GROWTH STRATEGIES OF SMALL NATIONS

- With Special Reference to Ireland, Finland and Singapore

by

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Bachelor of Science in Economics,
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Submitted to the Sloan School of Management
in Partial Fulfillment of the Requirements for the Degree of

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ABSTRACT:

This thesis is based on the premise that small nations face unique challenges in the quest for economic prosperity. They have a small domestic economy and are more dependent than larger economies on international trade. Smallness typically entails a lack of breadth and depth in the national supply of capital, talent and knowledge. The development paths of three successful small nations – Ireland, Finland and Singapore – are analyzed to see how they overcome these unique challenges. Similarities and differences in their development strategies are examined.

The typical model for assessing the microeconomic competitiveness of nations only looks within the national boundaries of an economy. In the context of a globalized world economy, it is appropriate to extend the model outside of national borders. Small nations that successfully tap on external markets, international flows of goods and services, and the global circulation of capital, talent and knowledge have bright prospects in a globalized knowledge economy.

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My wife, Janice, was a tower of support for me throughout the thesis process. As a veteran of two theses herself, she provided a constant source of comfort, encouragement and advice.

Special thanks to Professor Thurow for his supervision of my work. His pithy comments helped to sharpen my own thinking on the issues.

This thesis is dedicated to my son, Max, who was born as the drafting process reached its final stage. May he find a bright future in the small nation of Singapore.
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CHAPTER 1
THE QUEST FOR GROWTH

"...the causes of the wealth and poverty of nations – the grand
object of all enquiries in Political Economy."
- Malthus to Ricardo, letter of 26 Jan 1817

1.1 INTRODUCTION

Adam Smith established economics as an autonomous subject when
he published An Inquiry into the Nature and Causes of the Wealth of
Nations in 1776. More than two centuries later, economists and political
commentators still debate the causes of wealth and poverty of nations.
Economic development and economic growth theories have developed
into important subjects within the broad field of economics. Meanwhile, the
quest for growth remains elusive for some 5 billion people in 169 countries
where per capita incomes are below $7,500.

This chapter surveys the main factors that influence economic
growth, paying special attention to the roles of social capability, culture and
technology. It ends with an overview of this thesis’ theme and organization.

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1.2 FACTORS INFLUENCING ECONOMIC GROWTH

There are a broad range of explanations for the differences in levels of economic development across countries, ranging from history, culture, government policies and institutions to geography and climate. For a quick survey of the main economic and socio-political factors, Robert Barro\(^3\) has provided one of the more systematic analyses. He examined the statistical significance of hypothesized determinants of growth, using a model which can be represented as

\[ G = f (y, y^*), \]

where \(G\) is the growth rate of per capita output, \(y\) is the current level of per capita output, and \(y^*\) is the long-run or steady-state level of per capita output. The target value \(y^*\) depends on a range of choice and environmental variables such as savings rates, fertility rates, terms of trade, and the maintenance of rule of law.

His findings lend empirical support to the conventional factors commonly cited as being influential to economic rates of growth:

a. **Initial level of GDP.** This has a highly significant negative coefficient, indicating slower rates of growth for more advanced economies, other things being equal.

b. **Initial level of human capital.** Higher levels of educational attainment contribute to growth through higher productivity.

c. **Fertility rate.** This is negatively correlated with growth. If the population is growing, more of an economy’s investments are used to provide capital for new workers rather than to raise the capital employed per worker.

d. **Government consumption.** Here, Barro attempts to capture government outlays that do not improve productivity, e.g. education spending is excluded. Hence, a greater volume of nonproductive government spending reduces the growth rate.

e. **Rule of law index.** Greater maintenance of rule of law is favorable to growth. The concepts covered by the index Barro uses include quality of bureaucracy, political corruption, likelihood of government repudiation of contracts, risk of government expropriation and overall maintenance of the rule of law.

f. **Terms of trade.** Measured as the ratio of export to import prices, a shift in the terms of trade has an effect on real GDP only if it stimulates a change in domestic employment and output.

g. **Ratio of investment to output.** This has a positive correlation with growth but Barro notes that reverse causation is likely to be important here, especially for open economies, i.e. growth leads to greater investment opportunities.
h. **Inflation.** There is an inverse relationship between growth and high rates of inflation. Barro found that for inflation rates below 20%, the relationship is not statistically significant.

i. **Level of political rights.** An increase in the amount of political rights increases growth up to a certain level. Once a moderate level of democracy has been achieved, a higher level of political rights tends to retard growth, possibly because of issues such as a tendency to enact redistributive policies or the enhanced role of interest groups. Barro concludes that "the net effect of democracy on growth is theoretically inconclusive"\(^4\).

There are other variables which are likely to be important, but these are difficult to measure consistently and accurately, e.g. tax distortions, openness of markets, public pension and other transfer programs, regulations that affect labor, financial and other markets, infrastructure investments and R&D outlays.

Identifying the main ingredients for economic growth is the first and probably the easiest step for nations seeking prosperity. As the controversy surrounding the Washington Consensus\(^5\) demonstrates, the pace and sequencing of reforms to bring together the various ingredients is still a matter for debate. For countries seeking economic growth, a more

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\(^4\) Barro (1997) p.51

\(^5\) The Washington Consensus is a term coined by John Williamson in 1990 "to refer to the lowest common denominator of policy advice being addressed by the Washington-based institutions to Latin American countries as of 1989".
fundamental question precedes this discussion: can they get themselves organized for growth?

1.3 IMPORTANCE OF SOCIAL ORGANIZATION

Lester Thurow argues that “the mechanics of development are straightforward. The problem is execution. Execution requires social organization, and that is precisely what most third world countries lack”\(^6\).

There is plenty of anecdotal evidence on this, and one is provided here: Singapore and Sierra Leone are both former British colonies that gained independence in the 1960s. At independence, both had small populations of less than 4 million and a similar level of per capita income. While Sierra Leone was rich in mineral, fishery and agricultural resources, Singapore was resource-poor and dependent on entrepôt trade. The paths these two countries have taken since independence could not have been more different. After more than 40 years of being plagued by civil wars and corruption, Sierra Leone’s per capita GDP by purchasing power parity was only $500 in 2002, compared to Singapore’s $24,000.

Countries that cannot get themselves organized (provide a stable political environment, establish and enforce legal frameworks, set up schools, build basic infrastructure etc.) are simply not able to participate in economic development. A country that wants to grow rich needs to be

\(^6\) Thurow (2003) p.183
organized to provide a conducive environment for business. Only when businesses thrive will wealth be realized.

1.4 ROLE OF CULTURE

Any inquiry seeking explanations for differences in economic performance between countries will eventually run up against the cultural factor. Lawrence Harrison notes that “a growing number of scholars, journalists, politicians, and development practitioners are focusing on the role of cultural values and attitudes as facilitators of, or obstacles to, progress”\(^7\). He claims that they are the intellectual heirs of Max Weber, who wrote about the Protestant work ethic, and Alexis de Tocqueville, who concluded that the US political system worked because of a culture congenial to democracy.

However, he also acknowledges that economists are uncomfortable dealing with the cultural factor because it is difficult to define and quantify and it operates in a complex context with many other factors. Recent examples of economists who have attempted to get around these difficulties are Barro and McCleary\(^8\), who examined the influence of religion on economic growth. They found that economic growth responds positively to the extent of religious belief, but negatively to church

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\(^7\) Lawrence Harrison & Samuel Huntington eds., *Culture Matters – How Values Shape Human Progress* (Basic Books, 2000), p. xxi

attendance. Their hypothesis was that religious beliefs (outputs of the religious sector) influence individual traits such as thrift, positive work ethic and honesty that enhance economic performance. For a given level of beliefs, greater church attendance (inputs to the religious sector) signifies more resources used up by the religious sector that could have been more productively employed!

Some social scientists have also stayed away from cultural explanations out of a reluctance to judge another culture. After all, if the analysis concludes that a change in culture is necessary for economic progress, how should this be done?

The most extreme view of cultural determinism comes from David Landes, who concludes that “if we learn anything from the history of economic development, it is that culture makes all the difference”\(^9\). One example sometimes cited to support this observation comes from within the US context, where different ethnic groups operate under broadly similar economic stimuli and have to deal with the same government institutions. Yet educational attainment\(^10\) and economic performance show variation across ethnic groups. Even amongst Caucasian American immigrants, performance can vary, e.g. between Irish-Americans and German-Americans.

\(^9\) Landes (1998), p.516
\(^10\) See for example, Georges Vernez, Allan Abrahamse & Denise Quigley, “How Immigrants Fare in US Education” (RAND Corporation, 1996)
Samuel Huntington cites US Senator Moynihan as providing the wisest comment on the place of culture in human affairs: “The central conservative truth is that it is culture, not politics, that determines the success of a society. The central liberal truth is that politics can change a culture and save it from itself.”\(^{11}\) Huntington therefore argues that the key issue is “whether political leadership can substitute for disaster in stimulating cultural change.”\(^{12}\)

Cultures are not static. Cultures can and do change. The controversy is over the extent to which cultural change should be integrated into national plans and strategies for economic development. But even without active state intervention in the cultural arena, because of globalization, people who have access to basic forms of communication are more exposed to successful behaviors elsewhere. This will create “an increasing convergence of opinion around the globe about what it takes to be prosperous…the productivity culture”\(^{13}\).

1.5 IMPORTANCE OF TECHNOLOGICAL PROGRESS

In the neoclassical growth models, per capita growth must eventually cease in the absence of technical improvements because of diminishing returns. “The long-run data for many countries indicate, however, that

\(^{11}\) Harrison & Huntington eds. (2000), p. xiv
\(^{12}\) Harrison & Huntington eds. (2000), p. xv
\(^{13}\) Michael Porter, “Attitudes, Values, Beliefs and the Microeconomics of Prosperity” in Harrison & Huntington (2000), p.26
positive rates of per capita growth can persist over a century or more and that these growth rates have no clear tendency to decline."\textsuperscript{14} Therefore growth theorists assumed that technological improvements occurred in an exogenous fashion. But to have a significant portion of growth, and eventually the long-run rate of growth, attributed to unexplained phenomena is clearly unsatisfactory. On a priori grounds, technical progress, being partly the outcome of purposive activity (R\&D and other innovative activities), must be at least partially endogenous.

In fact, work done by Boskin, Kim and Lau in the early 1990s indicate that technical progress is the most important source of economic growth for developed countries in the postwar years. In contrast, capital accumulation is the most important source of economic growth for East Asian newly industrializing countries like Singapore and Taiwan. Their findings indicate that developed and developing countries operate on different parts of the production function. Developing economies have higher production elasticities of capital compared with developed economies.

Lau concludes that technical progress will assume increasing importance as economy is transformed from the developing to the developed stage. Capital accumulation is most important for countries at an initial phase of development. As diminishing marginal productivity of

\textsuperscript{14} Barro (1997), p.3
capital sets in, technical progress will take on greater significance. Therefore, “developing economies should look ahead and begin to plan to devote greater proportions of their resources to indigenous R&D and other innovative activities...This is especially urgent given the long gestation periods for and uncertain returns to such investments in intangible capital.”

1.6 OTHER ISSUES

Is there a penalty for lateness?

It was once believed that there were advantages in being a latecomer to economic development since the latecomer could learn from the mistakes of the developed economies, adopt their latest technology and skills and eventually catch up with them. But instead the gap between rich and poor countries has grown enormously.

In 1850, the average per capita income levels of the Third World were just over half those of the developed world. By 1990, they were down to only 12 per cent. Developments in the 1990s have only widened the income inequalities between rich and poor countries. "In 1980 the

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richest 10 percent of all countries had incomes 77 times those of the poorest 10 percent of all countries. By 1999 that number was up to 122.\textsuperscript{17}

Derek Aldcroft explains that developments in the three to four centuries leading up to 1900 put Western Europe in a much better position to accumulate knowledge and capital, which is vital for the exploitation of new technologies, which stimulates productivity and growth and in turn facilitates further accumulation of capital\textsuperscript{18}. Today’s less developed economies cannot make up for this lost time overnight, although the experiences of Japan and the East Asian tiger economies suggest that catch up may eventually be possible.

Is there a right industry to specialize in?

Some economists like Reinert\textsuperscript{19} argue that being wealthy is not so much being efficient, but rather it matters a lot what one chooses to be efficient in.

Traditionally, the German school of economics (e.g. List, Marx and Schumpeter) has emphasized uneven growth and increasing returns, as opposed to the Anglo-Saxon classical assumptions of even growth and constant returns. The presence of increasing returns suggests that not all

\textsuperscript{17} "Globalism and the World’s Poor", The American Prospect, Winter 2002, quoted in Thurow (2003), p.139
\textsuperscript{18} Derek Aldcroft, "The Penalty of Lateness" in Aldcroft & Caterall eds. (1996).
\textsuperscript{19} See Erik Reinert, "The role of technology in the creation of rich and poor nations -- underdevelopment in a Schumpeterian system" in Aldcroft & Caterall eds. (1996).
economic activities are equal. A successful strategy for growth must therefore involve activities with increasing returns and imperfect competition. Otherwise, catch-up is impossible.

In a knowledge-based economy, the greatest value capture flows from the sources of knowledge, and this in turn is derived from human capital. The “right” industry to specialize in for countries that wish to grow rich must therefore involve activities that have the greatest potential to enhance the economy’s productivity and stock of human capital. These are direct factors which can be improved to the benefit of the economy.

1.7 THESIS THEME AND ORGANIZATION

This thesis begins on the premise that small nations face particular problems in the quest for economic prosperity. They have a small domestic economy and are more dependent than larger economies on international trade. In most instances, they will not have within their national borders direct access to a hinterland for raw materials and markets. They have a small pool of human resources from which to draw managerial and entrepreneurial talent and their domestic capital markets may lack breadth and depth. Compared to larger economies like the US, Japan and Germany, such conditions may pose unique hurdles to the development of successful large global enterprises.
Under such circumstances, how can small nations sustain economic growth and secure well-paying jobs for their citizens? How does an increasingly globalized and knowledge-intensive world economy affect their prospects?

This thesis will examine small countries that have been successful in meeting this challenge thus far. It is thematically divided into three parts.

Part One aims to provide a good basis for us to understand the various models of small country development. In the current chapter, we have examined the main determinants of success or failure in countries’ pursuit of economic development. Chapter Two examines the implications of size on the economic development strategies, and the particular challenges that small economies face in the quest for growth.

Part Two consists of a chapter each on the developmental strategies of the three successful small nations we have selected for this study – Ireland, Finland and Singapore.

Part Three analyzes the similarities and differences in the approaches taken by Ireland, Finland and Singapore. Finally, an assessment is made of the prospects of small nations in an era where the world economy is becoming more globalized and more knowledge-intensive.
CHAPTER TWO
ECONOMIC IMPLICATIONS OF SIZE

2.1 INTRODUCTION

Interest in the fates of small countries gained momentum in the 1950s and 1960s, due to a wave of decolonization that led to the creation of a number of small sovereign states. The main concern then was that these small states could not develop viable economies on their own, and that this economic problem would eventually pose political problems. While small economies do face special challenges, we will also see that size can also render some advantages to small countries as the world economy becomes more globalized.

2.2 NOTIONS OF SIZE

How should we define smallness? For the purpose of examining economic development, we could look at notions of area, population, population density, accessibility, economic resources, or market size. Some of these factors may give us opposing answers on size. For example, a large, but poor population constitutes a small market. For this thesis, the focus is on countries will small populations, because people are the ultimate economic resource. Countries with small populations are also
the most vulnerable to the effects that globalization has on the international flows of capital and talent.

