



A Strategy for the Welsh Economy

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For my wife Debbie

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CHAPTER ONE

A Strategy for the Welsh Economy

Introduction

This volume is based on the “diamond” approach, a model of economic development based on competitiveness, and suggests measures needed to develop the Welsh economy on the basis of business competitiveness. It sets out to raise questions about the efficacy of current policies and suggest a strategic framework aimed at addressing and resolving the long term malaise that has afflicted the economy. It is not the simple application of a particular theoretical model. Where alternative evidence or ideas are appropriate, these are presented, and where the diamond approach is inappropriate or irrelevant, this, too, is addressed or not used.

The purpose behind the pages that follow is simple: to promote a fundamental policy re-think that will address the need for an equally fundamental re-structuring of the Welsh economy. Such an approach requires – as the author, Michael Porter, puts it – the development and presentation of Higher Order Strategic Themes in place of a series of unconnected and often piecemeal, mutually exclusive low level schemes attempted over the years. Thus, it is not the intention of this volume to suggest, discuss or detail micro level policy directions or alternatives to existing economic development policies, nor does it present detailed forecasts of the effects of individual schemes. That is neither the thinking behind this volume nor its purpose.

Using a contemporary model in addressing the economic issues, this volume builds upon earlier research undertaken by the Institute of Welsh Affairs among others and makes an important contribution to the continuing debate on the future of the Welsh economy. It is certainly not suggested that the ideas outlined in what follows in any way predict a bright future for the Welsh economy or indeed provide a panacea for current problems. Neither can it be claimed that this volume contains anything new. It is also recognised that change cannot happen overnight and, indeed, that many of the ideas presented would require fundamental changes in policy at the Wales and UK level. However, what is suggested and required to bring about economic change is an overarching innovative, radical strategy based on developing business excellence and regional competitiveness – an imperative if the decline of the Welsh economy is to be arrested. It is not acceptable for academics to simply report the problems and then adjourn to their ivory towers. Those of us concerned with resolving these problems need to suggest *practical* ways in which these problems might be addressed and solutions developed that can improve the Welsh economy.

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The Welsh economy continues to decline. Gross Domestic Product (GDP) per head remains one of the lowest in Europe despite Objective One funds, and poverty and poor health continue to be major problems. Indeed a recently published research document suggested that even with Objective One funds, the economy will continue to decline (Huggins and Sootarsing 2004). Perhaps, of greater concern is the Welsh economy's dependency on the public sector, which accounts for over a third of employment and almost 60 per cent of Wales' GDP.

This volume is in keeping with the mission of the Institute of Welsh Affairs to act as a source of ideas and discussion on all aspects of Welsh life – and perhaps none is more pressing than addressing the economic problems. The devolution of power to Wales explicitly recognises differences within the UK. Indeed, the logic of devolved government recognises the need for new ideas and disparate priorities, none more so than in relation to the economic issues affecting each region. The next stage of the debate on devolution must accept that different problems require different responses and for economic development, different powers.

It follows that a strategy pre-supposes, indeed requires, that first and foremost, there is in place an appropriate policy objective, a purpose and a model through which the strategy can be achieved. The objective is clear. Putting aside the obvious issue of employment creation, traditionally the first aim of regional policy, the need is for an all-embracing, strategic model that clearly addresses the second aim of regional policy, that of *self sustaining growth* – which has largely been ignored to date. However, there also needs to be a clear definition of strategy, especially within the context of developing regional competitive advantage. Although developed for individual business organisations, Johnson and Scholes (2005), provide a useful definition of strategy that addresses economic development. This definition explicitly recognises the need for clear, long-term policy, based not on locational or comparative advantage, but on using a region's resources to address the market and thus achieve competitive advantage.

Strategy is the direction and scope over the long term which achieves competitive advantage for the (region) through its configuration of resources within a changing environment, to meet the needs of markets and fulfil stakeholder expectations.

The Competitiveness Background

In spite of decades of assistance, and the advent of the development agencies and the Assembly, the economy – and all that depends upon it – continues to decline. The truth is that Wales is a stagnant, backward, failed part of the British regional economy. The vicious circle of decline and decay cannot be broken without an overhaul of the entire

economic system. The time has surely come to stop debating the problems and start offering solutions to break this vicious circle. There is a desperate need to introduce new and radical ideas for the academic and policy-making bodies to debate and address – and more importantly, implement.

