDP	27.3	27.2	28.3	27.8	24.5
Singapore	17.4	35.0	32.7	36.2	43.3
GDCF % GDP	46.6	37.6	35.4	38.3	28.6

Source: United Nations, "World Investment Report" 1994, 1995.

Appendix 12: Comparisons of Budget Balances, 1973-1996
(Surplus or Deficit % GDP. Source: The World Bank. EIU. CSO)



Appendix 13: % Growth of Real GDP p.a., 1961-1996
(Sources: Asian Development Bank, EIU, CSO)



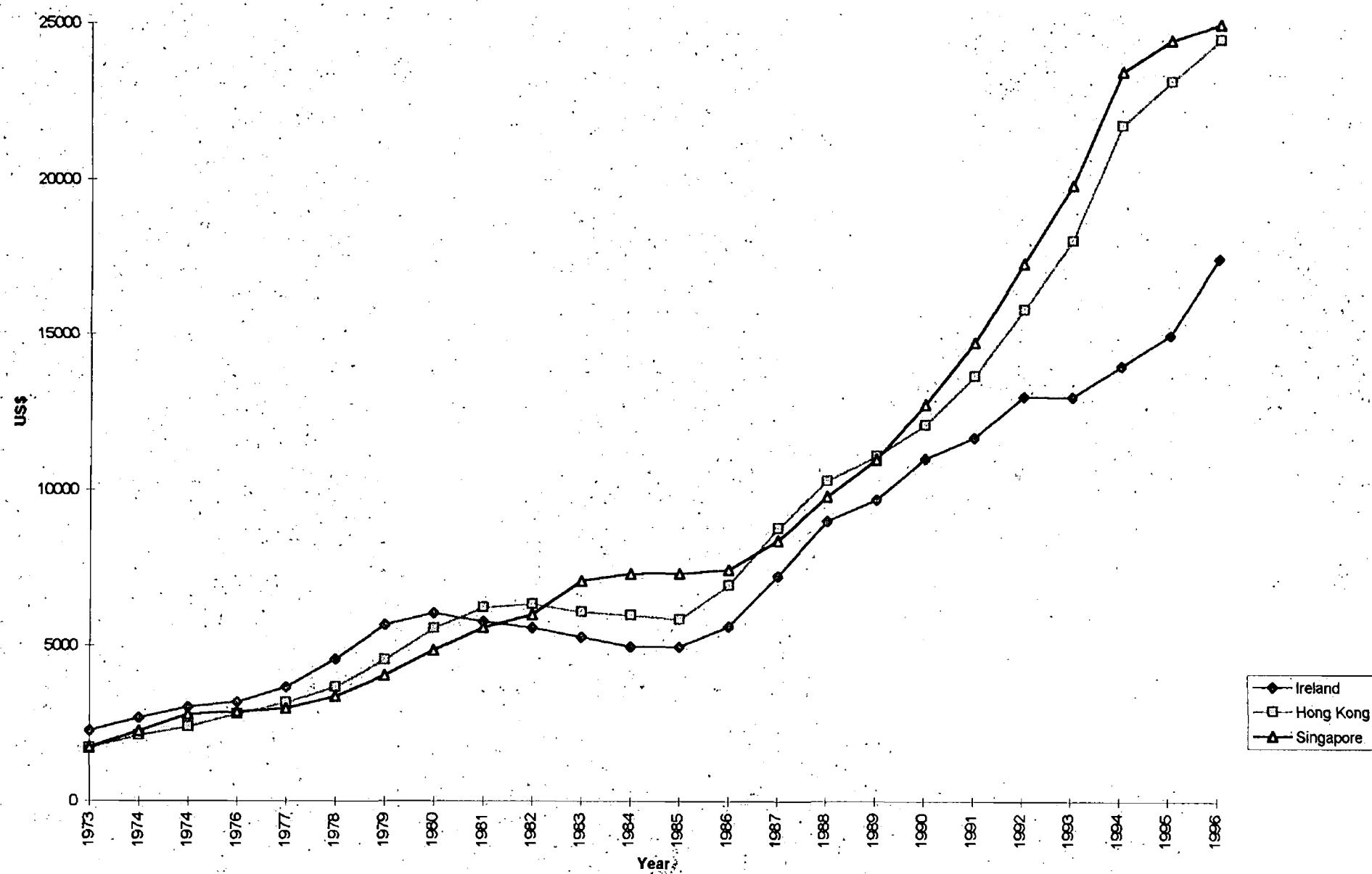
Appendix 14:

Demographic Indicators of Ireland, Hong Kong and Singapore 1960-1996								
(A)	Population ('ooo)			Land area [sq km]	Popu. Density (person/sq km)			% 60-96
	1960	1996	% 60-96		1960	1996		
Ireland	2,818	3,700	31	70,400	41	50		22
Hong Kong	3,075	6,310	105	1,084	2,840	5,820		105
Singapore	1,633	2,987	90	646	2,530	4,800		78
Ireland/ Hong Kong	94	58		6,464	1.44	0.86		
Ireland/ Singapore	177	120		10,898	1.62	0.11		

(B)	Crude Birth Rate /000				Crude Death Rate /000				Life Expectancy at Birth		
	1960	1970	1980	1996	1960	1970	1980	1996	1960	1996	+/- 60-96
Ireland	22	22	22	15	12	11	10	7	70	76	+5
Hong Kong	35	21	17	11	8	5	5	5	67	80	+13
Singapore	38	23	17	16	8	5	5	5	64	76	+12

Sources: Asian Development Bank. The World Bank. EIU. CSO.

Appendix 15: Growth of GNP per head in US\$, 1973-1996
(Sources: The World Bank, EIU.)

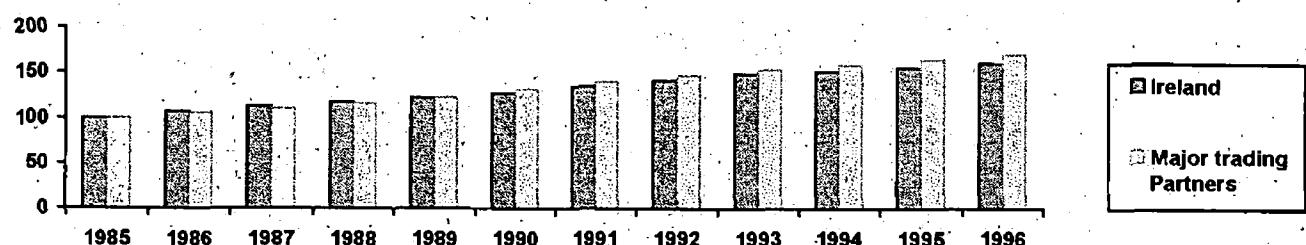


Appendix 16:

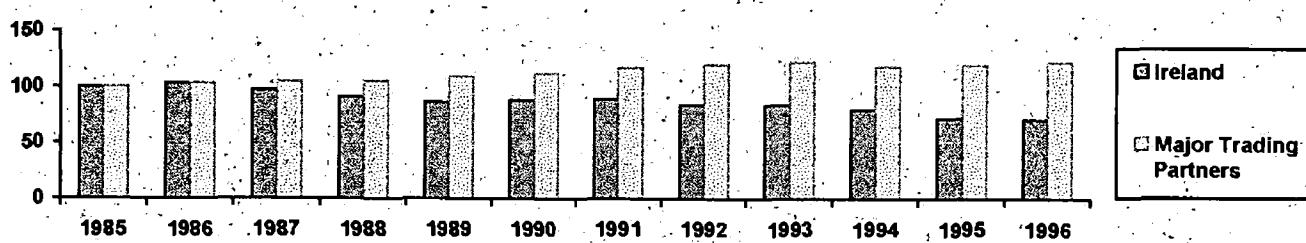
Indices of Relative Wage Costs in Irish Manufacturing

(Adopted from the Central Bank's Spring Bulletin 1997)

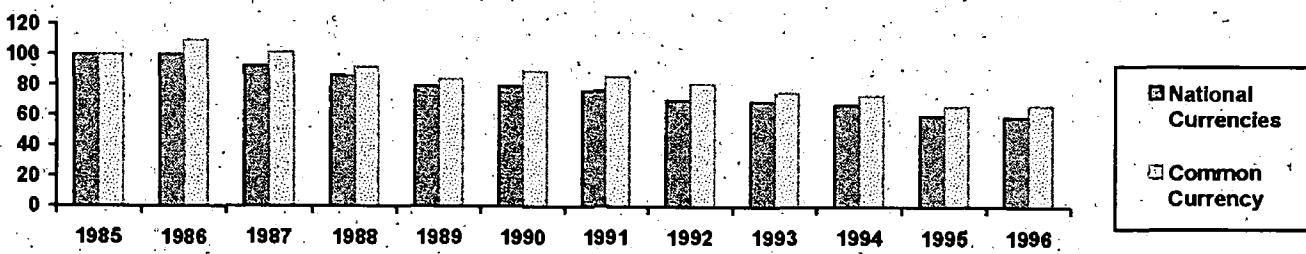
Average Hourly Earnings, 1985 = 100



Unit Wage Costs, 1985 = 100



Relative Unit Wage Cost, Ireland; 1985 = 100



Appendix 17:

Indicators of Employment Development in Ireland, Hong Kong and Singapore, 1960-1996

	Growth of Total Employment			Net Jobs Created		
	1960	1996	% 1960-1996	1960-1996		
Ireland	1,018,000	1,284,000	26.1	266,000		
Hong Kong	1,191,099	3,015,700	153.2	1,824,601		
Singapore	449,000	1,713,300	371.6	1,264,300		
Ireland/ Hong Kong %	85.8	42.6	---	14.6		
Ireland/ Singapore %	226.7	74.9	---	21.0		
Unemployment Rate (annual average %)			Economic Activity Rate (Total Employment/Population)			
	1961-1970	1971-1980	1981-1996	1960	1996	+/- 1960-96
Ireland	5.4	7.7	14.9	35.3	34.7	-0.6
Hong Kong	1.4	3.6	1.7	38.7	48.3	+9.6
Singapore	6.4	3.7	2.2	27.5	56.3	+28.0

Sources: EIU, The World Bank, Singapore and Hong Kong Governments' Web sites.

Appendix 18:

Share of Employment by Major Sectors in Ireland, Hong Kong and Singapore, 1957-1995
(A / I / S , A: Agriculture. I: Industry. S: Services)

Ireland	A / I / S	1961 34.5 / 25.7 / 39.8	1971 25.9 / 30.7 / 43.4	1981 17.1 / 31.4 / 51.5	1995 11.8 / 27.9 / 60.2
Hong Kong	A / I / S	1961 7.3 / 49.1 / 43.6	1971 5.2 / 55.1 / 39.7	1981 1.9 / 47.4 / 50.7	1995 0.6 / 25.3 / 74.1
Singapore	A / I / S	1957 8.5 / 17.7 / 73.8	1970 3.5 / 30.2 / 66.3	1980 1.6 / 37.7 / 60.7	1995 0.3 / 32.8 / 66.9

Sources: Asian Development Bank. EIU. The World Bank. CSO.