But smallness is a comparative, not an absolute idea. What is a small population? In 1960, Kuznets\textsuperscript{20} used 10 million as a marker. Others\textsuperscript{21} have suggested 5 million or 15 million as a more appropriate dividing line. In the British Commonwealth’s work on small states\textsuperscript{22}, an approximate threshold of 1.5 million is used, but this captures mostly small island economies like Mauritius, Barbados and Fiji.

Table 2-1 divides up countries into broad bands of population sizes:

<table>
<thead>
<tr>
<th>Number of countries</th>
<th>2001 Population (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>$p &gt; 100$ mn</td>
</tr>
<tr>
<td>38</td>
<td>$20$ mn $&lt; p &lt; 100$ mn</td>
</tr>
<tr>
<td>30</td>
<td>$10$ mn $&lt; p &lt; 20$ mn</td>
</tr>
<tr>
<td>63</td>
<td>$2$ mn $&lt; p &lt; 10$ mn</td>
</tr>
<tr>
<td>53</td>
<td>$p &lt; 2$ mn</td>
</tr>
</tbody>
</table>

Source: www.worldfactsandfigures.com

For the purposes of this thesis, we are interested in how countries like Ireland, Finland and Singapore manage to develop fairly diversified economies and rank highly as competitive economies, in spite of their


\textsuperscript{21} Colin Clarke & Tony Payne eds., Politics, Security and Development in Small States (Allen & Unwin, 1987)

\textsuperscript{22} See for example, Vulnerability: Small States in the Global Society – Report of a Commonwealth Consultative Group (Commonwealth Secretariat, 1985)
small population. We therefore exclude the very small countries (less than 2 million people) on the grounds that these nations are really micro-
economies and they are severely limited in the range of activities that their economy can support. In fact, many of these very small economies rely only on one or two main industries (e.g. tourism, private banking).

There is a large group of small countries with populations between 2 and 10 million. Besides Ireland, Finland and Singapore, also included in this group are countries as diverse as Uruguay (3.4 million), Israel (5.9 million), Switzerland (7.3 million) and Zambia (9.8 million).

The three countries selected for this study have populations of between 3.5 and 5.2 million. They are three of the more successful economies in recent decades, based on a broad range of indicators. They are large enough to be more diversified than small island economies ever can be, while small enough to feel the constraints of their size.

2.3 FEATURES OF SMALL ECONOMIES

We now examine the features of an economy that are of particular relevance for small economies. Martin Prachowny studied the “small open economy” (SOE) as a theoretical abstraction, defining an SOE as “any country (or other political jurisdiction for that matter) that treats the price of any internationally traded commodity or asset as exogenously determined and attempts to maximize some objective function with this constraint in
mind. In this conception, SOEs are “small” in the sense that their supply, in relation to total world availability of any traded good or asset, is miniscule. SOEs are “open” in the sense that the tradable sector plays an important role in structure of economy.

Conventionally, the two key differences between large and small economies are the reliance of domestic firms on the home base for global competitiveness and the reliance of national governments on domestic-oriented policies to foster economic development. Van Den Bulcke and Verbeke offer the following matrix to depict these differences (Fig 2-1):

Fig. 2-1: Conventional perspectives of large and small nations

<table>
<thead>
<tr>
<th>Reliance of domestic firms on home base for global competitiveness</th>
<th>weak</th>
<th>strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliance of national government on domestic policies to foster national economic development</td>
<td>weak</td>
<td>1 small nations</td>
</tr>
<tr>
<td></td>
<td>strong</td>
<td>2</td>
</tr>
</tbody>
</table>

---

Compared to large nations, small nations cannot rely as much on their domestic market or on domestic policies for economic growth. Smaller economic systems rely more on international economic policy to foster national economic development, and their firms rely more on host (as opposed to home) countries as a source of competitive advantage. Typically, smaller countries will try to latch on to a larger neighboring economy which can allow the smaller country to ride on its growth. Examples of such relationships are Austria-Germany and Canada-USA. For Austria, the EU is its main trading area, accounting for 70% of both imports and exports. But Germany is by far its biggest economic partner, accounting for about half of that share.

2.4 ECONOMIC IMPLICATIONS OF SIZE

In a world of perfect markets, problems related to the limitations of small markets and the limited diversity of resources can be offset by specialization and international trade.

In the 1960s and 1970s, when the world economy was less globalized and more protectionist than it is today, writers like Knox\textsuperscript{25} were quick to point out that markets were in fact not perfect. There were restrictions to sell in foreign markets and to satisfy requirements through

imports. These restrictions included transportation costs, tariffs, quotas, imperfect knowledge. Some restrictions still exist, but globalization has made it a lot easier for smaller economies to plug into global markets.

The traditional constraints in the supply and the demand side of the economy for small countries have also become more relaxed. On the supply side, a much more integrated global capital markets have allowed smaller economies to access as much capital as their economy could justify on the market. Human talent and entrepreneurial capabilities criss-cross national borders almost at will. On the demand side, the problem of a small domestic market has been overcome with successful export-oriented development strategies.

Researchers have found no correlation between size of countries and GDP per capita\textsuperscript{26}. In fact, Dunning found that smaller countries had a somewhat faster rate of growth in the first half of 1990s.

There is also a preponderance of small economies in the top rankings of countries by income. For example, if we take the top 10 wealthiest countries in the world on a GDP per capita basis, we find that 7 of them have populations less than 10 million (Table 2-2). The only large countries in the top 10 are the USA and Canada, with Belgium on the borderline at 10.3 million people:

\textsuperscript{26} Two examples are Nadim Khalaf, \textit{Economic Implications of the Size of Nations} (Leiden, 1971) and John Dunning, “Resolving Some Paradoxes of the Global Economy – Small Nations as Trailblazers” in Van Den Bulcke & Verbeke (2001).
Table 2-2: Top 10 wealthiest countries by GDP per capita (PPP)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Luxembourg</td>
<td>$44,000</td>
<td>443,000</td>
</tr>
<tr>
<td>USA</td>
<td>$37,600</td>
<td>278 million</td>
</tr>
<tr>
<td>Bermuda</td>
<td>$35,200</td>
<td>63,000</td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>$35,000</td>
<td>34,800</td>
</tr>
<tr>
<td>San Marino</td>
<td>$34,600</td>
<td>27,300</td>
</tr>
<tr>
<td>Norway</td>
<td>$31,800</td>
<td>4.50 million</td>
</tr>
<tr>
<td>Switzerland</td>
<td>$31,700</td>
<td>7.28 million</td>
</tr>
<tr>
<td>Ireland</td>
<td>$30,500</td>
<td>3.84 million</td>
</tr>
<tr>
<td>Canada</td>
<td>$29,400</td>
<td>31.6 million</td>
</tr>
<tr>
<td>Belgium</td>
<td>$29,000</td>
<td>10.3 million</td>
</tr>
</tbody>
</table>

Source: www.worldfactsandfigures.com

The UNDP's human development index (HDI) is another measure of wellbeing across countries. It takes into account a broad range of indicators, such as GDP per capita, life expectancy and literacy rates. If we look at the 20 countries with the highest HDI values in 2003, half of the countries have populations of less than 10 million. See Table 2-3.
Table 2-3: Top 20 countries by Human Development Index ranking

<table>
<thead>
<tr>
<th>HDI rank (2003)</th>
<th>Country</th>
<th>Population less than 10 million?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Norway</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Iceland</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Sweden</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Australia</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Netherlands</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Belgium</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>USA</td>
<td>No</td>
</tr>
<tr>
<td>8</td>
<td>Canada</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>Japan</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>Switzerland</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Denmark</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td>Ireland</td>
<td>Yes</td>
</tr>
<tr>
<td>13</td>
<td>UK</td>
<td>No</td>
</tr>
<tr>
<td>14</td>
<td>Finland</td>
<td>Yes</td>
</tr>
<tr>
<td>15</td>
<td>Luxembourg</td>
<td>Yes</td>
</tr>
<tr>
<td>16</td>
<td>Austria</td>
<td>Yes</td>
</tr>
<tr>
<td>17</td>
<td>France</td>
<td>No</td>
</tr>
<tr>
<td>18</td>
<td>Germany</td>
<td>No</td>
</tr>
<tr>
<td>19</td>
<td>Spain</td>
<td>No</td>
</tr>
<tr>
<td>20</td>
<td>New Zealand</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Thus size does not seem to be a significant disadvantage in countries’ seeking to prosper and achieve better lives for their citizens.

However, size does make a difference in the extent to which countries engage in, and are dependent on, international business transactions. Dunning’s sample of 22 small countries (defined as having populations less than 10 million), had a Trade/GDP ratio of 111% in 1995, while his sample of 23 medium to large countries had a Trade/GDP ratio of...
62%. He also found that small countries made more use of the Internet and used double the minutes per person on international telephone calls.

Dunning concludes that “size per se need not be a significant variable affecting the economic wellbeing or the wealth-creating capacity of a country, but that almost inevitably, it does affect the extent to which that prosperity and wealth creating capacity is dependent on the volume and structure of its commercial transactions with the rest of the world”\textsuperscript{27}.

This is similar to Kuznets’ conclusion in 1959 that size “is not in and of itself so crucial that it must be included as a dominant factor in any initial review and discussion of the characteristics of modern economic growth”\textsuperscript{28}.

However, Kuznets also acknowledged that “all other conditions being equal, a country with a larger population can at a lesser cost develop the variety of specialties in the intellectual hierarchy, and provide the tools for adequate participation in the world community of advanced knowledge”\textsuperscript{29}. Indeed, in the world of R&D, there are clear economies of scope. Breakthroughs from R&D activities are uncertain and adequate scope is required to reduce the risk from playing the R&D game.

Consequently, size and budgets matter in R&D. Singapore GDP is about $90 billion. Even if its R&D spending is 3% of GDP (which it has yet

\textsuperscript{27} Dunning (2001), p.17  
\textsuperscript{29} Kuznets (1959), pp 90-91
to reach\textsuperscript{30}, this means an R&D budget of about $2.7 billion. Microsoft’s annual R&D budget alone is $6.8 billion\textsuperscript{31}!

In the area of R&D, small countries are therefore obliged to link up its activities with other global nodes. Taiwan’s Hsinchu Valley offers a good example in the way it links up with Silicon Valley\textsuperscript{32}.

Globalization means that all actors operating in the global economic environment, including large nations’ governments and MNCs are being forced to rely less on their domestic policies and their home bases. In terms of the Van Den Bulcke-Verbeke matrix, this is represented by a shift towards Quadrant 1, where the small countries have all along been operating. To the extent that small economies tend to produce firms that rely more on host countries and work in multiple international bases, they will have more powerful knowledge absorption capabilities. Therefore, small successful countries may be more ready than large countries to tackle the challenges of globalization because they have already tuned their domestic economic structures and policies to the changing needs of the international marketplace.

\textsuperscript{30} Singapore’s R&D spending was 1.9% of GDP between 1996 and 2000. Source: UNDP Human Development Report 2003.

\textsuperscript{31} From MIT TechTalk article: “Gates: Today’s PCs only a rough draft”, March 3\textsuperscript{rd}, 2004.

\textsuperscript{32} See for example, AnnaLee Saxenian, “Taiwan’s Hsinchu Region: Imitator and Partner for Silicon Valley” (Draft of Jul 2001, available on her website).
2.5 CONCLUSION

It is clear that there are more important factors than size when it comes to a nation’s propensity for economic development. However, size does pose a particular set of issues that need to be directly overcome in order to achieve economic growth. The upside is that small countries that manage to learn to deal with the vagaries of large capital flows and a heavy dependence of external trade seem to be in a better position to reap the benefits of globalization.
CHAPTER THREE
THE CELTIC TIGER

3.1 INTRODUCTION

The Irish story of economic development is one of the most remarkable transformations in recent times. As recently as 1986, Ireland was one of the poorest countries in the EU, with a GDP per capita of less than two-thirds the EU average\(^{33}\).

Since then, there has been rapid acceleration in growth towards convergence with the EU norm. In particular, the performance of the Irish economy in the 1990s has been nothing short of spectacular. Table 3-1 shows the percentage changes in Ireland’s output, compared with the EU average:

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>4.2%</td>
<td>4.7%</td>
<td>3.6%</td>
<td>2.6%</td>
<td>8.9%</td>
</tr>
<tr>
<td>EU-15</td>
<td>4.9%</td>
<td>3.0%</td>
<td>2.4%</td>
<td>0.8%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Source: Eurostat

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Ireland’s per capita growth in the second half of the 1990s was particularly robust and way above the EU and the OECD averages.

As a consequence of such strong growth, the unemployment rate fell from 15.7% in 1993 to 4.3% in 2000. “For an economy which has traditionally struggled to find employment for its population, the attainment of full employment is probably the greatest achievement of the past fifteen years.”\(^{34}\)

Other significant achievements include an improvement in the public finances and greater control over inflation. With a more successful and vibrant economy, the pattern of emigration has also been reversed. The net result has been a palpable increase in the national morale, particularly when Ireland, which has historically been in Britain’s shadow in economic terms, overtook the UK in terms of per capita GDP.

This chapter will examine how Ireland, with its small population of 4.0 million, managed to forge ahead in the quest for growth.

### 3.2 ECONOMIC HISTORY

After years of struggle for political independence from the British, a section of the Irish nationalist movement concluded a treaty with Britain in 1921 that established the Irish Free State. This new state comprised 26 of

\(^{34}\) Cassidy (2002), p.8
the 32 counties on the island. The remaining 6 counties were the more industrialized ones and these remained within the UK as Northern Ireland.

One commentator remarked that “the area of the new state did not correspond to any desirable economic or geographic entity, because of pressure from the Protestant Unionists in northern Ireland to stay out of an independent Ireland.”\textsuperscript{35} Another noted that “in European terms, southern Ireland at partition was a highly impoverished agrarian region, with hardly any industry”\textsuperscript{36}.

Economically, the period between 1922 and 1932 was marked by policy continuity based on what was perceived as Ireland’s comparative advantage: production and export of dairy products. The focus was on improving the agricultural sector but results were disappointing. Industrial development was neglected.

The Irish Free State’s de facto economic bonds to Britain also continued. In 1923, agriculture made up about half of the Free State’s GDP and over 98% of Irish exports went to Britain\textsuperscript{37}. The Irish punt was tied to the British pound, and Ireland did not have control over foreign exchange.

\textsuperscript{36} Denis O’Hearn, \textit{The Atlantic Economy – Britain, the US and Ireland} (Manchester University Press, 2001), p.113
\textsuperscript{37} O’Hearn (2001), p.114
In 1932, the Nationalist party Fianna Fáil came to power and embarked on a policy to make Ireland more self-sufficient economically. Ireland therefore pursued import substitution industrialization (ISI) behind tariff barriers, and sought to diversify its agricultural sector behind import controls.

The initial years of ISI were successful in raising manufacturing output and employment. Manufacturing output rose by 7.2% and manufacturing employment by 8.6% between 1931 and 1936.\textsuperscript{38}

But this industrial base was not built on solid foundations. Many industries relied on monopoly positions in the home market and questions arose over their efficiency and competitiveness. Once the small home market was catered to, the industrialization drive ran out of steam. The economy was unable to induce domestic capitalists to reinvest in Ireland: “After they exhausted the few highly profitable local possibilities, Irish industrialists reinvested their profits in British financial markets.”\textsuperscript{39} An ISI policy was bound to run up against the inherent size limitations of the domestic economy. “The home market was far too small to enable the generality of firms to produce on an efficient scale.”\textsuperscript{40}

\textsuperscript{38} Peadar Kirby, \textit{The Celtic Tiger in Distress -- Growth with Inequality in Ireland} (Palgrave, 2002), p.16
\textsuperscript{39} O’Hearn (2001), p.119
By early 1950s, Ireland was facing balance of payment problems and a dramatic slowdown of manufacturing output and employment growth. Emigration soared as Ireland appeared stuck in a period of economic stagnation.