Since the inception of regional policy with the 1934 Special Areas Acts, Wales has continually been the recipient of some form of assistance in an effort to drive economic development and growth. Since this time, regional policy has had two clear aims: the creation of employment and the diversification of the inherited industrial structure to create self-sustaining growth. Up to the present day, policy has concentrated on the former and has overshadowed the latter, to the detriment of economic growth. Of course, provision of employment and self-sustaining growth are not mutually exclusive. However, writers such as Bridge et al (2004) have pointed out that

*to base support primarily on employment creation can be
distorting; support should promote competitiveness in the economy,
which would then in turn lead to jobs.*

Despite the adoption of a more aggressive regional policy following the end of the Second World War, in practice UK policy has at best been hit and miss, ranging from a “one-size fits all” approach in the 1950s and 1960s to the development of more localised responses, such as the establishment of the development agencies in Scotland, Wales and latterly the English regions. Although attempts have been made, there has never been an over-arching, economic development strategy for Wales. Instead through a series of reports from the 1964 *Plan for Wales* to the Assembly’s *Winning Wales* originally published in 2001 and more recently, *Wales, A Vibrant Economy* (2006) all that has been presented are largely aspirations. Even with the advent of the Welsh Development Agency (WDA), the Development Board for Rural Wales, (DBRW) and now the Welsh Assembly Government (WAG), the approach remains disjointed. The reality is that half a century of regional policy has been aimed at treating the *symptoms* of regional decline rather than addressing the complex causes of decline.

National and regional economic development can be traced through three distinct stages. Economies grew originally through *natural advantage*, such as some unique natural given resource which drove economic growth – the examples for Wales are coal, slate and metals. The next stage was growth through *comparative advantage*, where an economy specialised in ways that exploited differences in productivity and resources which, although not unique, provided a means of economic growth. An example would be the sunny climes of Europe suitable for wine growing. Recent economic development policies in Wales have attempted to use the perceived comparative advantage of a compliant manufacturing workforce as a means of

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economic growth. Finally, and more challenging and relevant to the twenty first century, is economic growth based upon national competitive advantage. Indeed this approach is supported by contemporary European Regional Development Fund (ERDF) priorities, which include regional enhanced competitiveness and its pre-requisite, innovation. It is the premise of national competitive advantage upon which this volume is based.

The importance of developing national competitive advantage in economic development is reflected in contemporary thinking through the ‘diamond’ model developed by Michael Porter at Harvard University. This model differs from traditional thinking on economic development in two important and fundamental ways. Firstly, it is based on the development of an economic climate driven by business competitiveness. Secondly, it draws together a number of variables that inter-connect and underpin the importance of the wider contribution of business to economic development. Significantly, and appropriately for Wales, the model recognises the importance of the national dimension. Porter’s model has changed the thinking on national economic development by moving the emphasis from national natural advantage to national competitiveness and the role within that of business. He points out that the characteristics of nations are sufficiently important, and therefore robust, and that it is the *country* rather than the city or region which is the relevant unit. Thus the culture of a nation is explicitly recognised in the model, both as an advantage and indeed a problem.

This is a challenging model of economic development. At the present time, Wales lacks many of the individual factor attributes required by the model and is, without a fundamental change in policy direction, unlikely to develop them in the foreseeable future. However, the model does provide a strategic framework upon which to build an economic development policy based on business and competitive advantage. In addressing competitive advantage as the instrument of economic renewal, the model explicitly recognises the global dimension of modern economies and business practices and what Wales needs – Welsh firms but, global players. As Porter puts it

Paradoxically, the most enduring competitive advantages in a global economy seem to be local

However, since this volume is concerned with the development of the Welsh economy based upon competitive advantage, there are two issues to address – what is ‘competitiveness’ and, in terms of competitiveness, what is the present position of the Welsh economy?

While Porter does not provide a clear definition of “competitiveness,” Huggins and Sootarsing (2004) describe it as

...the capacity of an economy to attract and maintain firms with stable or rising market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it.