Appendix 19:

**Employment Changes in Manufacturing and Services in Ireland, Hong Kong and Singapore, 1961-1995
(net changes over the previous decade in brackets)**

	1961		1971		1981		1995		+/- 61-95 %	
	Manu.	Services	Manu.	Services	Manu.	Services	Manu.	Services	Manu.	Services
Ireland	175,000	405,200	211,000	454,600	236,000	590,200	245,000	751,000	+70,000	+345,800
	(36,000 20.6%)	(49,400 12.2%)	(25,000 11.8%)	(135,600 29.8%)			(-9,000 -3.8%)	(160,800 27.2%)	+40%	+85.3%
Hong Kong	526,360	502,320	773,000	647,200	1,027,100	1,260,700	386,000	2,235,000	-87,978	+1,732,680
	(246,640 46.9%)	(144,880 28.8%)	(254,100 32.9%)	(613,500 94.8%)			(-641,100 -62.4%)	(1,732,680 75.2%)	-16.7%	+345%
Singapore *1994	103,300	331,200	145,100	431,400	325,200	653,700	422,500*	1,103,800*	+319,200	+772,600
	(41,800 40.5%)	(100,200 30.3%)	(180,100 124.1%)	(222,300 51.5%)			(97,300 29.9%)	(450,100 68.9%)	+309%	+233.3%

Sources: Asian Development Bank, EIU, CSO, The World Bank.

Appendix 20:

Sectoral Shift of Employment in Ireland, Hong Kong and Singapore, 1957-1996

(% of total in brackets. Trade: wholesale, retail, hotels and restaurants. T/C: transport and communications.

C/S/P: community, social and personal services)

Chart (A)

Ireland	1961	1971	1981	1991	1996	+/- 61-96 %
Trade	140,200 (13.8)	147,000 (14.0)	162,300 (14.2)	172,000 (15.3)	200,000 (15.6)	59,800 42.7%
Finance	13,700 (1.3)	23,600 (2.2)	42,900 (3.7)	57,000 (5.1)	63,000 (5)	49,300 360%
T/C	53,200 (5.2)	59,500 (5.7)	70,000 (6.1)	69,000 (6.1)	76,000 (6.1)	22,800 42.9%
C/S/P	198,100 (19.5)	224,500 (21.4)	315,000 (27.5)	350,000 (31.1)	459,000 (35.7)	260,900 131.7%
Services	405,200	454,600	590,200	648,000	798,000	392,800
Sub-Total	(39.8)	(43.4)	(51.1)	(57.6)	(62.1)	96.9%
Total Employment	1,108,000	1,049,000	1,146,000	1,125,000	1,284,000	176,000 15.9%
Manufacturing	175,000 (17.2)	211,000 (20.1)	236,000 (20.6)	244,000 (21.7)	245,000 (19.1)	70,000 40%
Agriculture	360,000 (34.5)	272,000 (25.9)	196,000 (17.7)	155,000 (13.8)	136,000 (10.6)	-224,000 -62.2%

Sources: The World Bank. EIU. CSO. Hong Kong and Singapore Governments' Web sites. Asian Development Bank.

Appendix 20:

Chart (B)

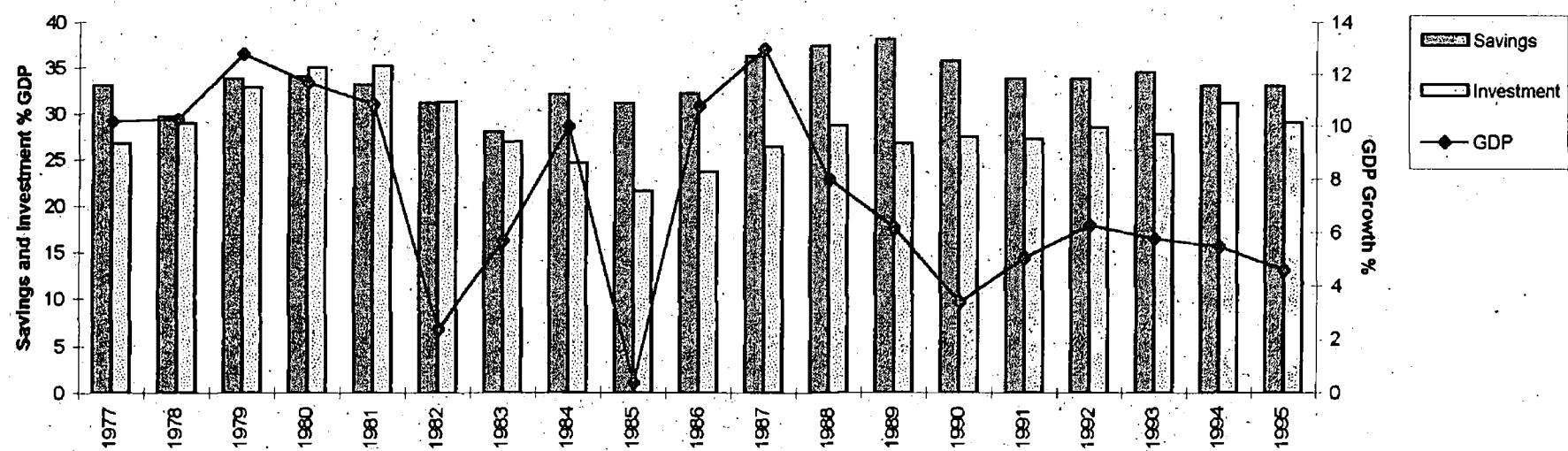
Hong Kong	1971	1976	1981	1986	1995	+/- 71-95 %
Trade	257,600 (15.8)	369,600 (19.3)	472,500 (19.0)	617,600 (22.5)	1,031,000 (34.2)	773,400 300%
T/C	119,000 (7.3)	141,700 (7.4)	189,000 (7.6)	219,600 (8.0)	166,029 (5.7)	47,029 39.5%
Finance	40,700 (2.5)	63,100 (3.3)	116,800 (4.7)	175,600 (6.4)	375,000 (12.4)	334,300 821%
C/S/P	229,900 (14.1)	375,340 (19.6)	482,400 (19.4)	576,400 (21.0)	663,520 (22)	433,620 189%
Services	647,200	949,740	1,260,700	1,589,200	2,235,000	1,587,800
Sub-Total	(39.7)	(49.3)	(50.7)	(57.9)	(74.1)	245%
Total Employment	1,630,910	1,928,180	2,486,736	2,745,000	3,016,000	1,385,090 85%
Manufacturing	773,000 (47.4)	854,000 (44.6)	1,027,100 (41.3)	982,710 (35.8)	386,000 (12.8)	-387,000 -50%

Appendix 20:

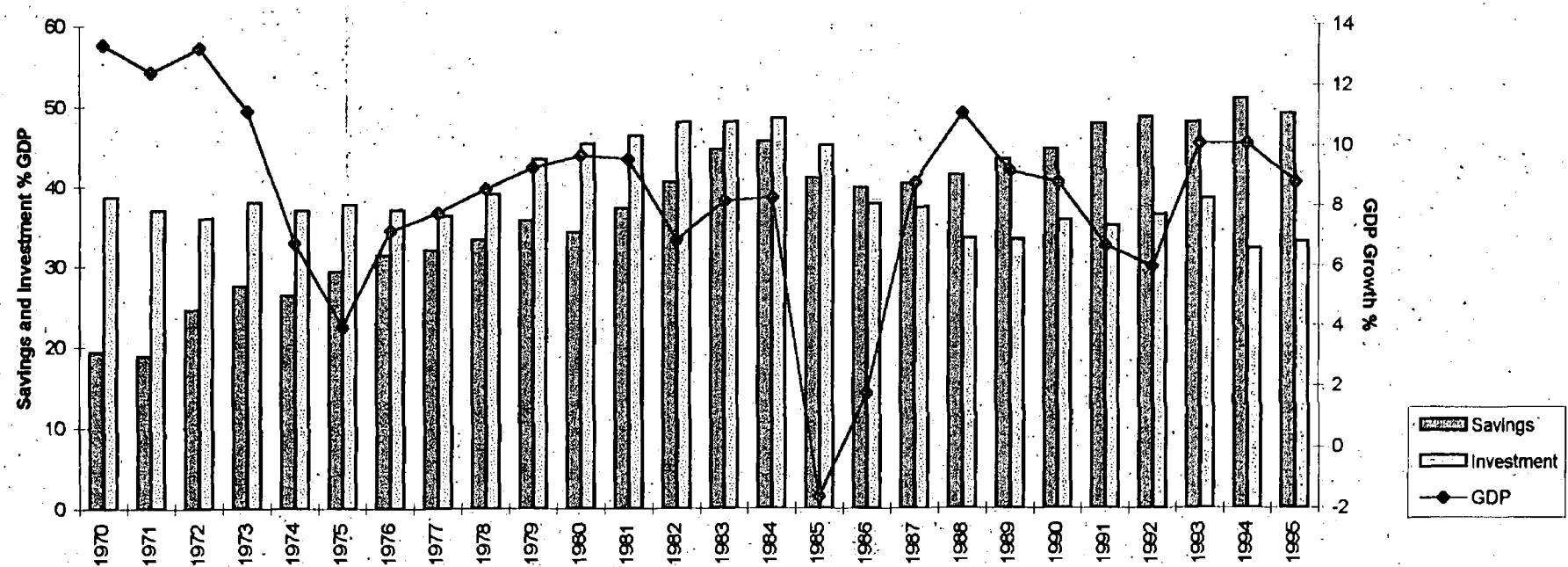
Chart (C)

Singapore	1957	1970	1975	1980	1984	1995	+/- 57-95 %
Trade	114,200 (24.2)	152,300 (23.4)	190,800 (22.9)	229,400 (21.3)	264,600 (22.5)	376,900 (22.9)	262,700 230%
T/C	50,500 (10.7)	78,700 (12.1)	97,500 (11.7)	119,500 (11.1)	122,400 (10.4)	174,700 (10.6)	124,200 246%
Finance	21,700 (4.6)	26,000 (4.0)	50,800 (6.1)	79,700 (7.4)	100,900 (8.6)	198,600 (12.0)	176,900 815%
C/S/P	144,800 (30.7)	174,400 (26.8)	203,300 (24.4)	225,100 (20.9)	242,100 (20.6)	353,600 (21.4)	200,800 140%
Services	331,200	431,400	542,400	653,700	730,000	1,103,800	772,600
Sub-Total	(73.8)	(66.3)	(65.1)	(60.7)	(62.1)	(66.9)	233%
Total Employment	449,000	651,000	833,500	1,077,100	1,175,000	1,649,000	1,200,000 267%
Manufacturing	68,000 (14.5)	145,100 (22.3)	230,800 (27.7)	325,200 (30.2)	322,100 (27.4)	422,500 (25.6)	354,500 521%