As it became increasingly clear that protectionism and import substitution were not sustainable strategies for a small economy like Ireland, momentum gathered for a fundamental change in course. “By 1958, a consensus had begun to emerge that economic expansion could only be driven by an internationally competitive export sector.”

From 1959 to the present, Ireland’s economic strategy is marked by economic liberalization. The main elements of this new strategy are:

a. use of grants and tax concessions to encourage export-oriented production;

b. attraction of FDI, especially foreign manufacturing enterprises; and

c. making existing industry more competitive through grants for rationalization and reductions in tariffs.

This new outward looking policy met with success quickly. “By 1973, the economy was fully employed and had experienced its fastest sustained period of economic growth (4.4% p.a. from 1960-73).” But Ireland was not out of the woods yet. Throughout most of the 1970s and 1980s, the

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41 Cassidy (2002), p.14
42 Joe Durkan, "Foreign Direct Investment – the case of the electronics and pharmaceuticals industries", p. 36, in Munley et al (2002)
economy continued to be dogged by high inflation and unemployment rates, volatile growth rates and fiscal crises. Strong economic growth only appeared in the 1990s, when government initiatives and external events combined fortuitously to bear fruit, as the next two sections explain.

3.3 GOVERNMENT INITIATIVES

Industrial Policy

Once Ireland decided to rely on export-driven economic growth, it set about attracting foreign investments in earnest, particularly in manufacturing, in a bid to ramp up the competitiveness of its economy. The Industrial Development Authority (IDA) was the main agency responsible for attracting FDI. It was given extensive resources and autonomy for this task. By the late 1960s, the IDA became the center of economic policy making and the strongest advocate for FDI-friendly policies.

IDA’s strategy was to identify growing industrial sectors appropriate to Ireland, and to find the best companies in those sectors and to persuade them to invest in Ireland. Ireland’s selling proposition to foreign investors was that its labor force was educated, English-speaking and relatively cheap, while the government maintained a stable political environment, a sound legal system and zero or very low corporate taxes for business.
By the 1990s, IDA had successfully attracted some of the world’s leading companies in healthcare and pharmaceuticals, electronics and software to Ireland. The healthcare and pharmaceuticals sector attracted 150 foreign companies, employed 25,000 people in Ireland and constituted 20% of the country’s exports. The electronics sector became the single largest foreign industrial sector in Ireland and was “at the heart of the rapid transformation of the country’s economic and jobs prospects”\(^{43}\).

FDI inflows picked up strongly in the 1990s (Table 3-1):

<table>
<thead>
<tr>
<th>Year(s)</th>
<th>FDI Inflows (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987-1992</td>
<td>615</td>
</tr>
<tr>
<td>1994</td>
<td>838</td>
</tr>
<tr>
<td>1996</td>
<td>2,618</td>
</tr>
<tr>
<td>1998</td>
<td>6,820</td>
</tr>
</tbody>
</table>

Source: Kirby (2002), p.35

US investment made up the bulk of this, constituting more than 80% of the overall flows into Ireland in the later part of the 1990s, as US companies increasingly used Ireland as a gateway to the European market.

Access to the UK and European markets was a major factor in the success of Ireland’s FDI strategy. The conclusion of the Anglo-Irish Free Trade Agreement in 1965 paved the way for Ireland’s entry into the European Economic Community (EEC) in 1973. Another factor was the fact that while the industrial world was approaching full employment in the

\(^{43}\) Kirby (2002), p.35
1970s, Ireland still had a large pool of unemployed but well-educated and English-speaking labor. But probably the most important carrot that Ireland dangled to foreign investors has been its competitive tax regime.

**Fiscal Policy**

Padriac White, the managing director of the IDA from 1981-90, described Ireland’s competitive tax regime as “the unique and essential foundation of Ireland’s foreign investment boom”\(^{44}\). The policy to use taxation as a competitive tool to attract investments began with the Export Sales Relief where firms paid no corporate tax on profits from exports. Under EU pressure, this was changed in the 1970s to a 10% tax rate on manufacturing profits guaranteed for up to 20 years. As the EU’s and OECD’s drive against “Harmful Tax Competition”\(^{45}\) gathered steam in the 1990s, Ireland phased out such specific incentives and transformed their tax regime into a uniformly low 12.5% corporate tax for the active income\(^{46}\) of all businesses by 2003\(^{47}\).

Fiscal incentives for businesses were matched by fiscal prudence. From the mid-1980s onwards, the Irish government reversed a pattern of lax domestic fiscal policy by cutting back on public expenditures

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\(^{44}\) Kirby (2002), p. 34

\(^{45}\) After criticism from economists for being oxymoronic (how can competition be harmful?), the initiative was eventually renamed “harmful tax practices”.

\(^{46}\) Active income refers to business income, as opposed to passive income, e.g. income from interest and dividends, for which the rate is 25%.

\(^{47}\) For more details on Ireland’s tax regime, see, for example, *Tax Facts Ireland* (KPMG, 2003).
dramatically. The national debt was decreased from more than 120% of GDP in the 1980s to less than 40% by 2001\textsuperscript{48}. This put Ireland on a path towards fiscal stabilization, thereby increasing its attractiveness as an investment location.

**Education Policy**

We saw in Chapter One that the level of skills and education of the population is an important determinant of the productive efficiency of an economy. Ireland benefited from this by introducing universal access to secondary education in the 1967. This improved educational participation rates such that Ireland compared very favorably with other OECD countries\textsuperscript{49}. In the 1960s and 1970s, the National Institutes of Higher Education and the Regional Technical Colleges were established to provide a broad range of tertiary-level courses in the sciences, engineering and business studies. A means tested grant system made tertiary level education available to students from all backgrounds.

Ireland successfully tapped on the virtuous cycle between FDI and human capital. A skilled workforce attracts knowledge intensive multinationals, which in turn provide spillover effects through employee training and technological and managerial advances. By some estimates,

\textsuperscript{48} Cassidy (2002), p52
\textsuperscript{49} Cassidy (2002), p.22
around 19% of Irish economic growth between 1960 and 1992 was attributable to improvements in labor quality\textsuperscript{50}.

**Policy on the EU**

Some economists argue that “the salient explanation for Ireland’s prosperity is without question its entrance in 1973 to the EU”\textsuperscript{51}. This allowed Ireland to benefit from significant EU financial assistance and to become an attractive gateway to Europe for American firms.

Joining the EEC in 1973 (later, the EU) vastly improved the export opportunities for firms based in Ireland. The benefits were not confined to manufacturing – even agriculture could benefit from new markets, direct transfers and higher prices arising from the European common agricultural policy. The Single European Act of 1987 removed technical and other barriers to the free movement of goods and services, labor and capital between member countries, while the introduction of the euro in 2002 cemented Ireland’s economic linkages with the vast and growing European economy.

These developments made Ireland very attractive to US firms looking for a foothold into the European market. Ireland capitalized on this

\textsuperscript{51} Munley, Thornton & Aronson (2002), p.1
by marketing aggressively to US companies, and leveraging on its strong links with the Irish-American community.

As a relatively poor member of the EU, Ireland was also able to benefit from the inflow of EU structural funds to build up its physical infrastructure, human capital and business sectors. In recent years, the aggregate level of funding has totaled tens of billions of US dollars\textsuperscript{52}. EU assistance to Ireland has been scaled back for the period 2000-2006 in view of Ireland’s increase in GDP. But the long run effects of these funds have been estimated to add a further one or two percentage points to GDP in the future\textsuperscript{53}.

EU membership does not automatically guarantee success in economic development. For example, Greece and Portugal also had access to EU structural funds but in contrast, they have not used it as productively as Ireland. Neither do they have the English-speaking population and the close cultural links with segments of American industry that Ireland does. Greece’s per capita income was 64% of the EU average when it joined in 1981, and by 2002 the figure was still only about 70%\textsuperscript{54}.

\textsuperscript{52} Munley, Thornton & Aronson (2002), p.2
\textsuperscript{53} Cassidy (2002), p.21
\textsuperscript{54} "Dancing an Irish jig" (The Economist, April 17\textsuperscript{th} 2004)
Social Partnership

The Irish model of “social partnership” is widely cited as one of the most innovative aspects of Ireland’s economic success. Walsh, Craig and McCafferty define social partnership in Ireland “as the search for consensus on economic and social objectives between sectoral interests – trade unions, business, farming organizations – and government…Social partnership has strong cross-party political support…(and) has in effect been elevated to a shared political ideology, which infuses all aspects of public policy-making and with minimal dissent”\textsuperscript{55}. In a 1996 OECD report, Ireland’s efforts “to foster development and welfare through new forms of public and private local co-ordination”\textsuperscript{56} is held up as an example for other OECD countries to follow.

Social partnership in Ireland finds visible expression in a series of three-year national agreements, such as the 1988-90 Program for National Recovery and the 2000-03 Program for Prosperity and Fairness. Besides including wage negotiations, these agreements are more broadly about consensus on economic and social policies. They are drawn up by the National Economic and Social Council, which itself is representative of the social partners.

Social partnership initiatives have co-opted unions into the cause of economic growth. A significant result has been a decrease in strike days and agreement on wage moderation in exchange for personal income tax cuts. Between 1980 and 1987, there was an average of 316,000 strike days per annum. For the 1988-96 period, this came down to 110,000 strike days per annum.

Some observers are less impressed with social partnership. For example, O'Hearn argues that divisions have merely been papered over, and that the main purpose of social partnership has been “to restrain demands for wage increases and social spending by incorporating trade unions and social organizations into the negotiation processes of the social partnership agreements”\(^57\).

Such cynicism is probably overdone and unfair. We saw in Chapter One that social organization is a key ingredient for economic growth. The Irish government’s effort to foster social partnership with a wide range of constituents will provide a good foundation for Ireland’s continued ability to run the economic race.

### 3.4 ROLE OF EXTERNAL FACTORS

We have seen that the policies of economic liberalization have been pursued in Ireland since the 1960s and 1970s. However, strong economic

\(^{57}\) O’Hearn (2002), p.208
growth only appeared in the 1990s. This should alert us to the fact that Ireland owes its economic success as much to external factors as to domestic ones. Small economies rely on external factors much like sailboats rely on gusts of wind to make progress.

We have already seen how integration with the European economy added to Ireland's attraction for US investments. Ireland's industrial, fiscal and education policies ensured that when the US economy underwent a big boom period in the 1990s, the Irish economy was well-positioned to take advantage of it. The decline of the euro relative to the US dollar and the British pound in 1999-2001 further helped make Irish exports more competitively priced.

Demographics also played a part. The baby boom of the 1970s and high emigration in 1950s meant that in the 1980s, there was a high dependency ratio (a lot of dependent youths). By the 1990s, with a decrease in the fertility rate, the dependency ratio decreased as more young people joined the workforce, resulting in more favorable GDP per capita figures.

Hence while state action created some important necessary conditions, it seems unlikely that these on their own would have proved sufficient to create the boom in the 1990s. The OECD is clear that the Celtic Tiger's success is not easily replicable:
“Unfortunately, it would seem that there has been no ‘silver bullet’ – no single, overriding policy that could be adopted elsewhere in order to emulate Irish experience. Rather… (economic performance was) attributable to the confluence of a series of favorable changes in the environment and other exogenous factors (some of which were specific to Ireland and are unlikely to be replicated elsewhere), as well as prudent planning and a range of policy shifts that lay the foundation for the pick-up in growth. Most of the items that have contributed to the improvement are well known to other policy makers, but other countries’ situations may not be so propitious as to allow such a strong response, even to fully appropriate incentives and institutional arrangements.”

3.5 WEAKNESSES & CHALLENGES

In this final section in our examination of Irish economic success, we look for weaknesses in the Irish model and identify the main challenges for Ireland going forward.

Reliance on FDI

Ireland’s principal source of growth is also its principal source of vulnerability. In 1998 and 1999, value-added activities from multinationals

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accounted for as much as 85% of growth\textsuperscript{59}. As a result, there is a fierce debate about the sustainability of this economic strategy. Foreign disinvestments would create a deep period of recession and decline, but some have argued hopefully that Ireland had attracted a critical mass of foreign firms that would now be self-sustaining as more and more MNCs located where their predecessors had already found conditions to be favorable.

Ireland is particularly exposed to the US economy. Ireland is more integrated with the EU in macroeconomic terms but the microeconomic structure of its economy is more like a region of the US. According to the US Department of Commerce, Ireland attracted some 40% of US electronics investments into the EU in the late 1990s\textsuperscript{60}. Whole US-origin IT sectors based their European operations in Ireland. In the short term, this makes Ireland very vulnerable to any downturn in the US economy. But in the longer term, as other European economies develop that aspire to serve the same functions, there is the more serious question of whether Ireland is simply a transient production base for US firms.

\textsuperscript{59} O'Hearn (2001), p.193
\textsuperscript{60} O'Hearn (2001), p.202
Duality of Industrialization

The emphasis on winning FDI has marginalized indigenous industry within overall industrialization policy. Growth has been heavily dependent on the foreign-owned sector of the economy and insufficient attention has been paid to develop local firms. According to Durkan, the “real failure of industrial policy in Ireland was the failure of indigenous firms to develop”\textsuperscript{61}.

There seems to be a clear difference in productivity between indigenous and foreign owned manufacturing companies. In 1998, the average net output of domestically-owned manufacturing firms was £41,600 per employee, compared with £250,000 for foreign-owned ones\textsuperscript{62}. We should note however that measured productivity may be artificially high in foreign-owned entities because it includes returns to invisible factors of production carried out in the home country, e.g. R&D and marketing activities.

The important question is whether domestic firms benefit from the increased competitive environment with the injection of foreign firms. In this regard, some have argued that there is a lack of backward and forward linkages from MNCs to local firms. Foreign plants were essentially production units integrated in the production processes of their parent companies. The tax regime encourages firms to locate the maximum

\textsuperscript{62} Cassidy (2002), p.18
amount of profits in Ireland, and transfer pricing thus perversely limits the extent to which foreign plants will engage in local transactions. Often, foreign companies required no local inputs beyond labor. These poor backward and forward linkages between foreign and domestic firms has been contrasted with the experience in the Newly Industrializing Countries (NICs) of East Asia, where government pursued a more active role in establishing these links, with the expectation that local firms will develop more rapidly and become sources of growth in their own right. In Ireland, the domestic companies that were catering to the foreign firms had a poor record of breaking through into innovative export activities.

Furthermore, Fanning and Murphy point out that “a government policy focused on job creation – most effectively through FDI – is not one that will obviously nurture the domestic entrepreneurial process”\(^6\(^3\). The IDA’s effort to attract FDI creates jobs by bringing stages of the production process to Ireland, but it does not tackle the problem that the entrepreneurial work is being done elsewhere. Attempting to capture higher value-added jobs as the economy develops does not represent any significant change in policy thinking in this regard. In addition, the education policies that support FDI attraction could also be different (if not

be working against) the type of education policies that need to be in place to nurture entrepreneurship.