The present position of competitiveness both in Europe and the UK is illustrated through the work of Huggins and Sootarsing (2004) and Huggins and Day (2006), which is particularly illuminating. *The European Competitiveness Index* (Huggins and Sootarsing 2004) is a composite analysis developed from five factors; creativity, the knowledge economy, productivity, economic performance and infrastructure. The 2004 index comprised a total of 91 nations and regions in Europe. Of these, Wales languished near the bottom in 64th place with a score of 63.6. The only UK region to perform worse was the North East of England, in 69th place with a score of 59.9. To put this into perspective, the highest scoring region was Uusimaa, Finland with a score of 261.8. Significantly, regions within countries of the same size as Wales (Finland, Netherlands, Switzerland, Denmark and notably Ireland) had far higher levels of competitiveness. Indeed, regions within Finland are among the most competitive and wealthy in Europe. The Finns are proud of having Finnish companies that are global players. There is no question that this particular success is a consequence of developing businesses, especially in the manufacturing sector, which are based on innovative ideas, high technology, new firms and products which in turn, drive further business creation.

Wales' position has not improved but substantially declined. The 2006 – 2007 Index was extended to 118 in total to include nations and regions from the former eastern block. This showed that Wales had slipped from 64th place to 68th; and as in 2004, smaller European states, notably again Finland, were recorded as performing better than Wales. By this time all the regions of the UK performed better than Wales and significantly, certain regions of the former eastern block also performed better than Wales (Huggins and Davies 2007).

There is a further dimension to competitiveness and that is the role of knowledge based and creative industries. Although such industries are by no means the be-all and end-all of competitiveness, since to some degree all industries require and develop knowledge, the picture for Wales remains bleak. Creativity in its many forms underpins competitiveness and knowledge and is the basis of innovation. Competitiveness is based upon the propensity for a country to develop creative businesses that drive the economy away from dependency on external ownership and control, because competitiveness is ultimately about internal strengths. The 2004 Creativity Index was again a composite index of eight variables that provided measures of creative talent and activity within the 91 regions and nations of Europe (Huggins and Sootarsing 2004). Again, Wales scored very poorly, and of the 91 countries and states recorded, Wales was ranked 55th. As was the case with the European Competitiveness Index, the most creative European region

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again, was Uusimaa in Finland which was nine times more creative than Wales, and four times more than the South East of England, but even Scotland was twice as creative as Wales. Of little comfort in the grander scheme of things, some areas of England were poorer than Wales, with the traditional industrial areas of Yorkshire, the North West and North East, languishing among the ‘also rans.’

However, making the comparison between competitiveness and creativity in Wales and the rest of Europe is only part of the story. When this comparison is extended to the present state of the Welsh economy and the notion of competitiveness is examined *within Wales* and the UK, the parlous state of the economy becomes even more obvious. *The 2006 UK Competitiveness Index* (Huggins and Day 2006) was devised using a three factor model to examine competitiveness in the twelve economic regions of the UK. Wales was eleventh. Applying the same methodology to the 433 local authorities of the UK, the areas within which the majority of the Welsh population reside were the least competitive of all. Merthyr Tydfil, Blaenau Gwent, Rhondda Cynon Taf, Caerphilly and Neath Port Talbot all appeared in the bottom twenty. Although there had been some improvement since 2006, to put this into perspective, the City of London was eight times more competitive and the top five areas (all around London) were three times more competitive.

The use of indices rather than absolute values serves to illuminate the problem by comparing Wales with other parts of the UK and Europe. In an era of increasing global competition, the data illustrate the substantial competitive weakness of the Welsh economy and the warning contained in the diamond model that regions which are more competitive and successful internally will become successful and competitive externally. The reasons for Wales’ sad position are clear and long-standing. There has been far too much emphasis in the past on employment creation *per se*, or in more contemporary times, on attempts to alleviate poverty and provide welfare in its many forms. This has been to the detriment of developing competitiveness, productivity, the creation of wealth and the establishment of an indigenous business climate and culture. Over-reliance on inward investment and the branch plant economy, low levels of entrepreneurship, poor education standards and a bloated public sector are symptomatic of an economy with serious underlying structural flaws that must be addressed. Wales’ poor competitive position in the UK and Europe means a fundamental rethink of economic policy is essential.