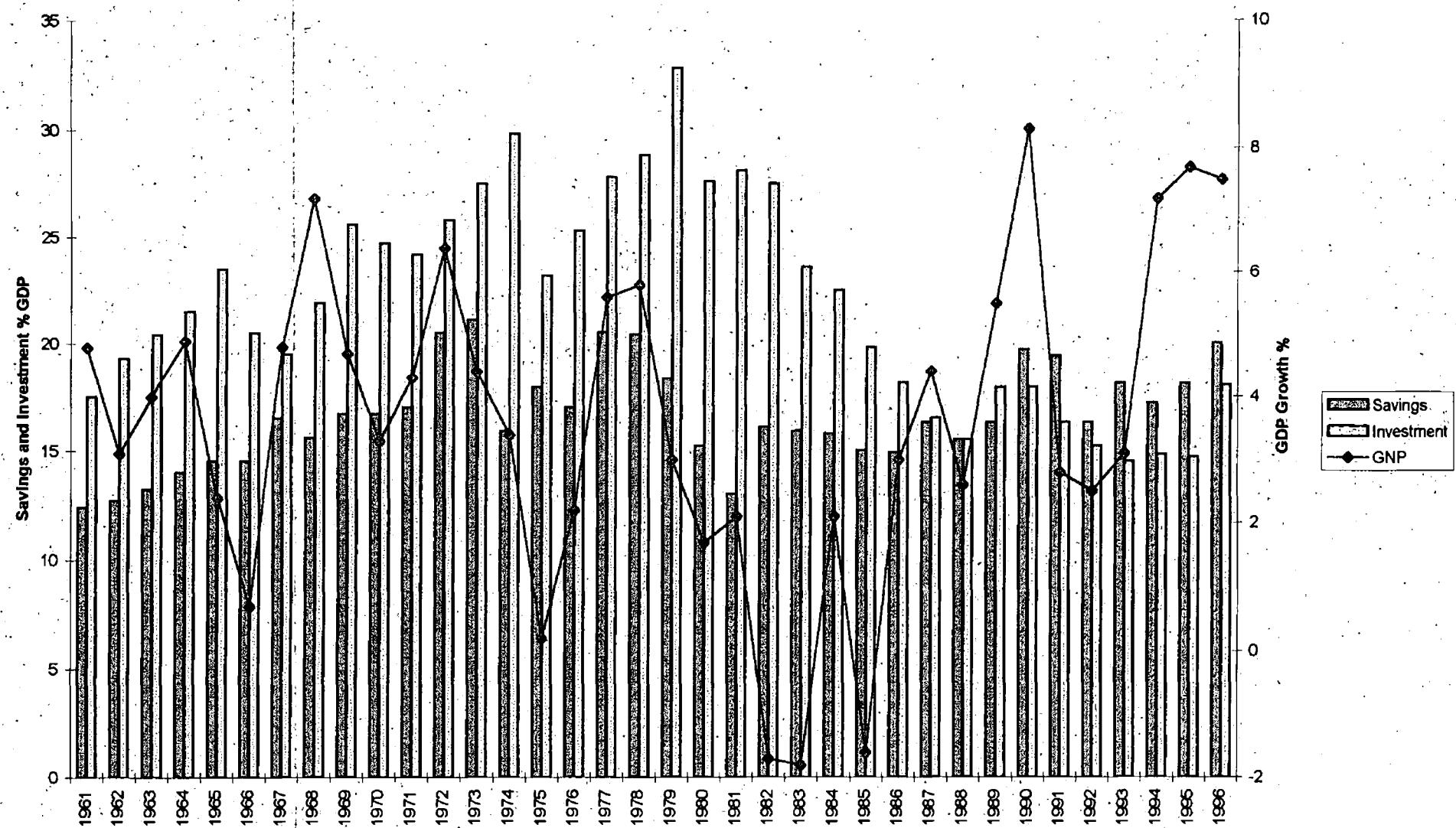
Appendix 21: The Correlation Between Savings, Investment and Growth in Hong Kong, 1977-1995
(Sources: Asian Development Bank, EIU. Savings and Investment: % of GDP. GDP: Annual Growth Rate)



Appendix 22: The Correlation Between Savings, Investment and Growth in Singapore, 1970-1995
 (Sources: Chen, 1983. Asian Development Bank. Savings and Investment: % of GDP. GDP: Annual Growth)

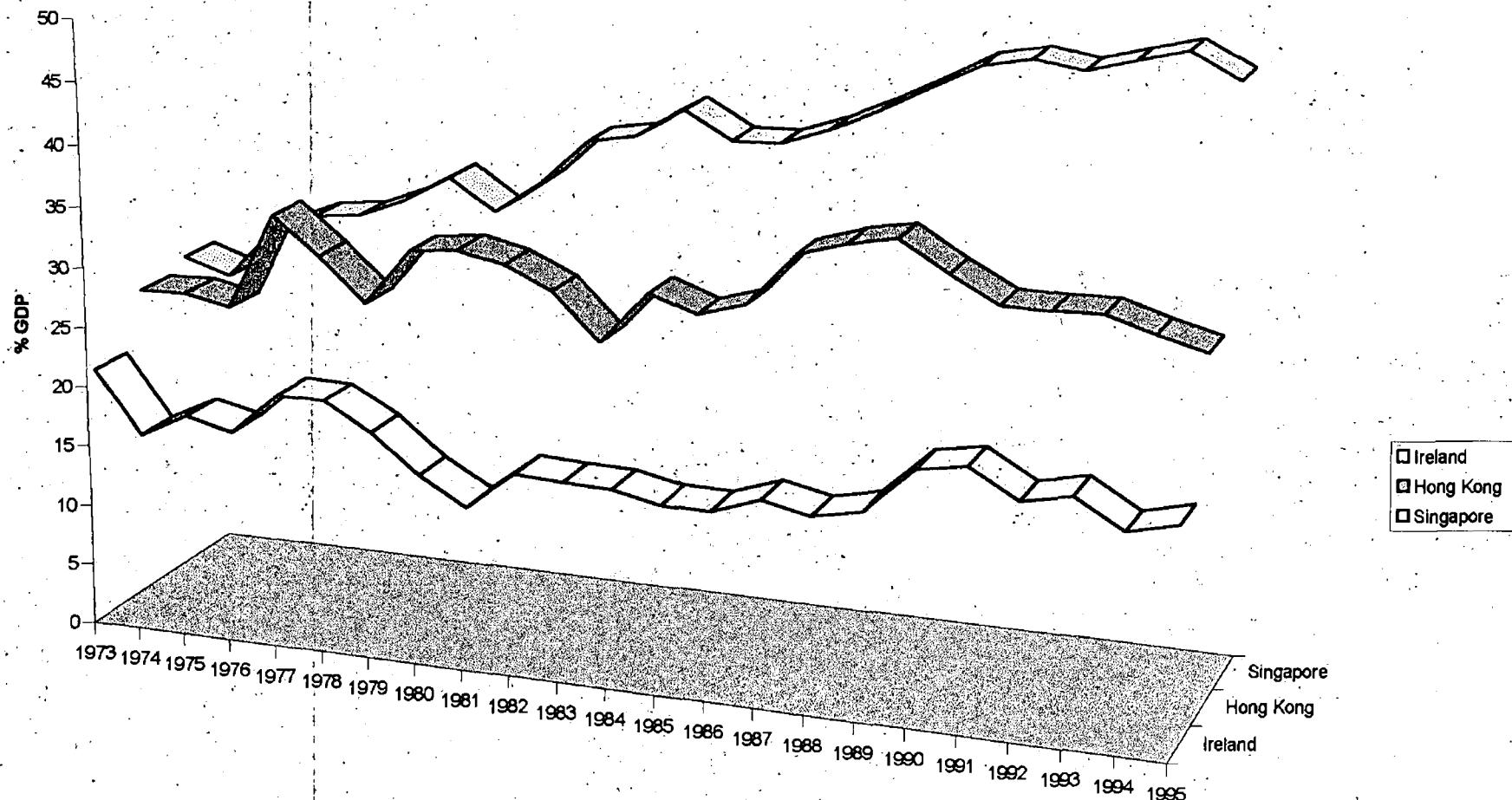


Appendix 23: The Correlation Between Savings, Investment and Growth in Ireland, 1961-1996 (Source: CSO)

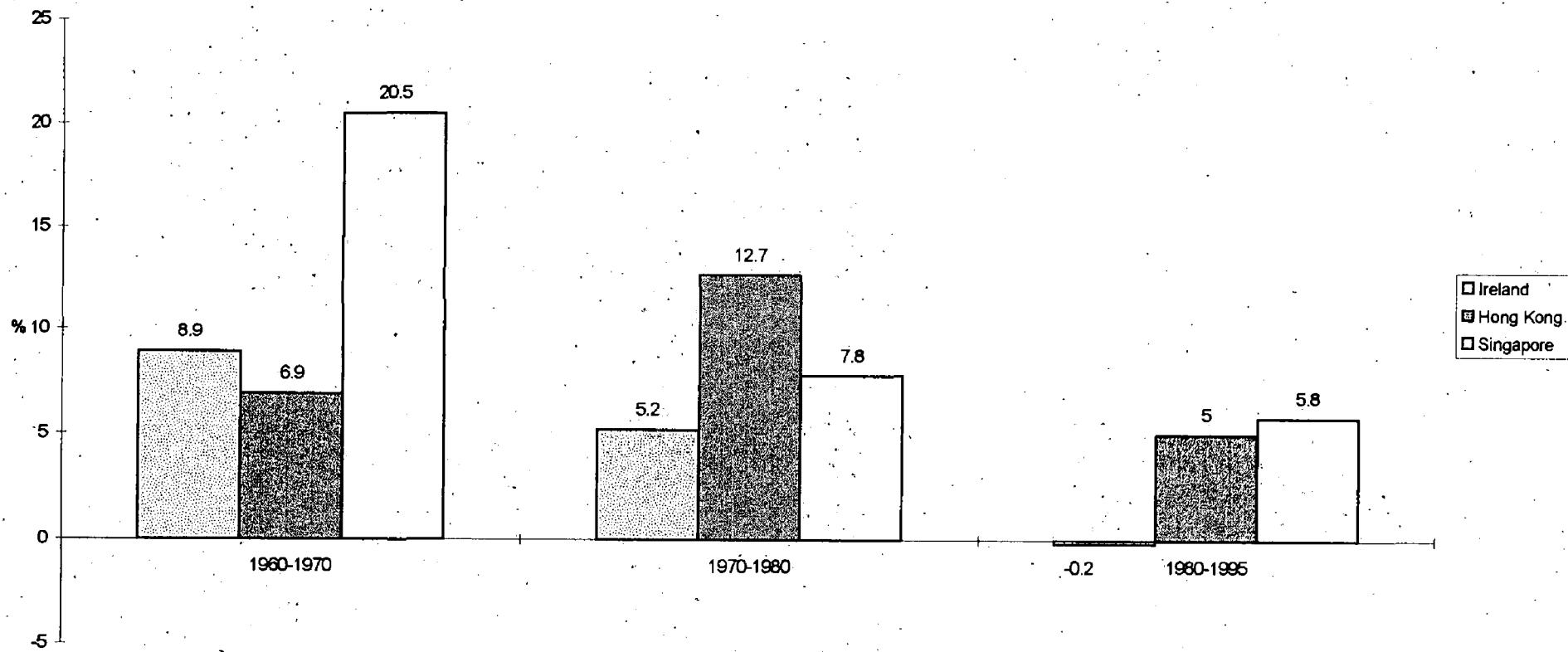


Appendix 24: Gross National Savings % GDP, 1973-1995

(Sources: CSO, World Bank, EIU)