Pursuing Innovation

To develop an indigenous sector that can produce companies capable of competing in the globalized knowledge based economy, Ireland would need to have the innovation capacity to produce new goods and services that are export-competitive. Minimally, it would need to create a conducive environment to innovation that would sustain the case for continued high quality foreign investments. One common indicator is the amount of resources devoted to R&D. On this measure, Ireland has continued to lag behind the EU and OECD averages, as Table 3-2 shows:

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1997</th>
<th>1999</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>0.79</td>
<td>0.91</td>
<td>0.88</td>
<td>0.80</td>
</tr>
<tr>
<td>EU average</td>
<td>1.18</td>
<td>1.13</td>
<td>1.19</td>
<td>1.21</td>
</tr>
<tr>
<td>OECD average</td>
<td>1.44</td>
<td>1.48</td>
<td>1.52</td>
<td>1.56</td>
</tr>
</tbody>
</table>

Source: 2003 Forfás Report on BERD

In chapter two, we discussed how in the world of R&D, size and budgets matter. Fanning and Murphy argue that a country the size of Ireland cannot afford to fund “research” as an end in itself, i.e. as a base for directly generating “development” activities. Like Taiwan’s Hsinchu
Valley partnering with Silicon Valley, Ireland should invest in development with research drawn from the cutting edge work done in other parts of the world. This would require a shift in policy from channeling the bulk of state funds for R&D expenditure to universities, where the emphasis has been placed on “R” rather than “D”.

More generally, the challenge is for Ireland to create a “national system of innovation” that can leverage on knowledge created within Ireland as well as within other global nodes of knowledge production that it plugs itself into.

3.6 CONCLUSION

Ireland is without a doubt one of the winners in globalization. After years of attempting to grow on its own steam, it wisely decided to unfurl its sails and it was fortunate to catch the billowing winds of globalization. Those winds propelled its phenomenal growth in the 1990s. Being a small economy carries inherent vulnerabilities, but in Ireland, we see a demonstration of how a small player took advantage of global currents to pull itself forward.
CHAPTER FOUR
THE FINNISH ECONOMIC MODEL

4.1 INTRODUCTION

Throughout most of Finland’s history, it was a poor country dominated by its larger and more powerful neighbors, Sweden and Russia. In the 1950s and 1960s, there was considerable migration of Finns to Sweden (approaching the level of 10% of Finns\textsuperscript{64}), a reflection of the contrasting economic situation in Finland and Sweden at that time.

But by the close of the 20\textsuperscript{th} century, Finland had earned an impressive list of citations: the World Economic Forum ranked Finland as the world’s most competitive country and the most ecologically advanced country in terms of sustainable development, while the IMD International Institute for Management Development rated Finland as the world’s most progressive country in terms of technology. Finland has also become more well-known as the birthplace of Nokia as this brand-name gained global prominence. To add to the mystique behind its economic success, Finland has traditionally adhered to the model of the Nordic welfare state, where high taxes finance extensive welfare services such as healthcare, childcare, social security and free education to university level.

\textsuperscript{64} Source: Wikipedia (en.wikipedia.org)
This chapter will examine the strategies that Finland, with its small population of 5.2 million, pursued to achieve prominence and prosperity.

4.2 ECONOMIC HISTORY

The Finnish economy joined the industrialization phase in the mid-19\textsuperscript{th} century, when Finland was an independent grand duchy of Imperial Russia. This was much later than the leading nations of the Industrial Revolution, but very early, if all the countries of the world are considered.

Historically, Finland’s natural resource endowment of large forests and woodland (covering 76\% of the total land area) has meant that the forestry industry formed the backbone of the economy. Industrialization strengthened their competitive edge in production, with exports of the logging industry expanding three-fold in the 1860s\textsuperscript{65}.

When Finland gained independence in 1917, the logging and paper industries remained the engines of growth. Another important cluster was shipbuilding, focused on specialized ships such as ferries and icebreakers. As late as the 1950s, nearly half of the population was engaged in primary production, and only a quarter each in manufacturing and services.

Finland’s trade was dominated by the Soviet Union. Having been aligned with Germany during World War II, Finland had to make

\textsuperscript{65} Hannu Hernesniemi, Markku Lamm & Pekka Ylä-Antilla, \textit{Advantage Finland – The Future of Finnish Industries} (The Research Institute of the Finnish Economy, 1995) p.18
substantial war reparations in the form of steel, ships, textiles and
machinery to the Soviet Union. This created important business linkages
as Finland developed into a satellite economy for the Soviet one.

Finland faced its most dire economic crisis in the early 1990s. The
collapse of the Soviet Union caused a huge dip in trade as the most
important market for Finnish exports dried up. This gap needed to be
compensated in other markets at a time when the global economy as a
whole had excess demand. Real GDP fell by 6.2% in 1991 and by another
3.3% in 1992\textsuperscript{66}. It was "the deepest recession experienced by any OECD
member in the post-war period"\textsuperscript{67}. The situation was exacerbated by
German reunification, which led to an increase in real interest rates
throughout Europe, and the deteriorating terms of trade Finland faced as
world pulp and paper prices fell.

The recession in the early 1990s forced Finland to re-appraise their
economic policy substantially. Public expenditures were cut by nearly 10% of GDP and the earlier creeping increase in tax burden was halted as
corporate and capital taxation were reformed. Economic policy leaned
towards greater competition and liberalization.

In 1993-94, economic activity rebounded strongly, driven by a sharp
depreciation of the real exchange rate, which boosted export-oriented

\textsuperscript{66} Figures from Michael Porter & Örjan Sölvell, \textit{HBS case: Finland and Nokia}, (Harvard Business
School, 2002) p.6

\textsuperscript{67} OECD \textit{Territorial Reviews: Helsinki, Finland} (OECD, 2003), p.27
sectors such as electronics and forestry. As household and corporate finances improved, industries catering to the domestic market also began to recover. In the second half of the 1990s, Finland's average annual GDP growth rose to about 5%. Unemployment rates came down but stayed above the 10%-level throughout the 1990s\textsuperscript{68}.

**Stages of Industrial Evolution**

Michael Porter\textsuperscript{69} describes four main stages that a developing country's industry passes through. The first three stages: (1) factor, (2) investment and (3) innovation-driven, are successive improvements in national prosperity whereas in the fourth stage, (4) wealth-driven industrialization, national competitiveness will decline:

![Figure 4-1: Four stages of national competitive development](image)


\textsuperscript{68} Porter & Sölvell (2002) p.9

\textsuperscript{69} Michael Porter, *The Competitive Advantage of Nations, 2\textsuperscript{nd} edition*, (Macmillan Press, 1998)
The factor-driven stage describes the initial phase of Finnish industrialization from the mid 19th century to the early 20th century. Competitive advantages were based on resource endowments. Domestic production of investment goods was almost non-existent. Technology was imported from Germany and Sweden and industrial R&D was limited.

Finland transited towards to the investment-driven stage after World War II. The postwar years were characterized by a high investment ratio as domestic firms invested aggressively, trying to acquire the best technology on the global market and aiming to compete on the basis of economies of scale. “Since production is bought rather than invented, domestic producers are nevertheless in the second tier as far as technological advances are concerned. The majority of successful companies make fairly standardized products.”

As the ICT sector took off in the 1990s, Finland began to exhibit features of the innovation-driven stage. Firms do not only adapt innovations made elsewhere, but also innovate themselves, devoting more resources to R&D. Competitive advantage is based on specialized and advanced factors such as highly skilled labor and firm-specific knowledge. Firms compete in global markets with differentiated products.

Will Finland slide into the wealth-driven stage of decline, where people grow comfortable with wealth and the eagerness for change

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subsides? To help us address this question, we will next examine the factors behind Finland’s successful development before looking at the challenges Finland faces in the future.

4.3 IMPACT OF GOVERNMENT POLICY

Industrial Policy

The economic crisis of the early 1990s prompted a rejection of the traditional public sector driven industrial policy of targeting and subsidies, in favor of a more market driven national industrial policy centered on cluster promotion.

In 1993, laws restricting foreign ownership of businesses were eased, paving the way for more capital flows into Finland. This was important given the relatively low level of domestic capital available for investments. By 2000, foreign holdings accounted for 74% of total market capitalization of shares on the Helsinki Stock Exchange (a large portion is due to foreign ownership of Nokia).

The strong presence of government ownership in Finnish industry allowed the government to nudge businesses towards creative strategies. For example, the recognition of Finland’s small size and the limited resources of its companies led the government to encourage businesses to develop networks of cooperation within the core clusters of forestry, heavy machinery and electronics. The electronics and electrical industries
in particular took advantage of this to create strategic partnerships that neither involves ownership, nor do they belong to the category of traditional subcontracting.

Fiscal Policy – Finnish Welfare State

Finland traditionally shares the Nordic inclination for a large public sector and strong welfare instincts. There was an implicit social contract that tolerated high tax rates in return for legal rights to a comprehensive set of social services. The Finns had one of the most egalitarian economies in the world, and they were prepared to achieve this in return for slower growth.

However the severe economic crisis of the early 1990s forced a critical reassessment of the social equation. The Welfare State was slightly rolled back, but not completely. Finland retained its commitment to egalitarianism; the overall size of the government remained large, with state revenues at 55.1% of GDP in 2000. Remarkably, by the end of the 1990s, Finland managed to emerge as one of the most competitive national economies in the world.

While this aspect of the Finnish model appears to have worked well, there remain doubts about whether Finland has gotten the better of the trade-off between efficiency and equity. The high tax burden poses a strong disincentive to work and makes it difficult to attract foreign workers.
Finnish unemployment remained above 10% in the 1990s, and as at Jan 2004, remained high at 8.9% (although this is comparable to the Euro area average of 8.8%).

**Regulatory Policy**

The government's dismantling of monopolies was considered a bold decision, particularly its deregulation of the information and communications technologies (ICT) sector in the early 1980s, earlier than most other countries. The Finnish regulatory approach in telecommunications policy builds on a pro-competition policy, light-handed regulation and technology-neutral competition. The market is subject to general competition and consumer protection legislation and the authorities confine intrusion mainly in cases of inadequate competition. “This approach has been considered less interventionist than those of many other OECD countries.”\(^{71}\) This was the environment which encouraged Nokia to develop and grow into a major global player.

**Finland's National Innovation Policy**

In the 1980s, the Finns “came to realize the strategic importance of competence and knowledge as a requirement for a small country's

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\(^{71}\) OECD (2003), p.173
economy and welfare\textsuperscript{72}. The competitiveness of Finnish export products was deemed to be not good enough and this led to the development of the Finnish innovation system, which built on a shared understanding between industry and government. Businesses and government increased their research inputs rapidly. Major players banded together to optimize R&D efforts and share expenses.

Government facilitated this cooperative effort by establishing the National Technology Agency (Tekes) in 1983. In 1987, the Science and Technology Policy Council was founded and to underscore its importance, it was headed by the Prime Minister and included the ministers of finance, trade & industry, education as well as representatives from the main research organizations. In 1990, the Council introduced two reform initiatives to strengthen Finland’s national innovative capacity:

The Center for Expertise Program focused on “strengthening regional competitiveness by increasing innovation...and creating new jobs in selected expertise areas”\textsuperscript{73}. The Cluster Program focused on developing the innovative capacity of industrial clusters by supporting cluster-specific R&D efforts. At the same time, the government set up 15 incubators close to regional clusters to make venture capital available for start-up companies.

\textsuperscript{73} Quoted in Porter and Sölvell (2002), p.7
Even as government expenditure was severely curtailed in the crisis of the early 1990s, the government decided to make additional resources available for R&D (see Table 4-1).

Table 4-1: Finnish Research & Development Expenditure, 1989-99 (€millions)

<table>
<thead>
<tr>
<th></th>
<th>1989</th>
<th>1991</th>
<th>1993</th>
<th>1995</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprises</td>
<td>924.8</td>
<td>975.1</td>
<td>1,048.5</td>
<td>1,373.4</td>
<td>1,916.7</td>
<td>2,528.8</td>
<td>2,643.9</td>
</tr>
<tr>
<td>Public sector a</td>
<td>286.1</td>
<td>357.5</td>
<td>379.7</td>
<td>374.4</td>
<td>408.6</td>
<td>443.8</td>
<td>470.1</td>
</tr>
<tr>
<td>University sector b</td>
<td>290.2</td>
<td>378.0</td>
<td>367.5</td>
<td>424.6</td>
<td>579.5</td>
<td>657.9</td>
<td>764.8</td>
</tr>
<tr>
<td>Total</td>
<td>1,501.2</td>
<td>1,710.6</td>
<td>1,795.8</td>
<td>2,172.4</td>
<td>2,904.9</td>
<td>3,354.5</td>
<td>3,878.8</td>
</tr>
<tr>
<td>As % of GDP</td>
<td>1.8</td>
<td>2.0</td>
<td>2.2</td>
<td>2.3</td>
<td>2.7</td>
<td>2.9</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Source: Statistics Finland, Science and Technology statistics (www.stat.fi)

- Including private nonprofit sector
- Including central university hospitals since 1997 and polytechnics since 1999

By 1999, high technology products (such as telecoms equipment, computers, space equipment and chemicals) accounted for 19% of total Finnish exports, compared to only 4% in 1988. Finland's expenditure on R&D as a percentage of GDP was larger than Germany, Japan and the US, although in absolute numbers, this was still very small in relation to the large economies.

The share of public funding was stipulated at 40% but intense growth in private R&D investments decreased the public sector's share to 30% in 1999. The target for 2001-2004 is to increase R&D funding in line with the GDP growth rate.

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Education Policy

Finland had developed a well-functioning education system with good quality teaching. Public spending on education relative to GDP was typically above the level in many other European countries. Nearly 60% of the population had completed a secondary education or beyond, and Finnish students generally performed well in international school performance tests\(^75\). Finland was also home to 20 universities and other institutions of higher education.

As the demand for skilled workers increased with the increasing focus on R&D and technology-intensive activities, the government expanded the capacity of higher education. Between 1993 and 1998, the total intake of students in universities nearly doubled, and in polytechnics it nearly tripled\(^76\). However, this has not eased the chronic lack of skilled labor, particularly in the ICT sector.

International Orientation of the Economy

By being more aligned with the Soviet economy during the Cold War, Finland failed to develop economic ties with other partners. Finland also missed out on years of Marshall Plan technology transfer programs.

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\(^{75}\) Porter & Sölvell (2002), p.3
\(^{76}\) Figures from OECD (2003), p.178
With the demise of its largest trading partner, the Soviet Union, in 1991, Finland redirected attention from east to west and worked towards closer integration with Europe. In 1993, Finland joined the European Economic Area, thereby eliminating many trade and investment barriers to other Nordic and European countries. Over time, Germany, Sweden and the UK took over from the former Soviet Union as Finland's most important export markets. Meanwhile, Finland also began to participate in European R&D projects and initiatives.

With full EU membership in 1995, Finland became even more closely integrated with the European Common Market. Many laws and regulations were harmonized with the other EU economies. The Finnish economy began to attract large amounts of FDI. The stock of inward FDI in Finland grew from 1.3% of GDP in 1985 to 18.3% in 1998\textsuperscript{77}. Large mergers between Swedish and Finnish firms in banking (Nordea), engineering (ABB) and electronics (Nokia) created larger and more focused Finnish firms with global reach.

As the policies on technology, education, competition and European integration moved to the center of Finnish economic policy, the conditions grew ripe for a Finnish ICT firm to take the world by storm. Indeed, the worldwide success of Nokia contributed so significantly to the transformation of the Finnish economy that it warrants a section all to itself.

\textsuperscript{77} Figures from Porter & Sölvell (2002), p.8
4.4 THE NOKIA CONNECTION

Finland's economic performance in the 1990s was greatly dependent on its ICT sector, which is in turn dominated by Nokia, the world's leading mobile telephone handset producer. The growth of Nokia contributed close to 1 percentage point of the almost 5% average annual growth rate the Finnish economy enjoyed between 1995 and 2000\textsuperscript{78}. To understand the Nokia connection in the Finnish economic renaissance, we need to examine the factors that led to the development of a competitive ICT cluster within Finland.