What is needed is a deep and above all, a fundamental change in the Welsh economy. A serious policy re-think aimed at reversing the economic decline that has haunted the Welsh economy for almost a century is required – a robust, dynamic and forceful wealth creating policy based on competition and wealth creation. Gentle adjustments do not work. Being on the periphery of Europe does not mean that Wales has to be poor or far

from the heart of economic change or competitiveness. The economies of Finland and Sweden and closer to home, Ireland are the envy of Europe. Even Israel, not so much on the periphery as in relative isolation, has been referred to as the “second Silicon Valley”. Although there are structural and cultural differences between these countries and Wales, not being geographically at the centre of things simply does not matter. It is the dynamic and competitive nature of their economies that makes the difference and this volume seeks to inform the debate on developing an equally successful Welsh economy.

CHAPTER TWO

Porter's 'Diamond'¹

In the preface to *The Competitive Advantage of Nations*, Michael Porter asks the question

Why do some social groups, economic institutions and nations advance and prosper? In fields as diverse as anthropology, history, sociology, economics and political science there have been persistent efforts to understand the forces that explain the questions presented by the progress of some entities and the decline of others.

Porter changed the thinking on economic development by shifting the emphasis from natural advantage to competitiveness. The diamond theory states that economic success depends not on the simple reliance of absolute or comparative advantage, but on a number of inter-related and complex factors, the most important of which is *national competitiveness*. This is the nation's ability to achieve or maintain an advantageous position over other nations in a number of key industrial sectors. The theory suggests that, given certain circumstances, firms gain advantages that provide mutual strengthening and competitive advantage on an organisational, national and international level. Competitiveness is at the very heart of the modern economy. It drives choice, innovation, efficiency, dynamism, the winning of market share and upward growth. The decisive insight of the diamond model is the fundamental difference of *competitive advantage* based on final demand products, knowledge based industries and the way that the different factors combine to reinforce each other, driving cumulative causation and a circle of virtuous growth.

The Diamond as a System

The four determinants in this approach to economic development are not described here in the same order in which Porter presents them in his original work. Notwithstanding that each of these elements reinforce each other, it is self evident that for the Welsh economy some determinants within the model will have a greater impact – and therefore a policy priority – than others. The order in which the four determinants are presented here is as follows:

- **Firm Strategy, Structure and Rivalry** is the first determinant to be addressed. The overall diamond approach is that economic development is essentially internal. Consequently, the role of individual firms and the appropriate economic environment

1) Porter uses the words *nation*, *region* and *country* interchangeably. In this volume all refer to Wales.

is fundamental to internal development and requires the best possible environment within which firms can be created, organised and managed. *The role of new firms within this environment is crucial* and this is addressed at length. Domestic rivalry and the consequent competitive advantage, depend on the creation of new businesses to create new competitors. Porter notes

invention and entrepreneurship are at the heart of national advantage

but require a favourable environment;

“what looks like chance in new business creation is actually a difference in national environments.

This environment requires a particular form of corporate governance and industrial and market structure. There should be specific factor conditions shown by individual organisations that are allied to appropriate organisational structures, associated objectives and sustained commitment, managerial practices and attitudes, together with a national culture that reflects prestige and priority. These form the cultural underpinning of successful economies.

- **Demand Conditions** is for this analysis, the second determinant. For individual firms to develop and even flourish, the economy requires a strong sophisticated and demanding home market with an international outlook. Particular emphasis is placed on home demand as the driving force to upgrade, innovate and compete. Businesses are sensitive to the demands of their closest customers, thus home demand is fundamental in driving competition. Pressure is brought to bear by local consumers on local firms to ensure they are innovative and responsive to changes, leading to strong competition among firms. Of particular importance is the role of demand by industrial organisations within the local supply chain and the potential for joint developments that may be difficult to copy by firms outside the diamond. Specific demand conditions require a rate of growth in the home market, a healthy local economy and sophisticated and demanding buyers. Specialisation in products, based upon innovation, differentiation and segmentation by firms within the diamond is the driving force. Intense competition spurs innovation. The number of independent buyers is vital in creating an environment stimulated by innovation and is important in determining the level of domestic rivalry.
- **Factor Conditions** underpin the two previous determinants. In essence, these are factors of production that develop and refine over time, with specialised factors being distinguished from general factors. There is a significant difference between ‘basic factors’ such as natural resources, climate and location, and ‘advanced factors’ that include skills, education levels, research facilities and the economic