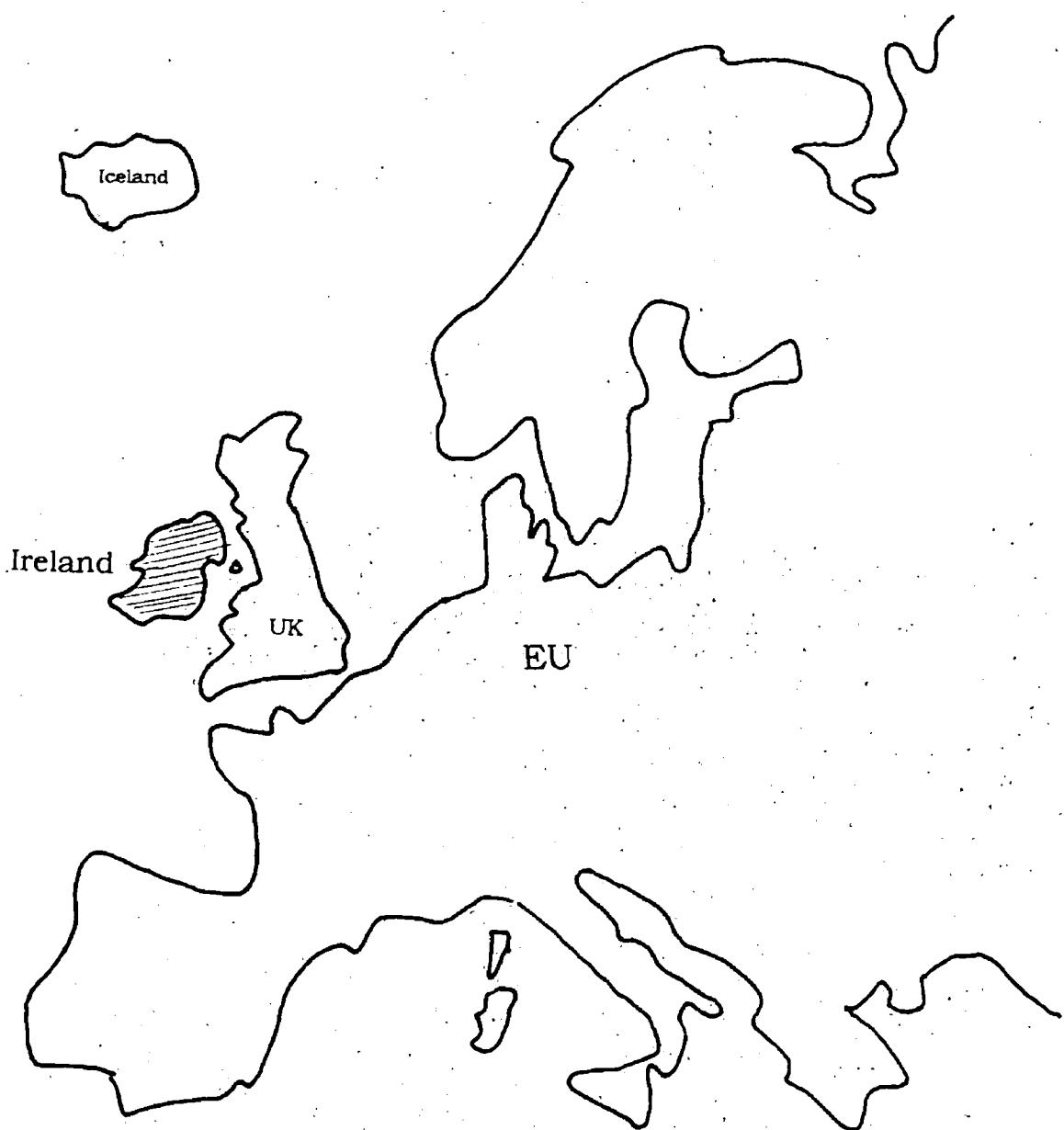
Appendix 25: Growth of Gross Fixed Domestic Capital Formation [GDCF], Annual Average % (Source: World Bank)



Appendix 26:

Map 1. The Conventional View

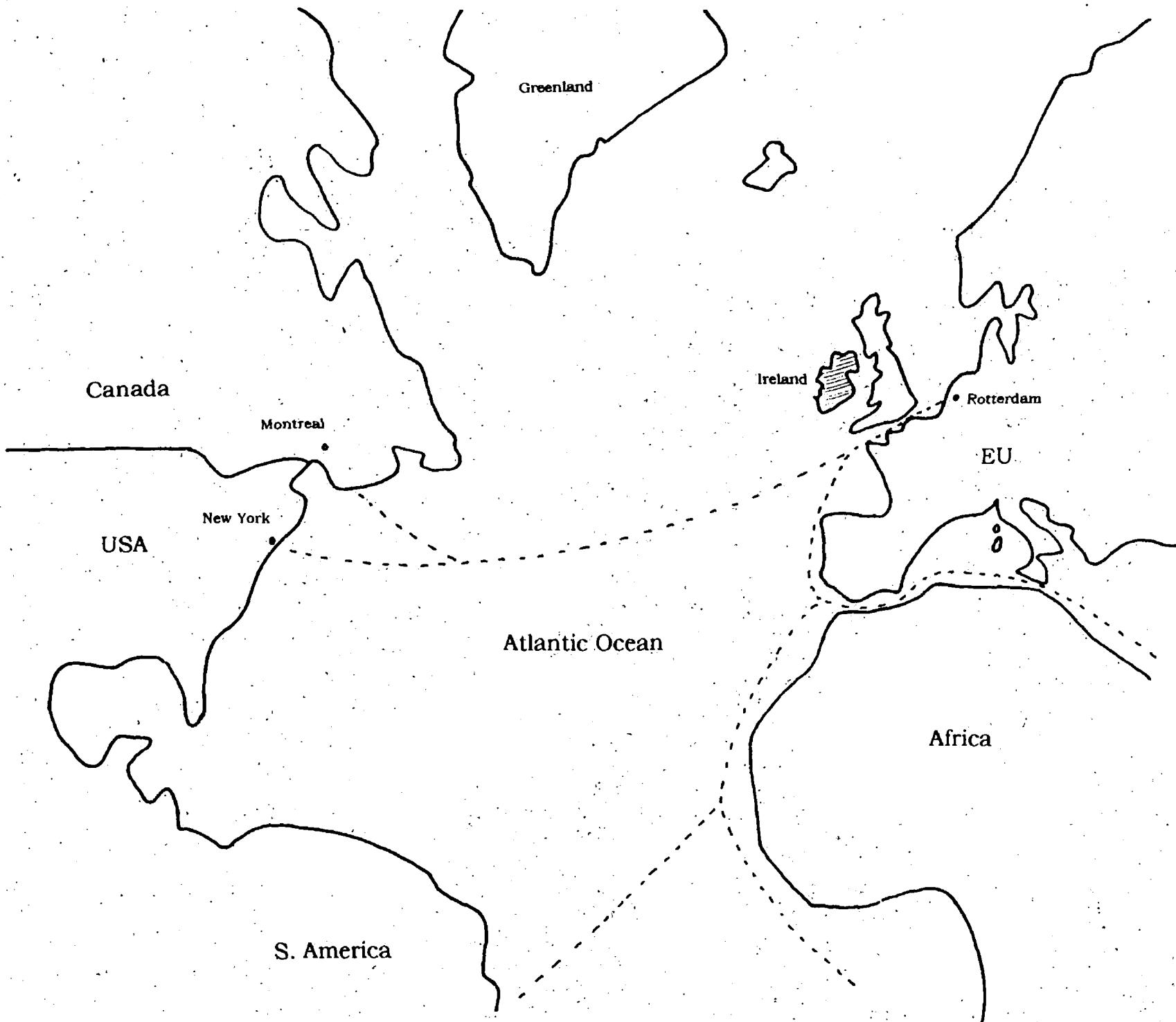
[The geographic location of Ireland in a European context]



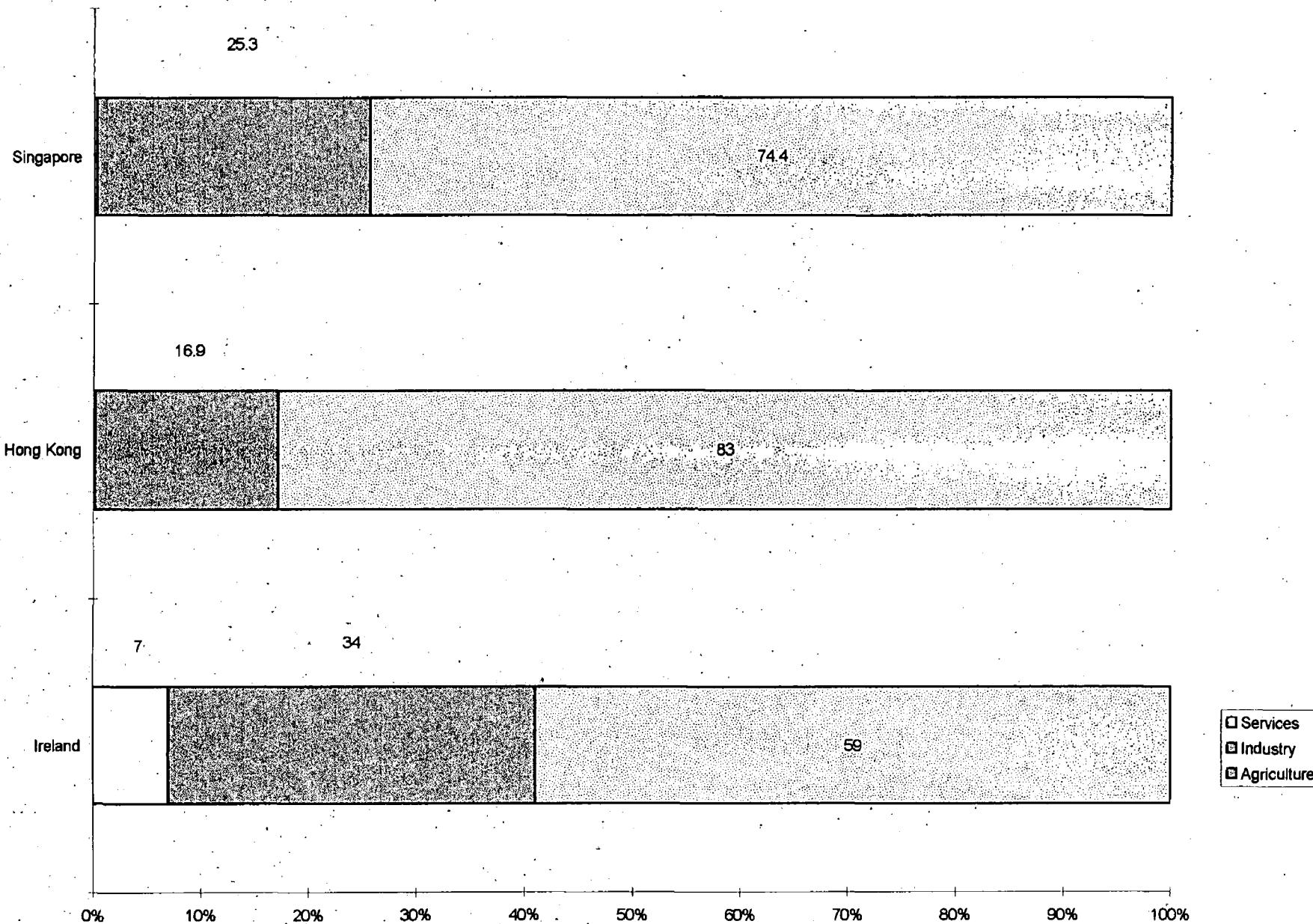
Appendix 27:

Map 2. The Alternative View

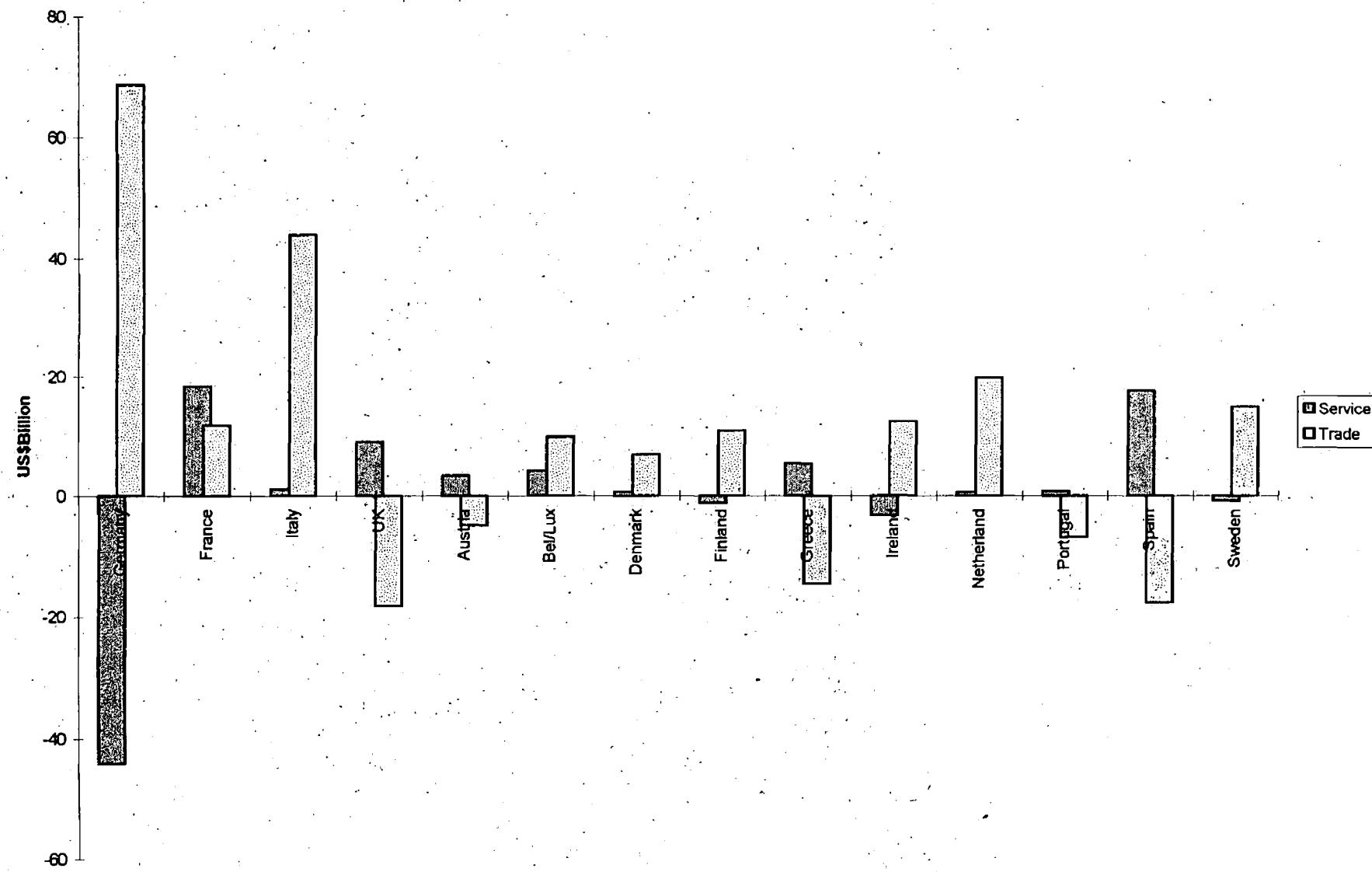
[The geographic location of Ireland in a global perspective]



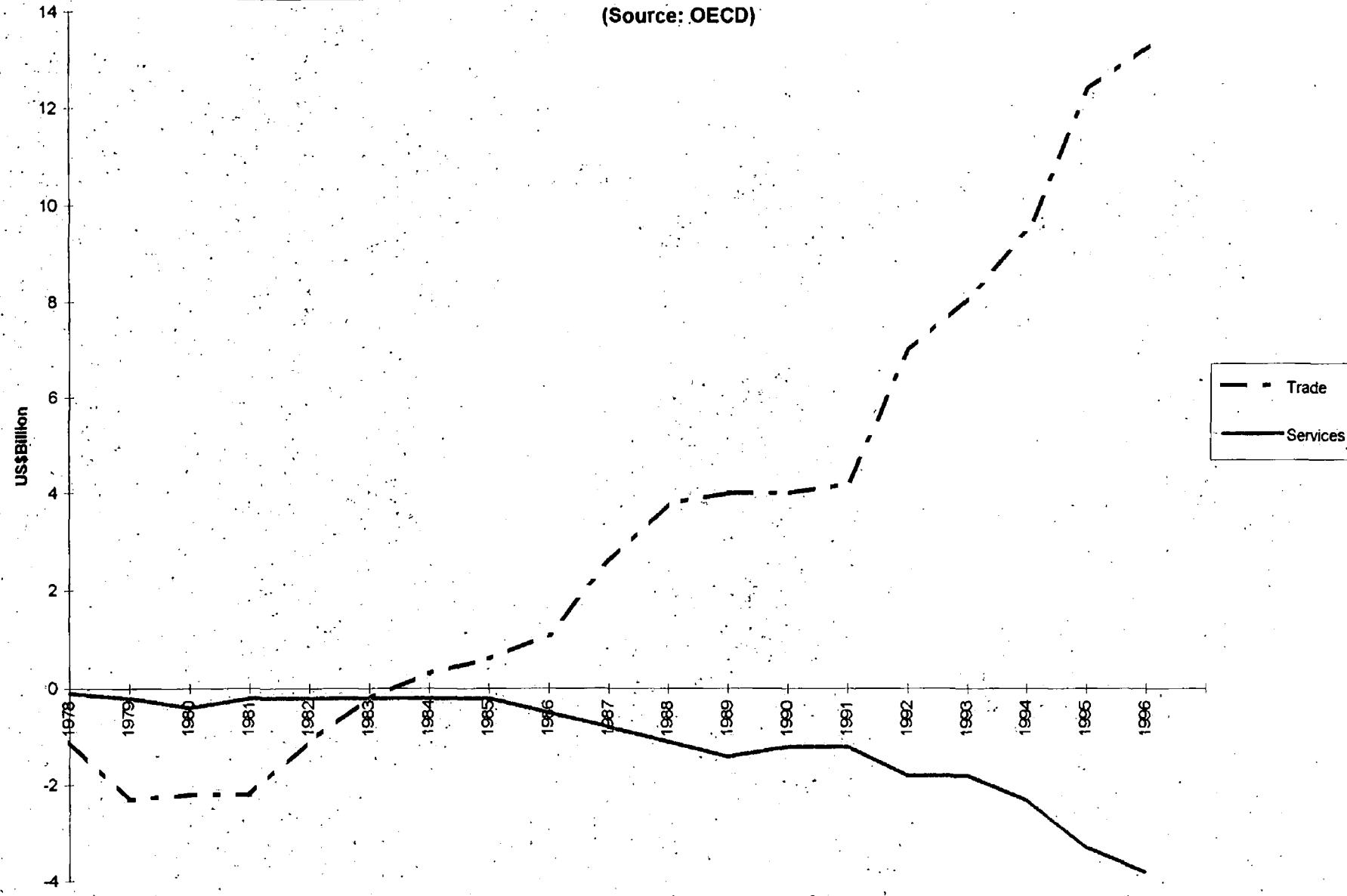
Appendix 28: Share of GDP by Broad Sectors in Ireland, Singapore and Hong Kong in 1996, (Sources: CSO, EIU)



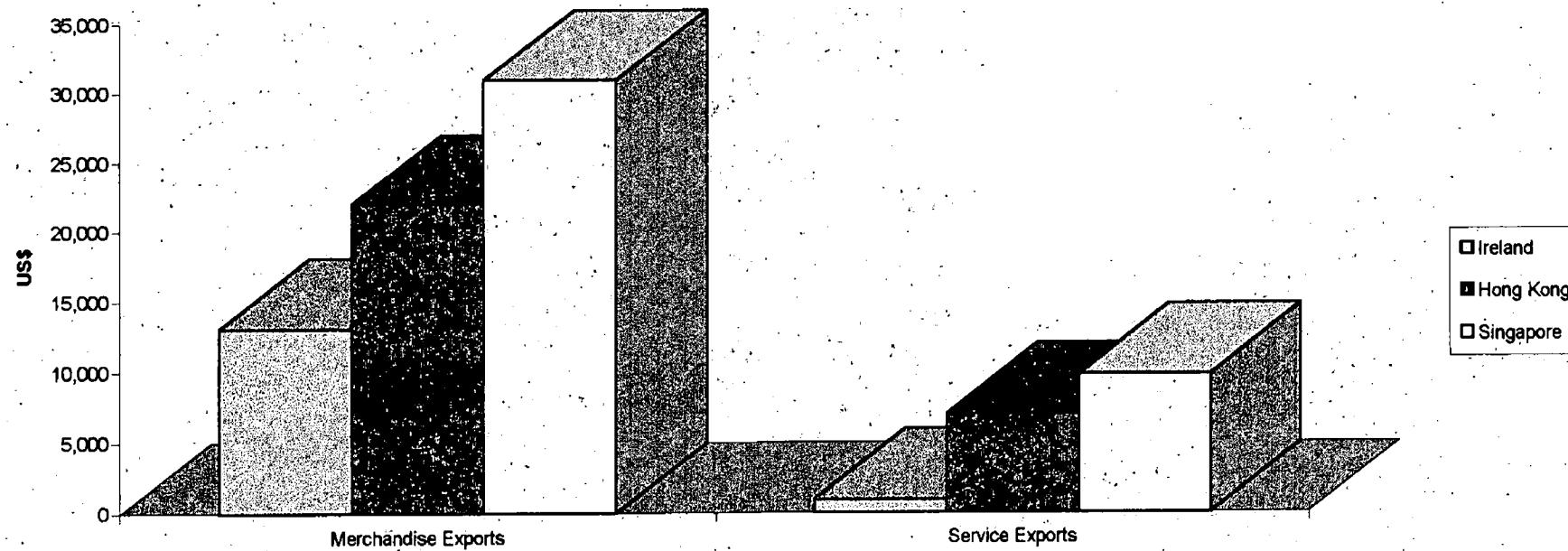
Appendix 29: EU Comparison of Service and Trade Balances in 1995, US\$Billion (Source: OECD)



Appendix 30: Comparison of Services and Trade Balances in Ireland 1978-1996, US\$Billion
(Source: OECD)



Appendix 31: Merchandise and Service Exports per capita in US\$, 1996
(Sources: CSO, EIU)