Porter's diamond framework of competitive advantage is a common explanatory model employed to analyze the emergence of Finland's competitive ICT cluster\textsuperscript{79}. The four broad attributes of (1) factor conditions, (2) demand conditions, (3) related & supporting industries, and (4) firm strategy, structure and rivalry, are combined with the roles of chance and government to develop the explanation. A quick summary of the explanatory model is provided here:

Nordic topography favors the use of wireless forms of communications to connect a dispersed population in remote settings and the Nordic peoples have been sophisticated early adopters of ICT. Since

\textsuperscript{78} Figures from Porter & Sölvell (2002) p.9
\textsuperscript{79} See for example, Steinbock (2001), p.111
1996, Finland has been the world leader in mobile telephone penetration rates and in 1998, the number of mobile subscribers in Finland outnumbered wired subscribers\(^\text{80}\).

As early as 1969, the Nordic Telecom Conference was established to support formal and informal technical cooperation between the public telecommunications operators of Finland, Denmark, Norway and Sweden. A significant result of this cooperation was the Nordic Mobile Telephone system, which was launched in 1981. This became the world’s first multinational cellular network and was successfully introduced in other countries. The 1982 Nordic Conference played an active role in initiating the development of an open pan-European standard for digital mobile telephony, leading to the launch of the Global System for Mobile Communications (GSM) in 1990. In 1992, Finnish mobile communications operators, supported by the Finnish national innovation system, became the first in the world to offer commercial GSM service.

A deregulated telecommunications sector encouraged intense rivalry in Finland and the competitive environment was further supported by the rapid rise of local telecommunications companies and internet service providers. Domestic competition spurred rapid, innovative and continual new product development.

\(^{80}\) OECD (2003), p.182
Nokia became the most competitive mobile telephone handset producer in this environment by pursuing bold strategies that paid off handsomely. In 1990, Nokia was mainly in consumer electronics but it decided to focus on mobile telephones as it perceived that demand was poised to explode and there was a lack of strong international competition. It adopted an early global strategy, and aggressively outsourced components while concentrating on R&D. It appealed to the mass market with its products and defined the mobile phone as a fashion item and consumer good, instead of a technology product.

This strategy propelled Nokia to become the world leader in digital phones with a market share of 31% in 2000\(^{81}\). They had the widest line of phones, covering every segment of the market, and had the broadest geographical coverage. By 2000, half of Nokia's 55,000 employees were Finnish, but only 2.4% of its revenues came from Finland\(^{82}\).

Nokia's rise to prominence was inadvertently helped by mistakes made by rival Ericsson from Sweden, which had also benefited from Nordic cooperation in telecommunications. Sweden's antiquated system of corporate governance, shielded Ericsson from the full pressure of its shareholders, allowing just two main owners, the Wallenberg family and a group of holding companies and funds connected to Handelsbanken, a

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\(^{81}\) Porter & Sölvell (2002) p.18
\(^{82}\) Steinbock (2001), p.xxiii
Stockholm bank, to maintain an iron grip with a minimal amount of capital. The result was that Ericsson failed to respond quickly in a global market that demanded quick changes of tack, allowing Nokia to establish a strong leadership position.

Throughout the 1990s, the growth of Finnish R&D was, for all practical purposes, driven by the expansion of Nokia. In 1998, Nokia's R&D expenditure accounted for about 35% of Finland's entire R&D spending\textsuperscript{83}, although Nokia's R&D spending included investments in foreign institutions and companies. As Nokia grew globally, it was forced to rely more on external rather than internal R&D. As a result, Nokia's very success was bound to heighten tension at its Finnish home base.

Dan Steinbock concludes his chronicle of the Nokia revolution with this assessment:

"Unlike most industry leaders, it thought big and was willing to take bold risks. That was its only viable option: a big company in a small country could not conduct itself otherwise among big companies in big countries. A preemperor has to pay to play. No risks, no rewards. That has always been Nokia's greatest strength, just as it will remain its greatest potential source of its vulnerability."\textsuperscript{84}

\textsuperscript{83} Figures from Steinbock (2001), p.198
\textsuperscript{84} Steinbock (2001), p.306
If Finland’s economic destiny remains tied to the Nokia connection, this prognostic will apply equally to the country.

4.5 WEAKNESSES & CHALLENGES

Reliance on Nokia and ICT Sector

The Nokia connection in the Finnish economic model carries an inherent vulnerability since the economy is so dependent on one segment, indeed on one firm for its success. We can contrast this position with the alternative path that Israel took to develop its ICT sector.

Finnish ICT firms are narrowly focused on the telecommunications segment, from suppliers to marketing, through dominating R&D and manufacturing. By the end of the 1990s, Finnish firms sought to move to the software portion of the sector, as handsets were beginning to become commoditized. Israeli firms on the other hand are concentrated on the R&D stage of the global electronics value chain (see Figure 4-2). The basis of competition for Israeli ICT firms is therefore much more about knowledge than low cost strategies or high production volumes. The positioning of the Israeli ICT sector is most interesting for a small economy. Because of the diversity of markets served by Israeli ICT firms, this model may be more robust in the face of deteriorating market conditions and less vulnerable to cyclical variations.
Figure 4-2: Positioning – ICT clusters in Finland and Israel

Adapted from: OECD Territorial Reviews: Helsinki, Finland (2003), p.166

Finland's dependence on one cluster within the ICT sector may constitute a strategic inflexibility. When the telecommunications cluster experienced a severe global downturn in 2000 followed by the disappointment of the transition to 3rd generation (3G) standards, Finland's growth rates took a strong hit as well.

But a small country like Finland has to take some risks. The challenge is how to make the most of its capabilities in the ICT sector. As the OECD put it, "the key issue in Finland's case is not simply the dependency of the Finnish economy on the growth of Nokia, but how to cultivate Nokia's clusterization vis-à-vis new, related and non-related vital
clusters and thereby nurture increasing diversification in the Finnish economy\(^{85}\).

**Pursuing Entrepreneurship**

While the Nokia’s success and the government’s efforts to support venture capital have expanded entrepreneurship in Finland, there are still important elements working against entrepreneurship in Finland. These include the Nordic tradition of the welfare state, collective and egalitarian values, a highly homogenous population, technical and engineering over managerial and marketing capabilities, and a preference for consensus management instead of bold and divergent leadership. If Finland can encourage the sustained creation of an entrepreneurial class, its economic prospects will be promising.

Financial services and media companies in Finland were quick to exploit their learning curves in Internet technology. For example, in 1999, the Finnish banking industry was the world leader in Internet banking. However, in contrast with the US, the dominant online banks in Finland are subsidiaries of incumbent leaders, highlighting possible deficiencies in entrepreneurship and effective competition.

Israeli start-ups are supported by its military sector while Irish start-ups feed off FDI inflows. Finland has neither in sufficient scale, but it does

\(^{85}\) OECD (2003), p.167
have a well-developed and commercially focused higher education system, as well as institutional and financial commitment to support commercially oriented research. Even then, to aim for sustained leadership in technology entrepreneurship may not be realistic. Like Ireland, Finland may need to focus on “development” rather than “research”, and like Taiwan’s Hsinchu Valley, develop strategic linkages with other global centers of technology entrepreneurship.

**Labor Market Mismatch**

The Finnish model of an open, welfare Information Society contrasts with the Silicon Valley model of an open, market-driven Information Society. Both are among the most dynamic economies in the world, based on measures of competitiveness and innovation. Finland’s commitment to egalitarianism results in much lower levels of income inequality and poverty relative to the US, but in return Finland faces an unemployment rate of 8.9% compared to the US rate of 5.6% in Jan 2004.

In spite of its high unemployment rate, Finland still faces shortages in skilled engineers and scientists. As this demand is expected to increase, some universities have started offering programs to attract foreign students to Finland, in the hope that they will stay on to supplement the labor force. This mismatch in the labor market points to a worrying problem of high
structural unemployment among younger and less skilled workers, which is exacerbated by the disincentives to work posed by the welfare state.

4.6  CONCLUSION

In Finland, we have the prime example of a small and isolated country that beat a path to economic success by putting its faith in pro-innovation and pro-competition policies. Out of the crucible of domestic and regional competition emerged a world-class firm that almost single-handedly lifted the country out of relative obscurity and transformed the economy into one that successfully taps on global markets for its economic prosperity and economic future.
CHAPTER FIVE
THE SINGAPORE STORY

5.1 INTRODUCTION

The Singapore growth story is well-known in the development literature. Singapore turned in a consistently high rate of economic growth over four decades from 1960 to 2000. By the year 2000, Singapore’s real GDP had grown to 24 times its 1960 level and 10 times its 1970 level (see Table 5-1).

<table>
<thead>
<tr>
<th></th>
<th>Index of real GDP</th>
<th>Average annual growth rate of real GDP for the decade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>241</td>
<td>8.7% (1960-69 average)</td>
</tr>
<tr>
<td>1980</td>
<td>570</td>
<td>9.4% (1970-79 average)</td>
</tr>
<tr>
<td>1990</td>
<td>1152</td>
<td>7.4% (1980-89 average)</td>
</tr>
<tr>
<td>2000</td>
<td>2424</td>
<td>7.6% (1990-99 average)</td>
</tr>
</tbody>
</table>

Source: Adapted from Gavin Peebles & Peter Wilson, Economic Growth and Development in Singapore, p.52

Such stellar growth rates enabled Singapore’s GDP per capita to increase from about US$500 in 1965 to about US$24,000 today, placing it among the ranks of OECD economies like Germany and France.

In addition, Singapore has consistently ranked high amongst the world’s most competitive nations. Singapore is ranked the second most competitive small economy (after Finland) by the IMD International Institute for Management Development’s World Competitiveness Yearbook 2003

This chapter will examine how Singapore, with its small population of 4.2 million (including 700,000 non-residents\textsuperscript{86}), transformed itself from a no-hoper ex-colony to become one of the most dynamic economies in Asia.

5.2 ECONOMIC HISTORY

Attracted by its natural deep port potential, the British founded modern Singapore in 1819 as a key duty-free trading outpost within their extensive empire. Strategically located along the east-west shipping route, Singapore grew quickly, attracting a motley settlement of traders and laborers that included Arabs, Chinese, Indians and Europeans that supplemented the indigenous Malay population.

The British developed Singapore as “a classic entrepôt economy, one which funnels exports out of and imports into a surrounding area”\textsuperscript{87}. This made Singapore attractive as a base for shipping, banking, insurance and other complementary services.

\textit{Phase 1: Import Substitution Industrialization 1959-65}

Upon achieving self-rule in 1959, Singapore new government, led by Prime Minister Lee Kuan Yew confronted the immediate economic

\textsuperscript{86} Non-residents refer to people who are neither Singapore citizens nor Singapore permanent residents.

problems of poverty, severe unemployment and a poorly educated population. The traditional economic activities of entrepôt trade and related services faced competition from the development of direct trade routes between other Southeast Asian and western countries. It was highly doubtful that Singapore’s small economy could survive on its own. The new government thus embraced political and economic union with Malaya to expand the size of the domestic market and embarked on a strategy of import substitution behind protective tariffs and quotas. The Economic Development Board (EDB) was established in 1961 to promote the industrialization drive. These policies met with some success. Real GDP grew at an annual rate of almost 6% between 1960 and 1965 and more than 21,000 new jobs were created in manufacturing.\(^{88}\)

However, two events prompted a radical reappraisal of economic strategy. In 1965, Singapore, which had a majority Chinese population, was ejected from the Malay-dominated Federation of Malaysia over fundamental political differences and amidst ethnic tensions. This destroyed the dream of a common market. A second economic blow was delivered in 1967 with the British announcement that they would withdraw their military bases east of the Suez. At that time, British expenditures on their bases in Singapore accounted for 18% of Singapore’s GDP and 20%  

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of employment. A British journalist predicted in the London Sunday Times in 1965 that “Singapore’s economy would collapse if the British bases – costing more than 100 million pounds sterling – were closed.”

Phase 2: Export-led Industrialization, 1966-73

These developments led the Singapore government to break with import substitution, “what was then the preferred development strategy in both policy and academic circles,” in favor of an export-oriented approach to industrialization. Having been stripped of a hinterland and a major contribution to the local economy, Singapore now decided to rely on foreign investments and external markets for economic development. The EDB was re-orientated to seek out and attract multinationals that would set up manufacturing facilities in Singapore for the production of export goods.

This coincided fortuitously with a boom in world trade and investment flows as multinationals sought low-cost and stable locations for new plants. The result was a rapid increase in foreign investment and exports, and Singapore was transformed during this period from a low-wage surplus labor economy to a relatively high-wage full employment economy.

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90 Quoted in Lee Kuan Yew, From Third World To First (HarperCollins, 2000), p.4
Phase 3: Technological Upgrading, 1973-84

Having achieved full employment by promoting investments that made use of surplus labor, Singapore’s focus turned to technological catch-up. EDB now targeted investments in skill- and technology-intensive sectors such as electronics and pharmaceuticals, in order to generate more value added from the same amount of labor. Enterprises already in Singapore were offered incentives to upgrade the skills levels of employees and to improve the technology level of new investments. The economic landscape began to change from labor-intensive activities like textiles and electronic components assembly to more advanced ones like precision engineering and semiconductors.

Phase 4: Economic Restructuring & Diversification, 1985-present

Between 1979 and 1984, value-added growth in manufacturing slowed to 5%, while the economy as a whole continued to grow at about 8.5% annually\(^\text{92}\). Wages were allowed to grow faster than labor productivity, which eroded Singapore’s competitive position in relation to regional economic rivals that were newly industrializing. 1985 saw a deep recession with a sharp spike in unemployment, prompting a high-level Economic Committee to prescribe structural reforms such as a reduction in the forced savings rate under the pension system and greater flexibility in the labor market.

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\(^{92}\) van Elkan (1995), p.14
Starting from the mid 1980s, concerted efforts were made to diversify the economy into business and financial services. From the early 1990s onwards, Singapore-based firms were also encouraged to help the Singapore economy grow a "second wing" by venturing overseas. From 1992 to 2002, Singapore's foreign direct investment overseas increased from US$12 billion to about US$85 billion. Singapore has become a significant direct investor in all the ASEAN countries, China, India and Australia. "If the trends continue for another 10 years, which is not an unreasonable expectation, Singapore's economy will be much larger than (her) geographical confines."\(^{93}\)

Singapore's growth continued to be buoyed by favorable global economic conditions in the mid 1990s, but the robustness of the Singapore's economy was tested during the Asian Financial Crisis of 1997-98. Singapore emerged largely unscathed largely because of strong macroeconomic fundamentals, but the economy was affected by the deteriorating external environment and contracted 0.9% in 1998.

After a strong pick-up in 1999-2000, Singapore's growth since 2001 has been unusually muted. The economy has been plagued first by synchronized downturns in the major developed economies and compounded by uncertainties in the global economy following the terrorist

\(^{93}\) Quoted from a speech by the Minister for Trade & Industry, George Yeo, at the Singapore Business Awards on 25 Mar 2004.
attacks on September 11th, 2001. Another blow was delivered by the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003.

<table>
<thead>
<tr>
<th>Table 5-2: Singapore’s GDP growth rates in the 21st century</th>
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<tr>
<td></td>
</tr>
<tr>
<td>GDP growth rate</td>
</tr>
</tbody>
</table>

Source: Singapore Department of Statistics (www.mti.gov.sg)

The GDP growth forecast for 2004 is 3.5 - 5.5%, based largely on expectations that the global economy in general, and the US economy in particular, will continue to gather momentum.