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infrastructure. The latter factors are the more significant for competitive advantage because while basic factors may be regarded as somehow endowed – such as coal in south Wales and slate in the north – advanced factors are a result of investment by individuals, businesses and government. However, the most successful basis for competitive advantage is specialised advanced factors such as human resources, physical resources, knowledge resources, capital resources, and infrastructure. Porter argues that each region has its own particular set of factor conditions which are created, and therefore, are *creatable*, are not inherited and will develop and change over time. However, a multiplicity of factors is not enough. It is how efficiently and effectively they are deployed that matters.

- **Related and Supporting Industries** is a development of cluster theory and is the last of the four factors in this volume. Although the diamond model addresses the importance of clusters, and it is recognised that some clusters do exist, any meaningful clusters within Wales are likely to take time to develop. Related and supporting industries require internationally competitive suppliers, sector related industries, domestic suppliers and the presence of appropriate managerial and technical personnel. These, in turn, require cooperation between businesses and ready access to supply chains. These relationships must take place within the sub-regional economy rather than the national economy. The close working relationship between the firms in the supply chain leads to innovation and new methods of working, which drive related industries in close proximity to each other. The result is investment in more advanced factors which ‘spill over’ as successful businesses group into clusters, mutually reinforcing innovation, competition and development. Economies external to the individual firm are internalised within the industry cluster.

The key to understanding the diamond model and its successful application to national competitiveness is the interaction between the four factors. It is this interaction that establishes and sustains competitive advantage. Groups of rival firms competing with each other (*firm strategy, structure and rivalry*) based on a strong home demand for a particular commodity (*demand conditions*) stimulates firms into training and education. This leads to a distinctive uniquely skilled workforce (*factor conditions*) and in turn, provides a skill level that maintains the nation’s competitive advantage. Specialist suppliers are encouraged to provide external economies and a specific supply chain (*related and supporting industries*), so enhancing competitive advantage.

The most successful competitive advantages are achieved when this set of four key competitiveness enhancing elements are in place and generate a situation of *cumulative causation*. It is, according to Porter, “a mutually reinforcing system” that “the effect of one determinant is contingent upon the state of the others”. However, he suggests that if one factor is defective (or partly defective) then the whole model is likely to be compromised, though not fatally.

From the preceding model, the question to be asked is this. To what extent can the Welsh economy be developed along the lines of the diamond model and what is the level of the challenge? A volume of this length cannot provide all the answers, but certain factors are fundamental to the success of the model. The basic drivers can be identified as levels of competitiveness (firm strategy, structure and rivalry), local wealth (demand conditions), human capital (factor conditions) and the existence of or potential for clusters (related and supporting industries). However, there is a danger in embracing Porter's ideas on clusters. Evidence suggests that there are no clusters of any significance in Wales, and little chance of any developing organically. Indeed, the limited number of surviving clusters is to a great extent, either leftovers of the past or those that can not in all reasonableness be regarded as clusters in any meaningful or geographic way. Much contemporary thinking concerns itself with high technology or knowledge based clusters. However, the extent of the inter-action between firms is of greater importance than 'defined' clusters or even whether the clusters are high technology or not. Indeed, Porter points to the dangers of classifying businesses as high or low technology. The corollary must be that policy has to be directed at creating an economic environment in which *any* industries can flourish, so long as they are innovative or productive.

In describing the diamond model, Porter also makes an important distinction between local and traded industries. Local industries are distributed equally across geographic areas and account for anything up to 60 per cent of local employment. They tend to have low productivity and low levels of innovation but are, nevertheless, part of the diversified economic environment. Eventually, all industries embrace forms of modern technology and develop knowledge bases. Traded industries are concentrated geographically and serve markets outside their localities, have high levels of productivity, innovation and wages. The issue, therefore – and the approach taken here – is that a long-term strategy to regenerate the Welsh economy is not just about clusters. The significance of the diamond model is the importance of national competitive advantage. Concentrating on clusters *per se* introduces the danger of over dependence and a lack of competition. That is why firms must be adaptable and capable of trading outside any cluster. It is not the sectors within which the industries trade or clusters that matter; it is the development of an appropriate economic, social and political environment that is conducive to, and supportive of, long term economic renewal and growth. The diamond model provides a structure which may not be appropriate in all cases. Nevertheless, it provides a structure against which to develop policies targeted at known drivers of growth. The crucial message given by the diamond model is that economic development must be based on national competitiveness, innovation and dynamic firms operating in an appropriate, supportive economic environment.