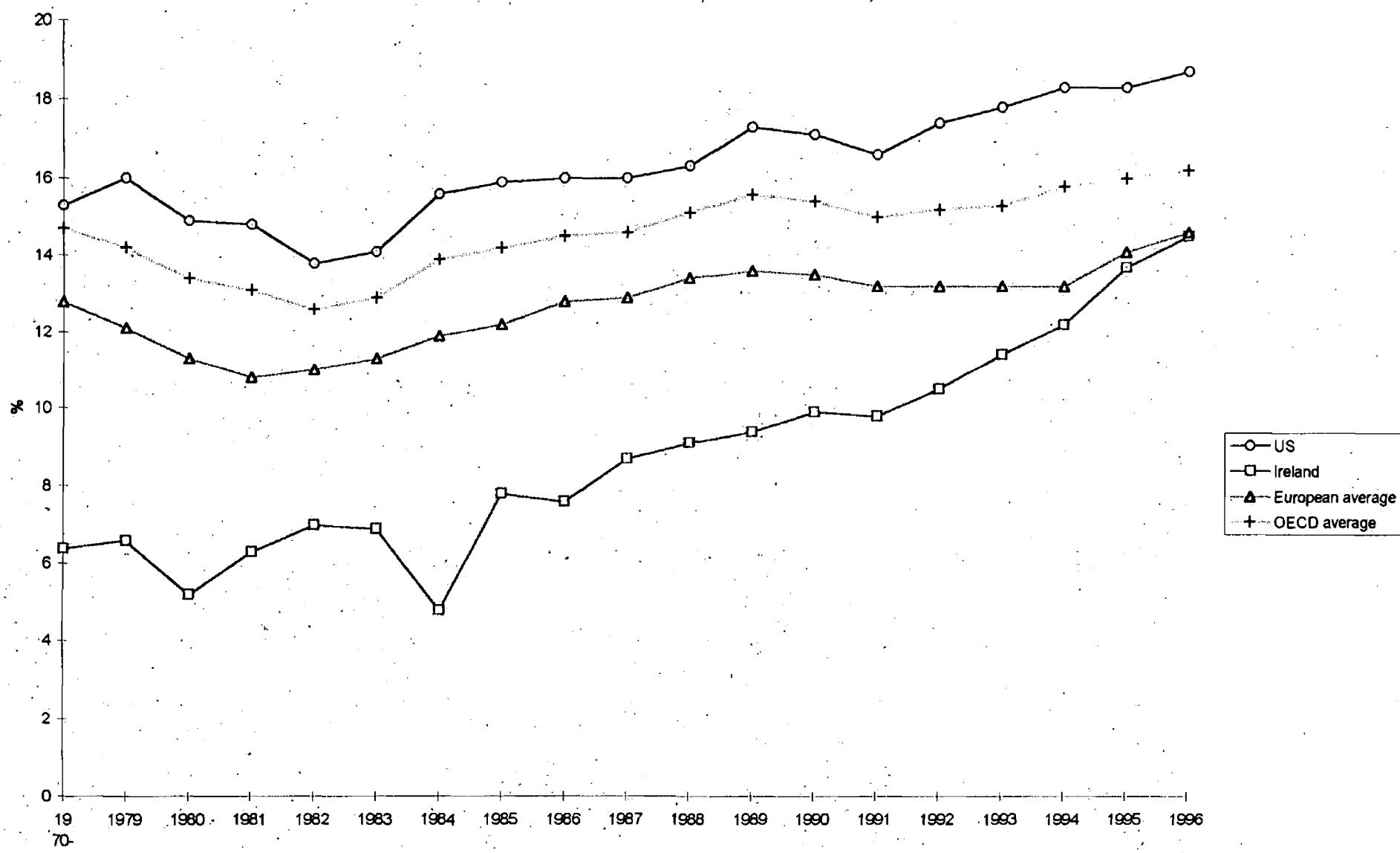
Appendix 32:

Gross Fixed Domestic Capital Formation (GDCE) % GDP in European Comparison

	1950-1960	1961-1973	1974-1986	1987-1995	1961-1995
Belgium	----	21.8	19.3	18.3	19.8
Denmark	14.0	24.0	19.7	16.7	20.1
Germany	----	24.9	20.7	20.0	21.9
Greece	----	28.2	26.7	20.9	25.3
Spain	----	24.4	22.4	21.9	22.9
Italy	----	24.4	22.8	18.8	22.0
Holland	----	25.7	20.5	20.8	22.3
Luxembourg	----	26.4	23.8	27.7	26.0
Austria	16.4	26.9	24.8	24.4	25.4
UK	11.6	18.5	18.0	17.3	17.9
Portugal	----	26.6	29.3	26.9	27.6
Finland	19.6	26.3	25.9	21.4	24.5
Ireland	13.1	20.8	24.4	16.0	20.4
Average	14.9	24.5	22.9	20.8	22.7

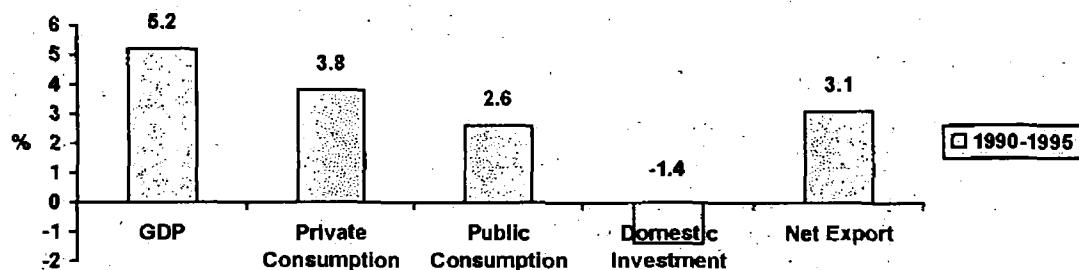
Sources: EU: "Eurostat, 1995". NESC No. 93.

Appendix 33: Rates of Return on Capital in the Business Sector (Source: OECD)

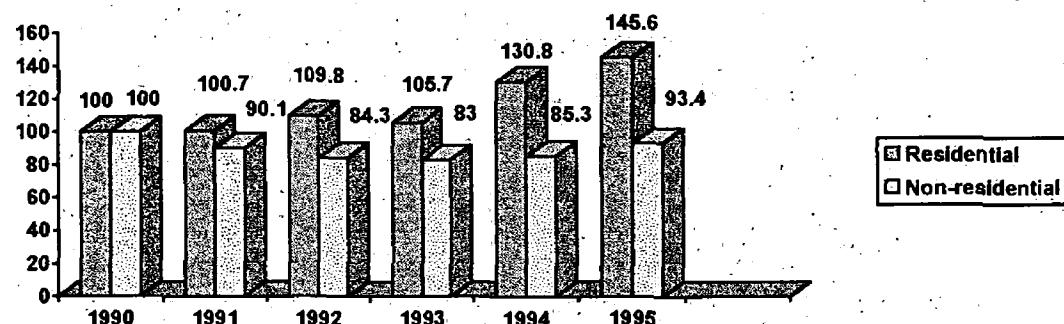


Appendix 34: The Performance of Domestic Investment in Ireland, 1990-1995
 (Source: CSO)

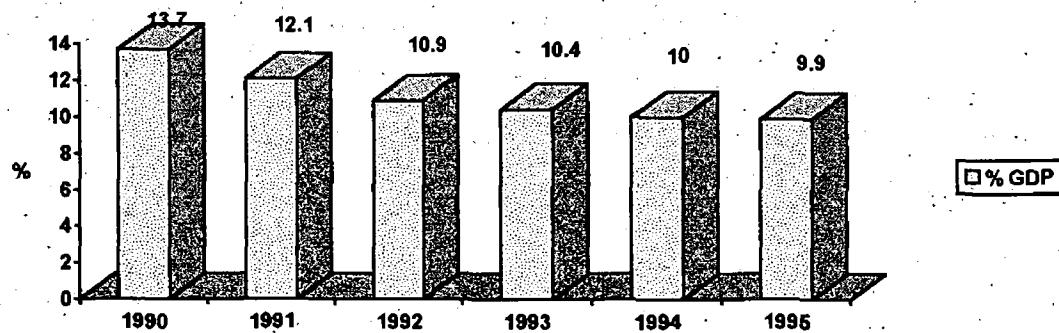
(A) Annual Average Growth, 1990-1995 (constant prices)



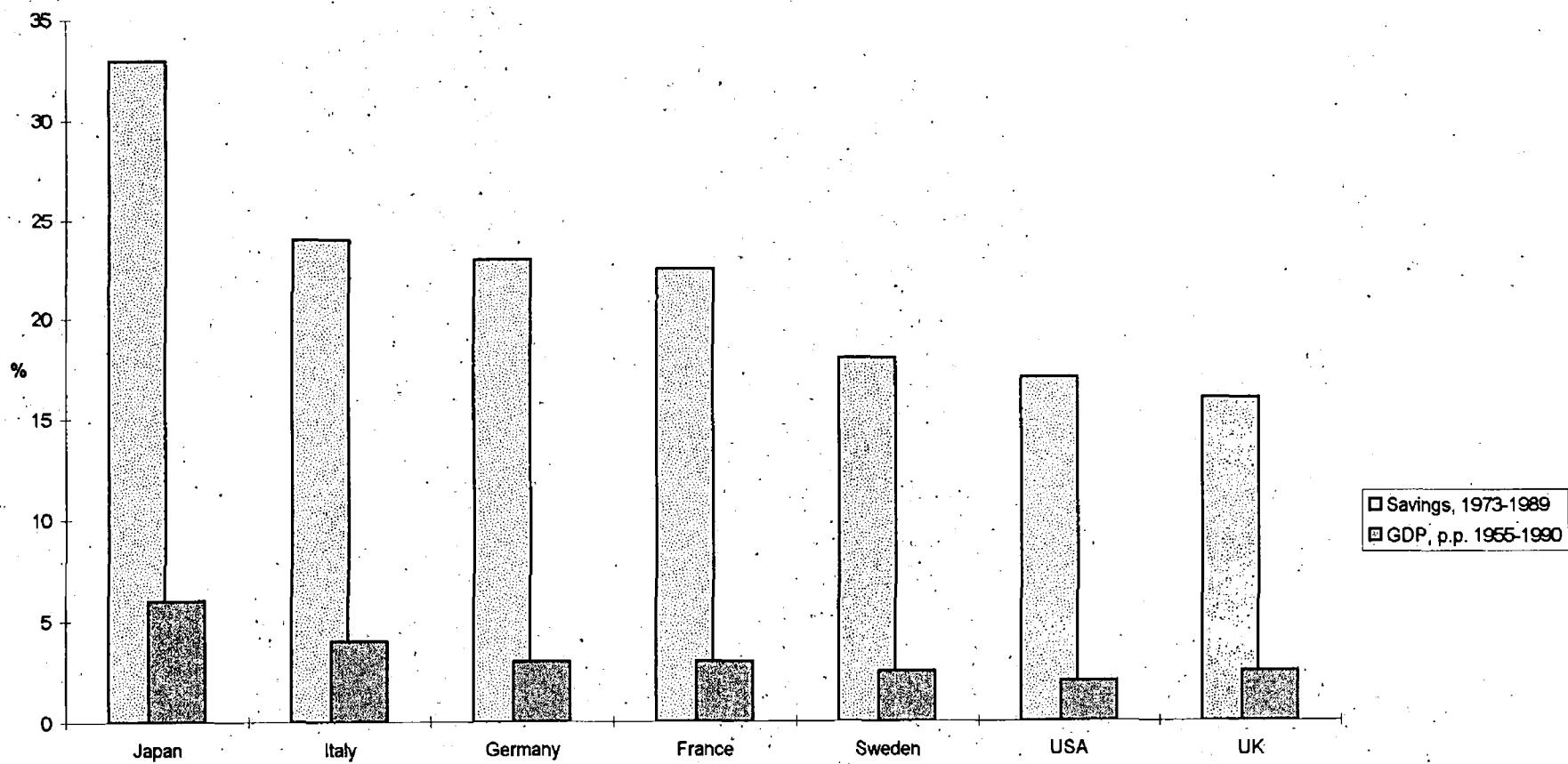
(B) Index of Growth in Residential and Non-residential Investment, 1990-1995 (1990=100, constant prices)