5.3 THE GOVERNMENT’S HAND

In Singapore, the public sector’s influence in shaping the national economy is unmistakable. A Singaporean academic has written a book devoted to this issue94. Two economists have rationalized and summarized this phenomenon as follows: "The (Singapore) government has involved itself as a key player in the economy largely on the justification of weak institutional structure in the early stage of development, co-ordination failures, positive externalities and perceived market failures in a small open economy."95 In this quote from an interview with the

95 Toh Mun Heng & Tan Kong Yam eds., Competitiveness of the Singapore Economy (Singapore University Press, 1998) p.29
Economist in 1986, Lee Kuan Yew is characteristically unapologetic about the interventionist nature of the Singapore government:

I say without the slightest remorse that we wouldn’t be here, would not have made the economy progress, if we had not intervened on very personal matters – who your neighbor is, how you live, the noise you make, how you spit (or where you spit) or what language you use. … It was fundamental social and cultural changes that brought us here. ⁹⁶

This section examines some of the more salient features of government intervention in the economy.

**Industrial Policy**

The government provides the lead in setting the course for the economy’s development. For example, mutually supporting industries are identified and developed to entrench entire clusters niche areas, e.g. electronics, petrochemical and engineering. "By competing on the basis of clusters, (Singapore) could formulate cluster development plans with emphasis on core capabilities that were common to industries within the cluster." ⁹⁷

⁹⁶ Quoted in Low (1998), p.35
⁹⁷ Ministry of Trade & Industry website (www.mti.gov.sg)
As Singapore's cost structure increased with economic development, it adopted the strategy of regionalization, aimed at encouraging multinationals to site their regional headquarters and higher value added work in Singapore, while moving more labor-intensive parts of the value chain to neighboring countries. Singapore's government has helped create industrial parks in neighboring countries like Indonesia and Vietnam in order to keep multinational companies committed to Singapore. In doing so, it is also helping to develop the regional economies and lay the foundation for greater economic cooperation in the future.

When deemed necessary, the government will also take the lead in jump-starting a new area such as the development of technology. For example, Singapore committed US$1.2 billion from 1991 to 1995 under the National Technology Plan and another US$2.4 billion under the National Science and Technology Plan from 1996 to 2000.

Like Ireland's Industrial Development Authority, Singapore's EDB\textsuperscript{98} spearheads the development and implementation of a national strategy to attract FDI. EDB officers act as Singapore's sales force to international businesses, scouring the globe to target and entice investors to Singapore. EDB's approach includes excellent after-sales follow-up to ensure that investors are completely satisfied with the way their projects are turning

\textsuperscript{98} For a good collection of personal accounts about the extent that EDB officers will go through to secure investments for Singapore, see EDB's commemorative book \textit{Heart Work}, published in 2002.
out. Domestically, EDB persuades, cajoles, browbeats and generally pulls out all stops in their efforts to get other government departments to adopt more investor-friendly policies and practices.

Fiscal and Monetary Policy

Singapore has historically maintained a prudent fiscal policy, which resulted in large budget surpluses during the economic boom years when tax revenues were particularly buoyant. Monetary policy is geared towards keeping inflation low and stable and to ensure that savings are not debased. The government has maintained the convertibility of the Singapore dollar and allows the currency to fluctuate within a band.

These sound fundamentals, together with a strong reserves position, contributed to Singapore’s ability to weather the Asian financial crisis better than most Asian economies. Speculators either saw no reason to question Singapore’s fundamentals, or they were wary of Singapore’s ability to defend against an attack (because of a lack of transparency about the size of Singapore’s reserves), or both. In any case, Singapore’s managed exchange rate system allowed it to quickly depreciate the Singapore dollar in response to the loss of its export competitiveness arising from the collapse of the regional currencies. “As the crisis dragged on into 1998, Singapore decided not to tinker with the nominal exchange rate but instead worked towards direct cost-cutting measures such as wage and operating
cost reductions to maintain its competitiveness. Despite the crisis, Singapore has pressed ahead with financial reforms including liberalizing the Singapore dollar, to ensure the long-term competitiveness of its economy.⁹⁹ These measures not only helped Singapore to ride through the crisis, they helped to consolidate Singapore’s position as a financial center.

Singapore wields taxation policy as a competitive tool in the war for capital and talent. Tax incentives for targeted industrial investments were introduced as early as the 1960s, but the move to a generally lower rate of income taxation only began in earnest following the 1985 Economic Committee report.

**Sidebar: Using Taxation as a Competitive Tool**

When I joined the Taxation Directorate of the Singapore ministry of finance in Sep 2000, Singapore’s corporate income tax (CIT) rate was 25.5% and the top marginal personal income tax (PIT) rate was 28%. By the time I left in May 2003, the CIT and PIT rates had been dropped to 22%. In the latest Budget Statement released in Feb 2004, the CIT rate was further cut to 20%.

Taxation policies have always been a key part of Singapore’s

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⁹⁹ Ngiam Kee Jin, “Coping with the Asian Financial Crisis: The Singapore Experience” from the Visiting Researchers Series No.8 (Institute of Southeast Asian Studies, 2000), p.1
arsenal in the battle to achieve competitiveness. Almost every Budget Statement will contain a plan to keep our tax regime competitive. There is an ingrained belief that a competitive income tax regime rewards (and therefore encourages) entrepreneurs and investors, and motivates people to work hard. If necessary, the loss in government revenue from income tax cuts will have to be replaced by a rise in the goods and services tax.

Apart from low tax rates, simplified and transparent tax treatments as well as an efficient tax administration are also critical to a competitive tax regime. The policy analysts at the ministry of finance work closely with economic promotion agencies such as the Economic Development Board to develop tax policies that can sharpen Singapore’s edge as a great place to do business and target the growth of strategic sectors.

The OECD initiative against “Harmful Tax Competition” was launched in 1998 and this raised some concern in policy circles in Singapore and elsewhere. It seemed rather ironic since competition, including tax competition, is generally regarded as a positive force in the global economy. Tax competition can be helpful, not harmful, because it keeps governments in check. Governments have a responsibility to create conducive business and living environments for business and people at least cost. The OECD subsequently repackaged the initiative as a drive against “harmful tax practices”.
Savings Policy

The government pursued an explicit policy to produce very high savings rates. "From a negative rate in 1960, Singapore’s domestic savings grew to 18% of GDP in 1970, 38% in 1980, and 47% in 1991. The last was the highest rate in the world."\textsuperscript{100} High savings were partly aided by favorable demographics, as the ratio of working age population to total population increased from about 55% in the 1960s to 70% in the 1980s\textsuperscript{101}, as well as prudent government budgeting that ran surpluses during years of strong economic growth.

But a major determinant was the policy of enforced savings for old age in the form of the Central Provident Fund (CPF). The government set mandatory rates for employers and employees to contribute into individual workers’ CPF accounts, which was Singapore’s fully funded social security plan. This pool of savings supported capital accumulation and financed investments in infrastructure that contributed to Singapore’s attractiveness as a place for business.

Education Policy

Recognizing that Singapore does not have a large population, it obsesses over developing every citizen to make every single person count.

\textsuperscript{100} Prewitt & Reinhardt (1995), p.8  
\textsuperscript{101} Aasim Husain, "Determinants of Private Saving in Singapore" in Bercuson (1995), p.42
It spends about 4% of its GDP on the education budget. This is "more money invested in education than any other society in the world"\textsuperscript{102}. As a result, the output and quality of its educational institutions have gone up. In 1985, Singapore produced 8,000 polytechnic and university graduates. By 2001, this rose to 26,000, not including Singaporeans who were educated overseas\textsuperscript{103}. "Singapore students routinely outperform those of most other countries in international competitions and Olympiads in the fields of mathematics and sciences\textsuperscript{104}.

The workforce has therefore become better educated, as younger cohorts enter the labor market. The improvement in educational attainment has raised the skill profile of the workforce. The share of Professionals, Managers, Businessmen and Executives increased from 22% to 42% of total workforce over the 1985-2001 period\textsuperscript{105}.

The government has had to take some unpopular stands in the history of its education policies. For example, in the early post-independence years, it was the decision to make English the standard medium of instruction in schools. As Lee put it in his memoirs,

"Many Chinese-speaking parents were deeply attached to their language and culture. They could not understand why their children

\textsuperscript{102} Lester Thurow, \textit{Building Wealth} (HarperCollins, 1999) p.231
\textsuperscript{103} \textit{Report of the Economic Review Committee} (Ministry of Trade & Industry, 2003) p.26
\textsuperscript{104} Gavin Peebles & Peter Wilson, \textit{Economic Growth and Development in Singapore} (Edward Elgar, 2002) p.142
\textsuperscript{105} \textit{Report of the Economic Review Committee}, p.27
were allowed to be educated completely in Chinese under the British, yet under their own elected government had also to learn English.”

In later years, it was the decision to introduce streaming into elementary schools to separate schoolchildren based on a narrow test of scholastic abilities, and to allow the more advanced children to proceed at a faster pace. These policies were deemed vital in order to optimise the economic contribution of the limited human capital in Singapore.

**Labor Market Policies**

At independence, the Lee government drew on support from labor unions. However, to create an investor-friendly environment, the government quickly “depoliticized the labor movement, established de facto government control over unions…and ushered in an era of labor peace. …since 1978 there has been no industrial stoppage.”

The most important of these initiatives have been enshrined in legislation. For example, the 1968 Employment Act established the principle that “wage negotiations should be based on economic growth and efficiency, rather than on abstract notions of justice. …In 1982, the Trade Unions (Amendment) Act defined the role of trade unions as being to

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promote good industrial relations between employees and employers, to improve working conditions, and to raise productivity for the mutual benefit of employees, employers, and the nation.\textsuperscript{108}

The Singapore government has essentially redefined industrial relations, replacing a traditionally adversarial worker-management relationship with a tripartite model of industrial cooperation involving government, employer and employee. The National Wages Council, established in 1972, and comprising government, employer and union representatives and a neutral chairman is a concrete manifestation of this tripartite relationship. It provides a framework for orderly wage settlements and reaches decisions by consensus.

\textbf{Government-Linked Companies}

The government's hand in the domestic corporate sector takes the form of partial or full ownership of what are commonly referred to as government-linked companies (GLCs). The most significant of these come under Temasek Holdings, the government's investment holding company established in 1974. Temasek companies are involved in a wide range of business activities, from port, shipping and logistics, to banking and financial services, airlines, telecoms and media, power and utilities, and rail. Many of these companies are leading companies in Singapore, such

as Singapore Airlines, Singapore Telecoms, Singapore Technologies, Neptune Orient Lines-APL, PSA Corporation, DBS Bank and Singapore Power. The listed companies in the Temasek Group represent about 21% of the market capitalization of the Singapore Exchange.\(^{109}\)

Some GLCs resulted from government-led ventures into fields, such as high technology, where it was judged that the domestic private sector required a lead from government. Others were the results of industry deregulation and the privatization of former state monopolies. GLCs are expected to operate on sound commercial principles and an IMF paper reported in 1995 that “there is no evidence that...GLCs are inefficient.”\(^{110}\) However, there has been criticism that some GLCs have outlived their original purposes and may be crowding out the non-governmental private sector in Singapore.

An examination of the new Temasek Charter that was released in 2002 reveals that while the government intends to divest its stake in companies deemed non-strategic, there is no intention to give up the government’s direct role in nurturing the economy:

“Temasek will divest businesses which are no longer relevant or have no international growth potential. Temasek may also, from time to time, invest in new businesses, in order to nurture new

\(^{109}\) Source: Temasek Holdings’ website - www.temasekholdings.com.sg

industry clusters in Singapore. ...Temasek aims to build and nurture internationally competitive businesses. These can leverage on Singapore's competitive strengths, and in turn, enhance Singapore's economic resilience."^111

5.4 WEAKNESSES & CHALLENGES

Nurturing Entrepreneurs

The Singapore economy is dominated by foreign-owned multinationals and large GLCs. These offer promising (and relatively staid) career paths for bright young Singaporeans who are themselves the outputs of an efficient (and relatively uniform) education system. Combined with the talent grab by the public sector and the society's traditional disapproval of failure, the result is an economy that does not generate enough able people who are willing to take risks to create new businesses. In this respect, Singapore has been unfavorably compared with Hong Kong, a place that is usually described as teeming with entrepreneurial energy, fostering tens of thousands of small, family-owned businesses that are responsive to market trends. Singapore on its own may be too small to rely on technology start-ups as a driver of growth, but it needs to breed a more healthy respect for entrepreneurship if it is to

^111 Temasek Charter (www.temasekholdings.com.sg)
produce people who can take advantage of Singapore's connectivity with global centers of innovation.

The EDB has been outstanding in attracting foreign investments, but until very recently when a minister was put in charge, the Singapore government has not had a champion for entrepreneurship. In typical Singapore-style, existing initiatives to promote entrepreneurship were beefed up and new schemes swiftly announced, e.g. to improve access to financing for start-ups.

However, this is fundamentally a long term change issue involving cultural norms and societal expectations, and success cannot be expected overnight. As Singapore's recent Budget Statement put it, "the Government can only do so much to create a Best for Business environment. Ultimately, entrepreneurs need to take their own risks and develop their own ideas, in order to create and seize new opportunities in overseas markets. Entrepreneurship is, ultimately, a challenge for our whole society."112

Pursuing The Next Big Thing

Singapore is investing billions of dollars in biomedical sciences and advanced science and engineering fields like nanotechnology, in the hope of latching on to the next big wave that will transform the global economy.

In spite of this, total R&D spending as a percentage of GDP remains low compared to countries like Finland, US and Japan, mainly because of Singapore’s low starting base. The trends in terms of resources allocated to R&D and patents owned are promising (see Table 5-3), but Singapore still has a long way to go to catch up with the advanced knowledge economies.

Table 5-3: Selected R&D indicators for Singapore

<table>
<thead>
<tr>
<th>Year</th>
<th>Total R&amp;D expenditure</th>
<th>As % of GDP</th>
<th>Patents Owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>US$0.54 billion</td>
<td>1.17%</td>
<td>96</td>
</tr>
<tr>
<td>1997</td>
<td>US$1.20 billion</td>
<td>1.49%</td>
<td>831</td>
</tr>
<tr>
<td>2002</td>
<td>US$1.95 billion</td>
<td>2.19%</td>
<td>1,739</td>
</tr>
</tbody>
</table>

Source: Agency for Science, Technology and Research (US$1~S$1.75)

**The Problem of Being Developed**

As a newly industrializing economy, Singapore could look to the developed economies for technology transfer and the latest models of industrial organization. As its economy matures and the general levels of wages increase, Singapore will run out of economies to leap-frog. That is the ultimate inadequacy of industrial policy. At the same time, Singapore is itself in danger of being leap-frogged by other Southeast Asian economies which can offer the low cost advantage. The rise of China and India compounds the issue of cost competitiveness. The solution is not to compete on price, because the goal of economic development is rising real wages, not declining ones.
As Lester Thurow put it, “will Singapore learn to make the breakthroughs in either technology or social organization that real economic leadership requires? That is a stage of development it has not yet mastered. To do so it will have to create a degree of chaos that will be difficult to introduce into what is perhaps the world’s most well-ordered society.”\textsuperscript{113}

5.5 CONCLUSION

Singapore’s lack of a sizeable market and its scarcity of natural resources made its prospects look bleak at independence. A visionary and committed first generation of leaders mobilized the population to turn adversity into success by riding on the rising tide of global trade and investment flows. Singapore can never rely solely on its own locomotive. It has to continually make itself relevant to the global economy. And globalization presents a tremendous opportunity to access even more of the world’s markets.