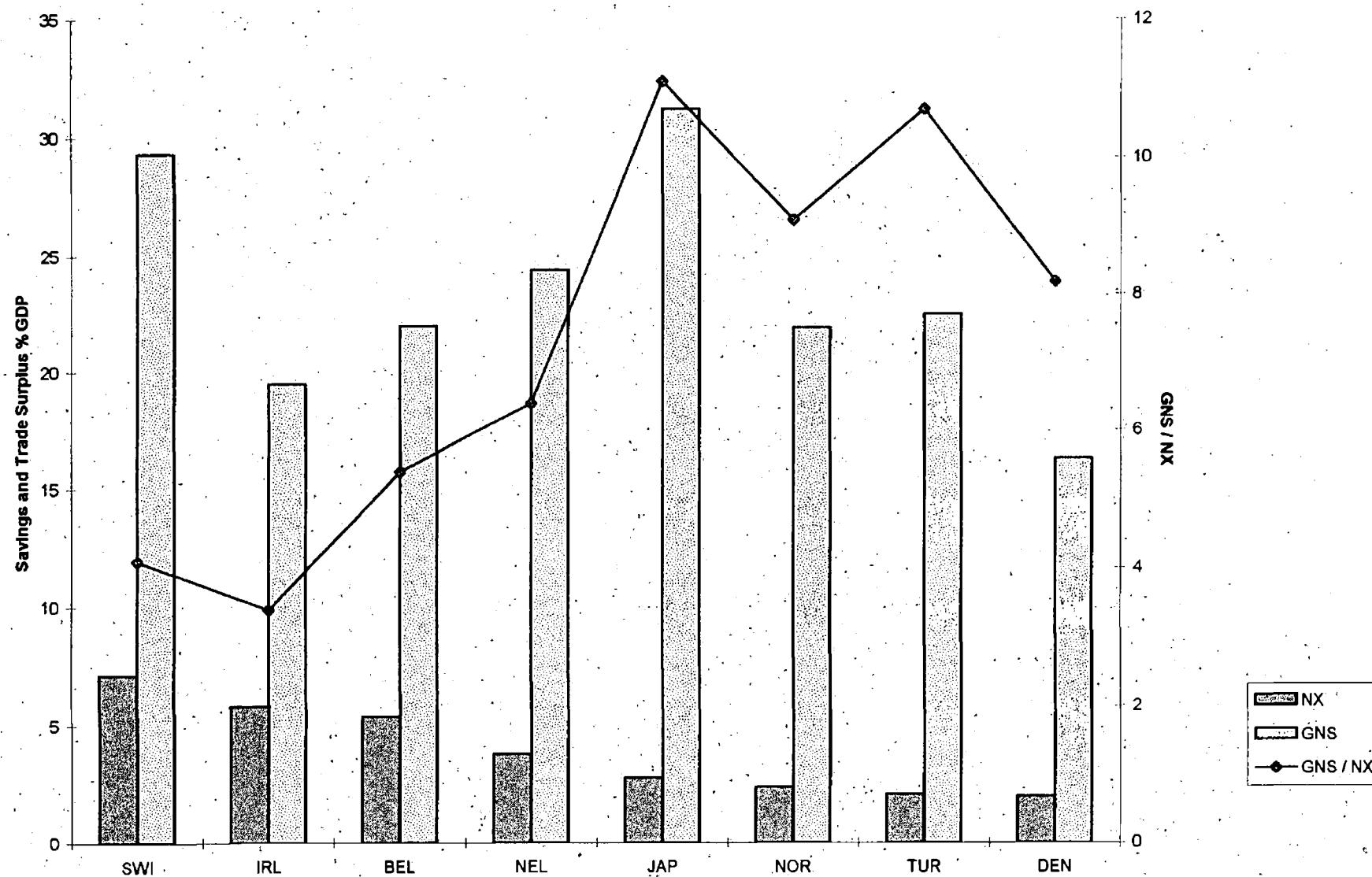
(C) Non-residential Investment % GDP, 1990-1995



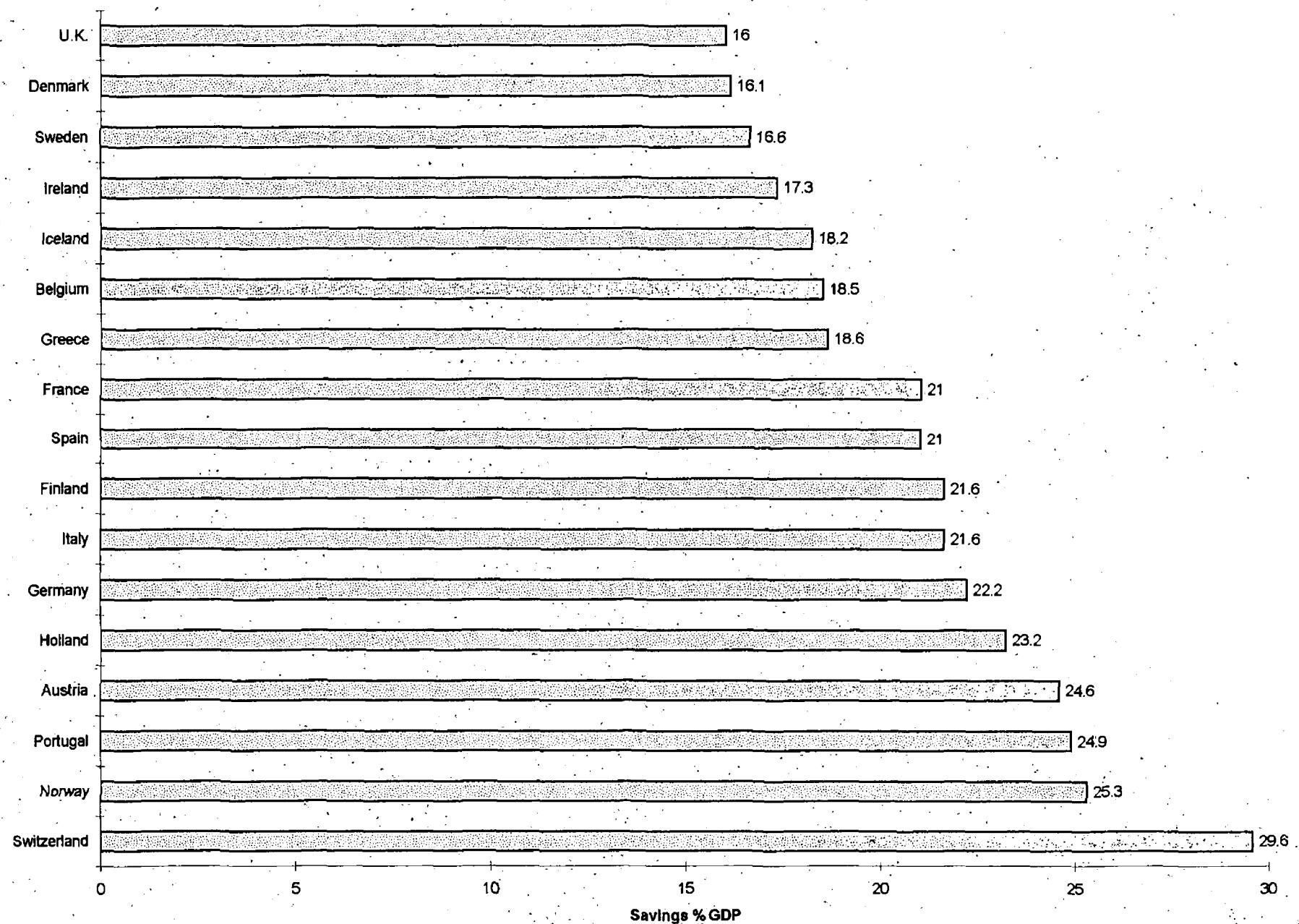
Appendix 35: The Correlation Between National Savings and Growth of GDP per person
(adopted from Gordon 1993, p.373).



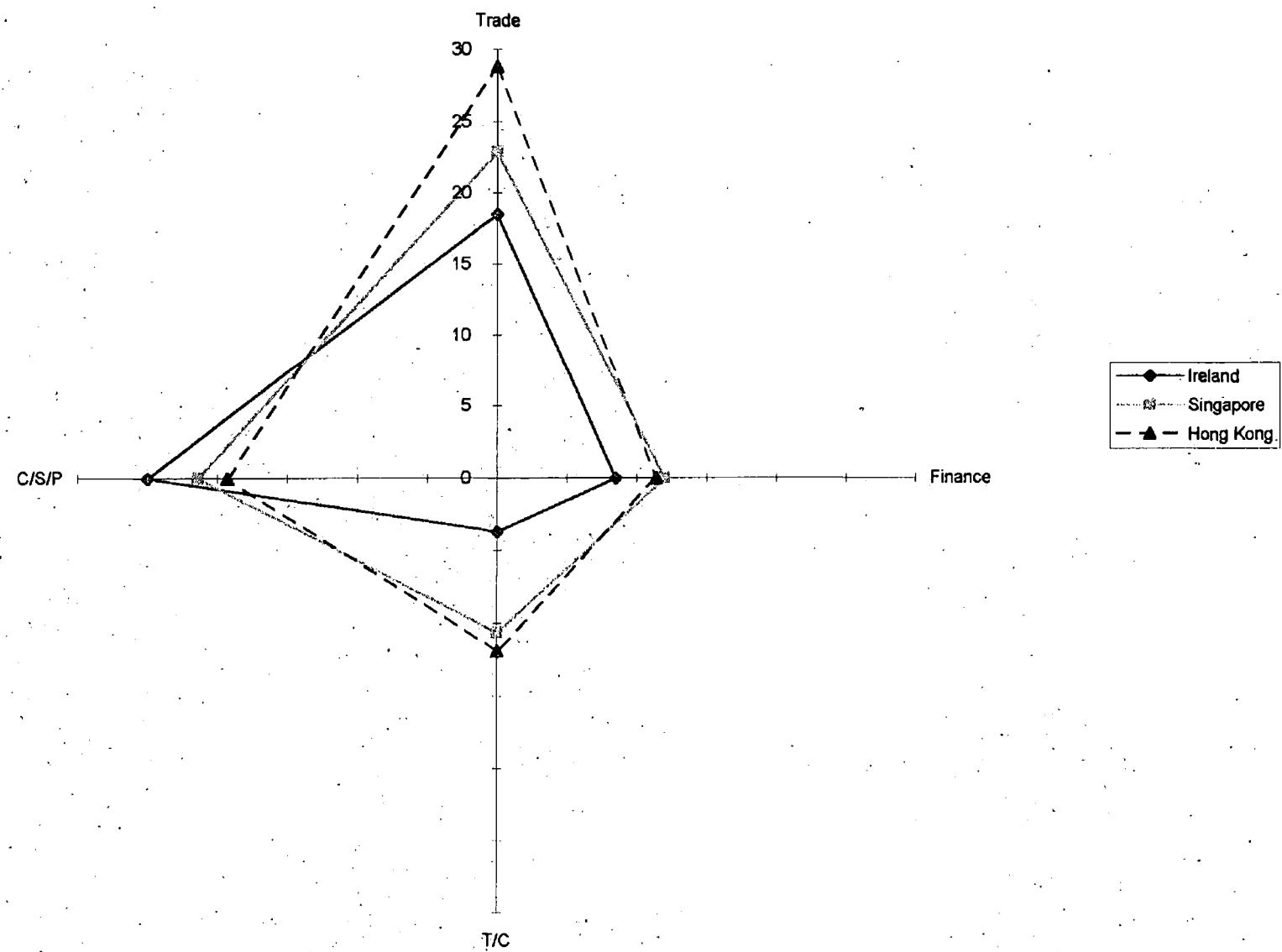
Appendix 36: International Comparison of Savings and Current Account Surplus, 1995
(Source: OECD. NX=trade surplus, GNS= savings)