\textsuperscript{113} Thurow (1999), p.231
CHAPTER SIX
CONTRASTS AND COMMONALITIES

6.1 INTRODUCTION

Our survey of the Irish, Finnish and Singaporean models of development has shown how three small economies took advantage of increasing cross-border flows in trade, investment and talent to climb the economic ladder. This chapter examines the similarities and differences in their economic strategies.

6.2 VALIDATION OF WASHINGTON CONSENSUS?

On a very broad level, the three development stories may be interpreted as a validation of the Washington Consensus. As originally conceived of by Williamson in 1990 (and before the term took on connotations of neo-liberalism and neo-imperialism), the Washington Consensus comprised the following ten propositions:\(^\text{114}\):

a. Fiscal discipline.

b. A redirection of public expenditure priorities toward fields offering both high economic returns and the potential to improve income

distribution, such as primary health care, primary education, and infrastructure.

c. Tax reform (to lower marginal rates and broaden the tax base).

d. Interest rate liberalization.

e. A competitive exchange rate.

f. Trade liberalization.

g. Liberalization of inflows of foreign direct investment.

h. Privatization.

i. Deregulation (to abolish barriers to entry and exit).

j. Secure property rights.

To varying degrees, Ireland, Finland and Singapore have successfully pursued economic reforms along these lines in an effort to promote economic development. These policies provided the macroeconomic stability and established the proper legal and institutional frameworks for businesses to thrive.

Some of these policies were critical in helping the economy to turn the corner. For example, the imposition of fiscal discipline in the 1980s allowed Ireland to establish a sounder macroeconomic environment that foreign investors favor. Trade liberalization in the 1960s marked the end of Singapore’s brief experiment with import substitution industrialization. The deregulation of the telecommunications industry in Finland stimulated the
development of a globally competitive industry and preceded the rise of Nokia.

Taken in their original context, these policies are reasonable prescriptions for developing economies. The controversy is over the relevant pace and sequencing of these proposed reforms. The pace and sequencing of reforms need to be carefully tailored according to the economic and socio-political conditions of each country. The critical determinant of success is really success in the politics of economic restructuring, rather than in economic restructuring per se. If the politics fails, success in the economic sphere may be short-lived or may not be worth the human cost arising from political failure. Therefore, robust institutions and social processes make the difference in the successful pursuit of economic reforms.

6.3 SOCIAL ORGANIZATION

A society needs to have the ability to get organized for economic development before the economy can make progress. When human resources for a given task are scarce, it becomes even more critical for as many people as possible to pull in the same direction.

The Irish model of social partnership and the Singaporean model of tripartite labor relations provide prime examples of consensus-building institutions. The government takes the lead in bringing together different
interest groups, e.g. employers and unions, to underline common objectives and to develop a shared approach towards those goals. In Ireland, it is the National Economic and Social Council. In Singapore, it is National Wages Council. In both countries, the result has been less antagonistic labor relations and greater political consensus for unpopular measures like wage restraint.

Compared to Ireland, the Singapore government’s approach is decidedly more interventionist, showing a much lower threshold of tolerance for management-labor disputes that threaten to derail the tripartite approach. For example, when negotiations between Singapore Airlines (SIA) management and the Air Line Pilots Association took a confrontational turn in 2003, no lesser a governmental figure than Senior Minister Lee Kuan Yew stepped in to help sort things out. In response to questions in Parliament, Deputy Prime Minister Lee Hsien Loong explained:

“...this is not just an ordinary management-labour dispute in a company. SIA is not only a big employer, but it is also an icon of Singapore and the anchor to the whole aviation sector in Singapore. Hundreds of thousands of jobs are at stake. And, more importantly, the way the issue was developing could have undermined the foundation of the tripartite approach that we have painstakingly built
up over the years. Therefore, it was critical to nip the problem in the bud effectively, while maintaining the trust of all parties involved.\textsuperscript{115}

The strong welfare instinct in Finland engenders a different kind of social cohesion, one that breeds consensus in maintaining one of the most egalitarian economies in the world, even though it may be at the expense of slower growth. While such solidarity that strengthens their ability to stand united in a competitive environment, question marks remain over whether high income taxes will erode the work ethic of younger generations of Finns.

6.4 TAX BURDEN

Ireland, Finland and Singapore adopt different approaches to the level of general taxation that the state extracts from the economy. Table 6-1 shows the rates for income tax, value-added tax and capital gains tax in these three countries.

\textsuperscript{115} FY2004 Budget Debate round-up speech, 9\textsuperscript{th} March, 2004.
Table 6-1: Comparison of main tax rates

<table>
<thead>
<tr>
<th>Country</th>
<th>Corporate income tax rate</th>
<th>Personal income tax rate</th>
<th>VAT/GST rate&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Capital gains tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>12.5%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>22-44%</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>Finland</td>
<td>29%</td>
<td>12-35%</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>Singapore</td>
<td>20%</td>
<td>0-22%</td>
<td>5%</td>
<td>nil</td>
</tr>
</tbody>
</table>

Source: www.worldwide-tax.com

a. The rate for non-trading income is 25%.
b. The general rate of VAT is cited for Ireland and Finland. There are exemptions or lower rates for certain goods and services.

Ireland has the lowest general rate of tax for business income, but makes up for this by having high personal income tax rates and a high VAT rate. Finland has an expensive welfare state, although compared to the US, it places more of its tax burden on consumption than income. Singapore maintains a generally low level of corporate taxation and supplements this with a comprehensive regime of tax incentives for selected economic activities such as high value added manufacturing and financial services.

Finland devotes more than 25% of its GDP to social transfers, compared to Ireland’s 15%<sup>116</sup>, while in Singapore, only about 8% of GDP is spent on social development<sup>117</sup>. However, we should desist from drawing hasty conclusions about the impact of high taxes and a large welfare state on economic growth. It has been argued that the returns to some of Europe’s social expenditures, such as child-care subsidies, are probably

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<sup>116</sup> Source: Eurostat, 2001
<sup>117</sup> Source: Singapore’s FY2004 Budget Statement, Ministry of Finance.
quite high and that high unemployment benefits and generous pension schemes also weed out the least productive from the labor force\textsuperscript{118}. High taxes have not kept Finland from the top spot in world competitiveness rankings. On the other hand, the persistence of a relatively high rate of unemployment in Finland does not bode well.

In Ireland and Finland, we can discern a conscious policy to tax consumption more than income. This is less obvious in Singapore but that is also the trend since the introduction of the goods and services tax in 1994. Ireland also clearly taxes labor more than capital, because “capitalists are deterred from investing more easily than workers are discouraged from laboring”\textsuperscript{119}. But Singapore keeps taxes on labor low as well to support its policy of attracting global talent (see section 6.6 below).

6.5 INDUSTRIAL POLICY

All three countries target specific industrial sectors and clusters in a bid to influence the structure of the economy. For example, Ireland went after the software, electronics and pharmaceuticals industries. Finland promoted clusters like telecommunications, energy and chemicals. Singapore targeted increasingly higher value-added manufacturing activities as the economy matured.

\textsuperscript{118} Peter Lindert, Growing Public: Social Spending and Economic Growth Since the Eighteenth Century (Cambridge University Press, 2004), cited in “Taxing the poor to pay for the poor” (The Economist, April 3\textsuperscript{rd} 2004).

\textsuperscript{119} “Taxing the poor to pay for the poor” (The Economist, April 3\textsuperscript{rd} 2004).
However, while Ireland and Singapore relied heavily on multinationals and FDI to develop their industrial sectors, Finland was more focused on developing their indigenous companies. Ireland and Singapore thus benefited from strong MNC-led growth while Finland is the only one amongst the three that has produced a strong global multinational company with a global brand name.

Ireland's and Singapore's strategy carries an inherent risk over the longer term. One prominent critic is Porter: "A development strategy based solely on foreign multinationals may doom a nation to remaining a factor-driven economy....At some stage in the development process, the focus should shift to indigenous companies. In Singapore and Ireland, my view is that the shift has been too little and too late." 120

Looking first at the data on FDI (Table 6-1), we find that in the first nine months of 2003, the value of FDI projects in Singapore and Ireland are roughly twice the size of their respective GNPs. In contrast, Finland's value of FDI projects is less than one-third of its GNP.

Table 6-2: FDI Information for Singapore, Ireland and Finland

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of FDI projects (Jan-Sep 2003)</th>
<th>Value of FDI projects relative to GNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>216</td>
<td>216.0%</td>
</tr>
<tr>
<td>Ireland</td>
<td>185</td>
<td>190.7%</td>
</tr>
<tr>
<td>Finland</td>
<td>38</td>
<td>29.9%</td>
</tr>
</tbody>
</table>

Source: ForeignDirectInvestment Magazine (www.fdimagazine.com)

In Mar 2003, Forbes released their ranking of the world’s 2000 biggest companies, measured by a composite of sales, profits, assets and market value. Of the three countries we surveyed, Finland is the only one with a company in the top 100 (Nokia, at number 83).

Table 6-3: Top Companies from Ireland, Finland and Singapore in Forbes 2000

<table>
<thead>
<tr>
<th>Forbes 2000 rank</th>
<th>Name</th>
<th>Country</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>Nokia</td>
<td>Finland</td>
<td>Technology hardware &amp; equipment</td>
</tr>
<tr>
<td>202</td>
<td>Fortum</td>
<td>Finland</td>
<td>Oil &amp; gas operations</td>
</tr>
<tr>
<td>221</td>
<td>Allied Irish Banks</td>
<td>Ireland</td>
<td>Banking</td>
</tr>
<tr>
<td>260</td>
<td>Bank of Ireland</td>
<td>Ireland</td>
<td>Banking</td>
</tr>
<tr>
<td>318</td>
<td>Singapore Telecom</td>
<td>Singapore</td>
<td>Telecommunications services</td>
</tr>
<tr>
<td>336</td>
<td>UPM-Kymmene</td>
<td>Finland</td>
<td>Materials</td>
</tr>
<tr>
<td>351</td>
<td>CRH</td>
<td>Ireland</td>
<td>Construction</td>
</tr>
<tr>
<td>365</td>
<td>DBS Group</td>
<td>Singapore</td>
<td>Banking</td>
</tr>
</tbody>
</table>

Source: Forbes.com

Thanks mainly to government-linked companies like Singapore Airlines, Singapore Technologies and CapitaLand, Singapore has 16 companies in the Forbes 2000, twice as many as Ireland. Singapore’s model may thus be seen as a blend between Finland’s and Ireland’s. Like Ireland, Singapore is reliant on FDI-led growth. The difference is that Singapore has managed to nurture more local companies that have the potential to be global players. If Singapore companies can successfully spread their wings internationally, this will create another strong source of growth for the Singapore economy.
6.6 LEVERAGING ON FOREIGN WORKERS

While Ireland, Singapore and Finland have benefited from an influx of foreign capital, with the former two getting it mainly from MNC investments and Finland getting it mainly via the capital markets, the picture is more varied when it comes to openness to foreign workers.

From a total population of 4.2 million, the foreign (i.e. non-resident) population in Singapore accounts for about 700,000\textsuperscript{121}, or 17% of total. The share of foreigners in the work force steadily rose from 7% in 1975 to 20% of the 1.7 million workers in the country in 1995. This includes highly skilled executives and professionals as well as low-wage construction workers and domestic maids. The foreign population comes from countries as diverse as US, UK, Germany, Japan, Bangladesh, India, Malaysia and Philippines.

In Ireland, out of a total population of 3.7 million in 1996, an estimated 114,000 were foreign nationals, or 3% of total. Nearly 81,000 (over 70%) were from EU countries (mainly the UK), while among the remaining "non-EU" group amounting to 33,000 persons, about a third were nationals of the United States\textsuperscript{122}.

\textsuperscript{121} Department of Statistics, Singapore.
\textsuperscript{122} European Employment Observatory
Of the three, Finland has the least amount of foreign labor. The number of aliens residing in Finland was only 81,000 in 1997\textsuperscript{123}, or 1.6\% of a total population of 5.1 million.

Hence, Singapore is the only one in this group that has tapped on foreign labor as a growth strategy in any significant way. As Deputy Prime Minister Lee explained recently, "...foreign workers play an important role in our job market. During good times, they top up our supply of workers and enable us to grow faster. But during bad times, they cushion the impact which would otherwise fall squarely on Singaporeans."\textsuperscript{124} Between 1993 and 1997, which were the boom years before the Asian Financial Crisis, Singapore attracted strong flows of investments and created nearly half a million jobs, more than half of which went to foreigners mainly because there were not enough locals to support the spike in investments. (Figure 6-1) Leveraging on foreign workers thus helped to keep the economy from growing without excessive overheating.

\textsuperscript{123} Statistics Finland.
\textsuperscript{124} FY2004 Budget Debate round-up speech, 9\textsuperscript{th} March, 2004.
Figure 6-1: Cumulative net job creation in Singapore, 1993-97

1993-1997
FOREIGN WORKERS TOP UP
LABOUR SUPPLY

470,000 jobs created

290,000 to foreigners
180,000 to locals

In the 1998-2003 period, the economy went through a difficult patch, with the global downturn, the September 11th tragedy and the SARS epidemic. Job losses were borne mainly by foreigners, insulating locals against part of the downturn. (Fig 6-2)
Singapore’s strategy on foreign workers also aims to tap on the circulation of global talent to supplement its own limited pool. This is particularly important for developing cutting edge areas like the biomedical sciences and nanotechnology. In contrast, Finland has been much slower to move in implementing policies to supplement and diversify the talent base of its economy.
6.7 TAPPING ON EXTERNAL MARKETS

With little hope of generating their own steam, small countries have to look beyond their limited economies not only for capital and labor, but for markets as well.

For Ireland and Finland, joining the EU Common Market gave companies based in their countries access to a large First World market. This increased their attractiveness as an investment location and exposed their companies to a broader and more diverse economic environment in which to hone their competitive advantage. Further European integration will help to lessen Ireland’s historical dependence on the US and the UK economies. For Finland, entry into the European Economic Area was a lifeline for its economy, following the demise of the Soviet Union.

Unlike Ireland and Finland, Singapore has had to work harder to develop links with external markets. Under the British, Singapore thrived as the economic center of a wider area that the empire-builders controlled. After attaining self-government in 1959, Singapore clung on to Malaya as an economic hinterland, until political ejection from Malaysia disabused Singapore’s leaders of this notion as well.

These developments eventually led Singapore to the strategy of leapfrogging the region. As Lee Kuan Yew put it, “Since our neighbors were out to reduce ties with us, we had to link up with the developed world
– America, Europe and Japan – and attract their manufacturers to produce in Singapore and export their products to the developed countries.\textsuperscript{125}

The natural instinct to expand Singapore’s economic space through regional cooperation surfaced again in the late 1980s, when the Johor-Riau-Singapore Growth Triangle was proposed. “The idea behind the growth triangle was that Singapore would benefit from the reduced pressure on land and labor, and Johor and Riau would gain from increased investment inflows from Singapore.”\textsuperscript{126}

The trend towards a more globalized world economy will benefit small nations like Ireland, Finland and Singapore by making it easier for them to expand their economic space. It is not surprising that small countries are generally speaking some of the strongest supporters of global trade liberalization. Conversely, small nations also have the most to lose when global flows of goods, services, talent, capital and knowledge are restricted.

Technological improvements in transport and communications facilitate economic integration into a wider market and mitigate the impact that geography used to have on an economy’s destiny. But small countries will still have to be vigilant and adroit in maneuvering around protectionist tendencies, at home and abroad.

\textsuperscript{125} Lee Kuan Yew, \textit{From Third World To First} (HarperCollins, 2000) p.57
\textsuperscript{126} Thomas Rumbaugh, “Singapore’s Experience as an Open Economy” in Kenneth Bercuson ed., \textit{Singapore – A Case Study in Rapid Development} (IMF, 1995) p.38
CHAPTER SEVEN

PROSPECTS FOR SMALL NATIONS
IN A GLOBALIZED KNOWLEDGE ECONOMY

7.1 THE GLOBALIZED KNOWLEDGE ECONOMY

Economic globalization refers to the increasing integration of economies around the world, particularly through trade and financial flows, but also through flows of people and knowledge. The driver for this has been technological advances that have made it easier and quicker for such flows to take place. The result is “an extension beyond national borders of the same market forces that have operated for centuries at all levels of human economic activity”\(^\text{127}\).

Global markets offer greater opportunity for countries, companies and people to tap into more and larger markets around the world. It means that they can have easier access to capital, labor, technology, goods and services.

Classical economics recognized land, labor and capital as the factors of production. Following from the work of economists such as Joseph Schumpeter, Robert Solow and others, Paul Romer\(^\text{128}\) proposed a change to the neo-classical model by seeing technology (and the knowledge on which it is based) as an intrinsic part of the economic

\(^{127}\) Globalization: Threat or Opportunity (IMF Staff Paper, 2000)
system. More broadly, knowledge (including technology and management practices) has become acknowledged as the new factor of production in leading economies. As a World Bank report puts it,

"For countries in the vanguard of the world economy, the balance between knowledge and resources has shifted so far towards the former that knowledge has become perhaps the most important factor determining the standard of living - more than land, than tools, than labor. Today's most technologically advanced economies are truly knowledge-based.\(^{129}\)

The knowledge economy brings into sharp focus Schumpeter's point about capitalism being a process of "creative destruction". Schumpeter recognized that the competition that counts is not price competition. Rather it is "the competition from the new commodity, the new technology, the new source of supply, the new type of organization...which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of existing firms but at their foundations and their very lives."\(^{130}\)

New knowledge brings about the qualitative changes that alter the structure of the economy, destroying the old one and creating the new one.


In other words, “knowledge generates the basic breakthroughs in technology that create the disequilibrium conditions in which high returns and high growth rates are possible.”\footnote{Lester Thurow, \textit{Building Wealth} (HarperCollins, 1999) p.99} FDI thus takes on greater significance because it not only creates jobs in the present time, but by virtue of the technology and management knowledge that it could bring in, FDI is valuable for longer term effects on the economy.

The world economy is thus trending towards greater integration and a heightened emphasis on knowledge – a globalized knowledge economy (or GKE). The question we address here is how relatively advanced small nations like Ireland, Finland and Singapore will fare in this GKE. How can they make full use of the opportunities presented by a GKE?

\section*{7.2 Analyzing National Competitiveness}

The annual Global Competitiveness Report produced by the World Economic Forum is traditionally based on two approaches to analyzing competitiveness. The first, called the Growth Competitiveness Index, was developed by Jeffrey Sachs and John McArthur and it builds on the foundations of theoretical and empirical macroeconomics. The second index, called the Business Competitiveness Index, was developed by Michael Porter and it focuses on whether the microeconomic environment
is conducive for growth. Together, these two approaches present complementary insights into the sources of national competitiveness.

7.3 MACROECONOMIC FOCUS

The main goal of the Growth Competitiveness Index (GCI) is to analyze the potential for economies to attain sustained economic growth over the medium and long term. It summarizes and analyzes the process of economic growth within three broad categories: the macroeconomic environment, the quality of public institutions, and technology.

We have seen how a stable macroeconomic environment and public institutions that protect property rights and support business transactions are basic ingredients for economic growth. These basics have to be set right before the private sector can flourish. In a globalized environment, if these fundamentals are upset, the market’s verdict will be swift and harsh. Capital and talent are mobile and with a wide range of choices on where to locate themselves, countries that offer greater risks without compensatory premiums will be ignored. Small nations like Ireland and Singapore that rely heavily on FDI cannot afford to slip up here while there are many other investment opportunities elsewhere. Globalization thus ups the ante for countries to be competitive in their macroeconomic environment and the quality of their public institutions, particularly for small countries that are more dependent on global flows of capital and talent.
Growth theory tells us that the ultimate source of long-run economic growth is technological progress because the other potential determinants of growth eventually face diminishing returns. In a GKE, knowledge emerges as the most important factor of production for advanced economies.

The origin of technical progress may differ across countries. "In particular, for economies that are already close to the technological frontier, innovation is the main source of technological improvements. For those that are far away from the frontier, technological improvements can be achieved partly through innovation and partly by copying or adopting the knowledge previously developed in one of the leading economies."\(^{132}\)

The GCI makes a distinction between the "core" and the "non-core" innovators. Core innovators are those economies whose growth is largely driven by their capacity to innovate because they are close to the technological frontier. "Non-core" innovators are those that depend more on technological adoption from abroad. The threshold of 15 patents per million population was chosen to separate the countries into these two groups. By this threshold, Finland (155.58), Singapore (97.62) and Ireland (33.85) are considered core innovators, although they trail behind the US and Japan who each have about 300 patents per million population\(^{133}\).

No allowance is made, however, for the size of countries even though innovation is an activity for which size matters. The national R&D budgets of countries like Finland, Singapore and Ireland can never compare in absolute terms with the national R&D budgets of countries like the US and Japan. Neither can small countries support the breadth and depth of tertiary and research institutions that larger ones can.

However, small countries can leverage on a GKE by concentrating on specific clusters and plugging themselves into hotbeds of innovative activity related to those clusters. For example, Taiwan, with a population of about 22 million, manages 240 patents per million population and ranks 3rd behind the US and Japan on this parameter. Taiwan’s IT sector has developed a close symbiotic relationship with Silicon Valley and successfully leveraged on the network of Chinese-Americans in this field. Therefore, small countries can and must develop strategies to embed and align themselves with the technological frontier.

7.4 MICROECONOMIC FOCUS – EXTENDING THE DIAMOND OF COMPETITIVE ADVANTAGE FOR SMALL NATIONS

Conducive macroeconomic and institutional conditions are necessary but not sufficient conditions for growth. “They provide the opportunity to create wealth but do not themselves create wealth. Wealth

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134 For more details, see for example, AnnaLee Saxenian, “Taiwan’s Hsinchu Region: Imitator and Partner for Silicon Valley” (Draft of Jul 2001, available on her website).
is actually created at the microeconomic level of the economy, rooted in
the sophistication of actual companies as well as in the quality of the
microeconomic business environment which a nation’s firms compete.

Unless these microeconomic capabilities improve, macroeconomic,
political, legal, and social reforms will not bear full fruit.”

Microeconomic business conditions thus determine whether a
nation’s firms are competitive, i.e. able to produce valuable goods and
services efficiently. This in turn determines the productivity of a country,
which is the ultimate measure of its ability to support high real wages and
attractive returns to capital. The business environment can be understood
in terms of four interrelated areas: the quality of factor (input) conditions,
the quality of local demand conditions, the presence of the related and
supporting industries and the context for firm strategy and rivalry. These
four elements make up what is commonly referred to as Porter’s diamond
of competitive advantage (Fig 7-1).

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Input factor conditions refer to the presence of high quality, specialized inputs for the conduct of business, including human resources, capital resources, physical infrastructure and science and technology infrastructure.

Demand conditions refer to the nature of home demand for goods and services. More sophisticated and demanding local customers will pressure local firms to innovate and achieve more sophisticated competitive advantages compared to foreign firms.

The quality of related and supporting industries in the country will determine how competitive local firms can be. National success in an industry is more likely if the nation has competitive advantage in a number of related and supporting industries.
The national context for firm strategy, structure and rivalry sets the tone for how firms are created, organized and managed. Vigorous domestic competition has been found to be closely correlated with the emergence and persistence of competitive advantage in an industry.

Finally, Porter’s framework acknowledges the roles of government and chance for their ability to alter conditions in the diamond exogenously.

As a framework for understanding the competitive advantage of nations, it may be too limiting because of its focus on factors within the boundaries of the national economy. It overlooks the possibility that a country can supplement deficiencies in domestic conditions by leveraging on external conditions. Hence, others have built on this framework to suggest that countries may be able overcome internal shortcomings to nurture a competitive industry. For example, Kapur and Ramamurti\textsuperscript{136} extend the notion of demand conditions to include overseas demand, so as to explain India’s success in the software industry. They describe it as India’s “virtual diamond in software”\textsuperscript{137} (Fig 7-2)

\textsuperscript{136} Devesh Kapur & Ravi Ramamurthi, “India’s emerging competitive advantage in services”, Academy of Management Executive, 2001, Vol.15, No.2
\textsuperscript{137} They acknowledge borrowing the term “virtual diamond” from Don Lessard of MIT, who used this term in his informal teaching notes to explain the success of Acer Computers in the personal computers business.
India’s domestic demand in the software industry is not as large or as sophisticated as overseas demand. Kapur and Ramamurthi argue that the success of Indian software firms come from serving foreign customers, especially in the US.

Globalization and the transferability of digitized products make it possible for India to transcend the national boundaries of the diamond and to seek competitive advantage in the global economy.

We can similarly leverage on the emergence of a GKE to extend the diamond of competitive advantage for small nations. In a non-globalized setting and a world economy that is mainly driven by natural resources, countries with limited resources and small markets would face tremendous constraints in the quest for growth. However, a GKE allows small nations to extend their economic space into the global economy, thereby making it
possible for their firms to benefit from a competitive environment that could not have been provided locally.

Kapur and Ramamurthi extend local demand conditions into overseas demand in the case of Indian software. But we can also extend the other elements beyond national borders.

Local firms need not be limited to domestic input factor conditions. Waging a successful war for talent and capital can supplement and enhance the local pool. Small countries should build their science and technology infrastructure as a key node in the global network of knowledge creation infrastructure. Related and supporting industries can be developed beyond national borders, as the Johor-Riau-Singapore Growth Triangle demonstrates. An internationalization drive, together with closer regional cooperation can provide local companies with the strategic, structural and competitive conditions of companies operating in larger home markets.

In a globalized knowledge economy, advanced small nations can compete by framing their drive to achieve national competitiveness based on an extended version of the diamond of competitive advantage. This presents a greater challenge initially, compared to larger nations that can cultivate companies’ competitive advantages within national borders. However, companies from small nations that have little choice but to tackle
the extended diamond early on will be hard-wired from Day One to tap on the best stimuli and influences from the global economy.

In this respect, governments have a bigger role to play in small nations compared with larger economies. National economic strategy in small countries should be geared towards helping domestic firms (whether local- or foreign-owned) take full advantage of an extended diamond. This means securing strategic links with economic space beyond national borders, positioning the country as a hub for knowledge, talent and capital, lowering or eliminating barriers to external markets and encouraging the internationalization of firms.

7.5 CONCLUSION – PROSPECTS FOR SMALL NATIONS

The appropriate response to globalization for ambitious small nations is unambiguous. Globalization presents excellent opportunities for small nations to widen their economic space and to tap into global flows of trade, talent, capital and knowledge.

This is provided small nations can get themselves organized to produce macroeconomic stability and microeconomic vitality. They have to take advantage of size to be more cohesive and flexible, responding nimbly to changing economic conditions.

Globalization is a double-edged sword. Just as strong winds can power the sails of schooners across oceans, they can also wreak havoc if
the boat is not sturdily constructed or the crew fails to properly harness that power. For example, the 1997-98 Asian Financial Crisis demonstrated how large volumes of short term capital flows could destabilize and derail economies with weak fundamentals. Small nations, like small boats, are particularly vulnerable.

The increasingly knowledge-based global economy will present a tremendous challenge for small nations. To compete effectively in the third industrial revolution, small nations will have to extend their national innovative capacity beyond what their intrinsic resources allow for, and find a way of operating at the technological and knowledge frontier. To do this, small nations have to apply the principle of the extended diamond in sharpening their environment for innovation. This means looking beyond their national boundaries to tap into factor inputs, demand conditions, related industries and a competitive environment that will spur their firms to innovate.

In the 1950s and 1960s, the prospects for small economies (particularly ex-colonies) were considered weak. The typical skeptic's prognosis was to rely on aid or on an adjoining hinterland. Either approach breeds dependency. But the picture today is different. We have seen that 7 of the 10 wealthiest countries by per capita income are actually countries with populations of less than 10 million. Globalization allows small nations to transcend their traditional economic constraints of size and resources.
At the end of the day, the limiting factor for small nations is not the size of their domestic markets or the numbers in their population, but the size of their imagination and collective drive.
BIBLIOGRAPHY

General:


Robert Barro, Determinants of Economic Growth (The MIT Press, 1997)

Robert Barro, Economic Growth in East Asia Before and After the Financial Crisis, NBER Working Paper 8330 (Jun 2001)


Lawrence Harrison & Samuel Huntington eds., Culture Matters – How Values Shape Human Progress (Basic Books, 2000)

Devesh Kapur & Ravi Ramamurthi, “India’s emerging competitive advantage in services”, Academy of Management Executive, 2001, Vol.15, No.2

Nadim Khalaf, Economic Implications of the Size of Nations – With Special Reference to Lebanon (Leiden, 1971)

Ralph Landau, Timothy Taylor, & Gavin Wright, The Mosaic of Economic Growth (Stanford University Press, 1996)


Virginia Postrel, “What separates rich nations from poor nations? History can provide some answers” (New York Times, 1 Jan 2004)

Martin Prachowny, Small Open Economies: Their Structure and Policy Environment (Lexington Books, 1975)

E.A.G. Robinson, Economic Consequences of the Size of Nations (St Martin’s Press, 1960)


AnnaLee Saxenian, “Taiwan’s Hsinchu Region: Imitator and Partner for Silicon Valley” (Draft of Jul 2001, available on her website)

Lester Thurow, Building Wealth (HarperCollins, 1999)

Lester Thurow, Fortune Favors The Bold (HarperCollins, 2003)

Daniel Van Den Bulcke & Alain Verbeke eds., Globalization and the Small Open Economy (Edward Elgar, 2001)

Georges Vernez, Allan Abrahamse & Denise Quigley, “How Immigrants Fare in US Education” (RAND Corporation, 1996)

Globalization: Threat or Opportunity (IMF Staff Paper, 2000)


Ireland:


Kieran Kennedy, Productivity & Industrial Growth – The Irish Experience (Clarendon Press, 1971)

Peadar Kirby, The Celtic Tiger in Distress – Growth with Inequality in Ireland (Palgrave, 2002)


Denis O’Hearn, The Atlantic Economy – Britain, the US and Ireland (Manchester University Press, 2001)

Finland:


Dan Steinbock, The Nokia Revolution (AMACOM, 2001)

EIU Country Profile 2004: Finland (EIU, 2004)

OECD Territorial Reviews: Helsinki, Finland (OECD, 2003)
Singapore:


Lee Kuan Yew, *From First World To First* (HarperCollins, 2000)


Ngiam Kee Jin, “Coping with the Asian Financial Crisis: The Singapore Experience” from the Visiting Researchers Series No.8 (Institute of Southeast Asian Studies, 2000)

Toh Mun Heng & Tan Kong Yam eds., *Competitiveness of the Singapore Economy* (Singapore University Press, 1998)


*Singapore’s FY2004 Budget Statement* (Ministry of Finance, 2004)