**Appendix 37: Gross National Savings % GDP in European comparison,
1971-1994 annual average
(Derived from OECD "Economic Outlook, 1996")**



Appendix 38: % Share of Employment by Services Sectors in Total Employment in Ireland, Hong Kong and Singapore , 1995 (Sources: EIU, CSO)



Appendix 39:

List of Interviewees

Non-Research Institutions:

Banks and Other Financial Institutions

Ulster Bank Group Treasury

Contact and interview with: Eoin Fahy, Senior Economist

Bank of Ireland Group Treasury

Contact: Jim Power, Chief Economist

Interview with: Colin Hunt, Economist

AIB Corporate and Commercial Treasury

Contact: John Beggs, Chief Economist

Interview with: Pat O'Sullivan, Economist

Irish Intercontinental Bank

Contact and interview with: Austin Hughes, Economist

Finance and Treasury International

Contact and interview with: Declan Jordan, Senior Consultant

Riada Stockbrokers

Contact and interview with: Dan McLoughlin, Chief Economist

State & Semi-State Bodies

ICC Bank

Contact and interview with: Mary Doyle, Group Economist

Central Bank of Ireland

Contact: Tom O'Connell, Head of Economic Analysis

Interview with: Criona Harte, Economist

Central Statistic Office

Contact and interview with: Michael Lucey, Senior Statistician, National Accounts

Department of Finance

Contact and interview by telephone: Mary Nash, Economic Section

Research Institutions and Organisations:

National Economic and Social Council (NESC)

Contact: Dr. Sile O'Connor, Director

Interview with: Kevin Hannigan, Economist

Irish Business and Employers Confederation (IBEC)

Contact: David Croughan, Chief Economist

Interview with: A. McGibney, Economist.

Economic and Social Research Institute (ESRI)

Contact and interview with: Terry Baker, Economist

National College of Industrial Relations (NCIR)

Contact and interview with: Justin Johnson, Assistant Lecturer in Economics

Institute of Public Administration (IPA)

Contact and interview with: Michael Mulreany, Economist, Director of Graduate Study

Trinity College Dublin (TCD)

Contact and interview with: John O'Hagan, Professor of Economics

University College Dublin (UCD)

Contact and answered by post: Brendan Walsh, Professor of Economics

Appendix 40:

Questionnaire

[A]

Studies of economic growth in Hong Kong and Singapore have revealed that internationally competitive market service sectors in both cases have been the engine of growth during the last two decades. As a result, services in Hong Kong and Singapore account for a much larger proportion in both GDP and employment contrasting with Ireland. In your opinion:

- [A1] In a global context, are the market service sectors (namely finance, tourism, transport/communication, and business services) in Ireland internationally competitive?
- [A2] Whether or not, the market service sectors in Ireland can be an independent source of growth, and why?
- [A3] Which segment of services sectors in Ireland is most likely to contribute to further growth, and why?

[B]

An obvious and positive correlation between the savings and growth rate has been observed in both Hong Kong and Singapore. The records of savings rates in both economies have been exceptionally high, Singapore in particular; so is their investment rates. In comparison, both savings and investment rates in Ireland in the past have been relatively low. In your opinion:

- [B1] Have the savings rates in Ireland been high enough to sustain economic growth?
- [B2] If the savings rates in Ireland have not been high enough, do you have any suggestion on how to improve them?
- [B3] If you consider the savings rates in Ireland have been sufficient enough, then what is your explanation for the low investment rates in Ireland?

References

- Arrow, K.J. Lind, R.C.**
"Uncertainty and the Evaluation of Public Investment Decisions",
American Economic Review, Vol. 60, 1970.
- Agenor, Pierre-Richard. Montiel, Peter.**
"Development Macroeconomics", Princeton University Press, 1996.
- Balassa, Bela.**
"The Theory of Economic Integration", George Allen & Unwin, 1961.
- Baldassarri, Mario. Paganetto, Luigi. Phelps, Edmond. ed.**
"International Differences in Growth Rates", St.Martin Press, 1994.
- Barro, Robert. Sala-i-Martin, Xavier.**
"Economic Growth", McGraw-Hill, 1995.
- Barro, Robert.**
"Macro Economic Policy", Harvard University Press, 1990.
- Becker, R. Burmeister, E. ed.**
"Growth Theory" Vol. 1, Edward Elgar, 1991.
- Behrman, Jere. Srinivasan, T.N. ed.**
"Hand Book of Development Economics", Elsevier Science B.V. 1995.
- Chen, Peter. ed.**
"Singapore Development Politics and Trends", Oxford University, 1983.
- Chowdhury, Anis. Islam, Lyanatul.**
"The Newly Industrialising Economies of East Asia", Routledge, 1993.
- Castells, Manuel. Lee, Goh. Kwok, R.W.Y.**
"The Shek Mei Syndrome: Economic Development and Public Policy in Hong Kong and Singapore", Longman, 1990.
- Colman, David. Nixson, Fredrick.**
"Economics of Change in Less Developed Countries", Harvester & Wheatsheaf, 1994.
- Cullition Report:**
"A Time for Change: Industrial Policy for the 1990's", 1992.
- Dwyer, Denis.**
"South East Asian Development: Geographical Perspective", Longman, 1990.

- Fitzgerald, Robert.
"The State and Economic Development", Frank Cass, 1995.
- Fitzpatrick, Jim. Kelly, John. ed.
"Perspectives on Irish Industry", Irish Management Institute, 1995.
- Ghatak, Subrata.
"Introduction to Development Economics", Routledge, 1995.
- Gillis, Malcolm. Perkins, Dwight. Roemer, Michael. Snodglass, Donald.
"Economics of Development", W.W.Norton, 1995.
- Gillmor, Desmond.
"Economic Activities in the Republic of Ireland: A Geographic Perspective",
Gill & Macmillan, 1985.
- Gordon, R.J.
"Macroeconomics", Harper Collins, 1993.
- Herrick, Bruce. Kindleberger, Charles.
"Economic Development", McGraw-Hill, 1983.
- Hodder, Rupert.
"The West Pacific Rim", Belhaven Press, 1992.
- Hodendorf, Jan.
"Economic Development", Harper Collins, 1992.
- Hughes, Helen. ed.
"Achieving Industrialization in East Asia", Cambridge University, 1988.
- International Labour Organization, Eddy Lee, ed.
"Export-led Industrialization and Development", 1981.
- Ito, Takatoshi. Krueger, Anne. ed.
"Growth Theories in Light of the East Asian Experiences",
University of Chicago Press, 1995.
- Kelly, Morgan.
UCD Working Paper, WP96/6-9.
- Kennedy, David. Pender,Aidan.
"Prosperity and Policy: Ireland in the 1990's", Gill & Macmillan, 1990.
- Kennedy, Kieran. Giblin, Thomas. McHugh, Deirdre.
"The Economic Development of Ireland in the twentieth century", Routledge, 1988.
- Lee Soo Am.
"Industrialization in Singapore", Longman, 1993.
- Lim, Chong Yah.
"Development and Underdevelopment", Longman, 1991.

- Leddin, A.J. Walsh, B.W.
"The Macro-Economy of Ireland", Gill Macmillan, 1995.
"Economic Stabilisation, Recovery and Growth", UCD working paper, WP 97/8, 1997.
- Lethbridge, David.
"The Business Environment in Hong Kong", Oxford University, 1983.
- Porter, Michael.
"The Competitive Advantage of Nations", Macmillan, 1990.
- O'Connor, Robert. O'Malley, Eoin. Foley, Anthony.
"Aspects of the Swedish Economy and Their Relevance to Ireland", ESRI, 1978.
- O'Hagan, John.
"The Economy of Ireland: Policy and Performance", Gill Macmillan, 1987.
"The Economy of Ireland: Policy and Performance of a Small European Country",
Gill Macmillan, 1995.
- O'Malley, Eoin.
"Industry and Economic Development", Gill Macmillan, 1989.
- Purcell, Randall.
"The Newly Industrializing countries in the world economy", Longman 1989.
- Ravenhill, John.
"The Political Economy of East Asia", Edward Edgar, 1994.
- Rodan, Garry.
"The Political Economy of Singapore's Industrialisation", Macmillan, 1990.
- Riedel, Jame.
"The Industrialisation of Hong Kong", Longman, 1974.
- Rostow, W.W.
"Theorists of Economic Growth From David Hume to the Present",
Oxford University, 1990.
- Ryan, Louden. ed.
"Irish Industry in the Eighties", Helicon, 1984.
- Samuelson, P.A. Nordhaus, W.D.
"Economics", McGraw-Hill, 1989.
- Singer, Hans.
"The Strategy of International Development", Macmillan, 1975.
- Stein, Howard. ed.
"Asian Industrialization and Africa", St.Martin's Press, 1995.
- Stubbs, Richard. Underhill, Geoffrey. ed.
"Political Economy and the Changing Global Order", Macmillan, 1994.

Thirlwall, A.P.
"Growth and Development", Macmillan, 1994.

Thom, Rodney.
UCD Working Paper, WP97/3.

Todaro, Michael.
"Economic Development", Longman, 1994.

Wade, Robert.
"Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization", Princeton University, 1990.

Periodicals and Statistics

Asian Development Bank.
"Key Indicators of Developing Asia and Pacific Countries", 1995.

Central Intelligence Agency (CIA).
Web address: WWW.odci.gov/cia/publications/95fact/ei.html

Central Statistics Office (CSO).
various publications.

Economist Intelligence Unit (EIU).
"Annual Report: Hong Kong 1995".
"Annual Report: Ireland 1995".
"Annual Report: Singapore 1995".
"The World in 1997", 1997.

Economic and Social Research Institute (ESRI).
"Economic Perspective for the Medium Term", 1994, 1997.
"Economic Implications for Ireland of EMU", 1996.

European Union (EU).
"Employment through Enterprise-A Progress Report", 1994.
"European Economy", various issues.
"Eurostat", various issues.
"European Marketing Data and Statistics", various issues.
"International Marketing Data and Statistics", various issues.
"Euromonitor, Asia, 1992".

Forfas.
"Shaping Our Future", 1996.
"World Class To Serve the World", 1996.

Financial Times.

"World Information: Asia & Pacific review, 1996".

"The Economist".

various issues.

"Harvard Business Review".

various issues.

Hong Kong Government.

"Hong Kong Yearbook, 1995".

Web address: WWW.info.gov.hk/censtatd/hkstat/hkinfo.

National Economic and Social Council (NESC).

Reports No. 89, 93, 95, 96 and 99.

Organisation of Economic Co-operation and Development (OECD).

"OECD Economic Surveys, Ireland", various issues.

"Economic Outlook 59, June 1996".

International Monetary Fund (IMF).

"International Financial Statistic Yearbook 1995".

"Regional Survey of the World: Australasia and the Far East", 1996.

Price Waterhouse.

"Doing Business in Hong Kong, 1994".

"Doing Business in Ireland, 1994".

"Doing Business in Singapore, 1994".

Singapore Government.

Web address: WWW.singstat.gov.sg/KEYSTAT.

World Bank.

"World Table, 1995".

"World Development Report", various issues.

"Liberalizing Foreign Trade", Vol 2, 1991.

"The East Asian Miracles: Economic Growth and Public Policy", 1993.