The Role of Government

Although not presented as an integral part of the diamond model, Porter points to the important role of government, albeit in the provision of indirect forms of assistance designed to develop national competitive advantage. However, while it is not the job of government directly to create a competitive economy or create employment, government policies can act as a catalyst to drive growth. Porter's precept is based on the theory that government policy can *influence*, directly or indirectly, the four determinants of the model. This is, of course, the case in matters such as taxation, although there are other policy areas where explicit government action is required for the model to work. In addition, the role of government must take a different form by promoting market based prosperity through the removal of structural barriers and developing a culture driven by business oriented competition.

According to Porter, the proper role of government is to stimulate dynamism and to "unleash" and "amplify" the positive forces within the diamond. This presupposes that a competitive advantage already exists and is capable of being amplified and upgraded, which is questionable for the contemporary Welsh economy. Policy should at the very least, be aimed at laying the foundation for competitive advantage to be created and sustained, which according to Porter takes place over a decade or longer. This is an interesting insight from Porter, given that the Coalfields Community Campaign in England has suggested that it might take in excess of twenty years to regenerate the former coalfield areas

The four major determinants of the model introduced in this chapter and discussed in chapters' three to six are, by definition, designed to build an economy driven by business competitiveness. The role of government must be to design and implement policies that do indeed facilitate the forces that make this happen.

CHAPTER THREE

Firm Strategy, Structure and Rivalry

There is no question that an economic development policy based on firms' competitive advantage requires the best possible environment within which firms can be created, organised and managed. Also required is a particular form of corporate governance and industrial and market structure which, in the case of an unsophisticated, backward economy such as that of Wales', requires innovative and novel ways of creating new businesses, encouraging those that already exist and attracting organisations in growth sectors. This essentially takes one of two forms; direct government policy, including various forms of subsidy, for which there will always be a role and to which reference is made in Chapter Seven. In addition and equally important, is the use of instruments more closely aligned with the combined needs of business and economic growth, designed as noted in Chapter Two to "unleash" and "amplify" development forces but not to be a permanent feature of the economy.

Domestic rivalry – and the subsequent competitive advantage – depends crucially on the creation of new businesses to create new competitors. The role of new firms is central to this factor and is the greatest challenge requiring a detailed, original and pioneering policy initiative. Porter's reference to national culture is particularly appropriate to Wales where enterprise, business and working for oneself is simply not the norm. Research has time shown time and again that Wales lags behind the rest of the UK and much of Europe in the approach to new business creation. Porter notes that new business formation creates new competitors that "feed the process of innovation", itself a facet of wider economic well-being, which is discussed in Chapter Four.

The importance of new businesses and their role in the wider context of economic development and well-being cannot be over emphasised. A major factor in uneven regional economic performance is low formation rates and low stocks of regionally based businesses. New businesses provide choice, dynamism, competition, and are invariably, locally owned and committed to the local area. High rates of new business creation have been linked to invention, new product development, and new sources of employment and, additionally, have been shown to provide a causal link to economic well-being. Research in the USA (Acs et al 2004) has shown that high rates of new business creation can account for as much as 5 per cent of GDP – a significant statistic given the current state of the Welsh economy.

Domestic rivalry and the demand generated for goods and services by large numbers of individual firms is central to the diamond model and to the role of competitiveness.

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However, the activity and sector of the firm is also important in driving competitiveness. Firms with final demand products – whether in manufacturing or services – are knowledge based and require product development, design, financial and management skills and, together with the use of technology, drive modern economies.

The essential issue in the encouragement of new businesses that has never really been faced is the question of risk. Economic theory, and indeed common sense, identifies the taking of risk as a fundamental factor in enterprise. Why should an individual forsake secure employment or an unemployed individual give up the safety-net of benefit? Therefore, the question that arises is how potential new business founders in Wales can be made less risk averse, especially since new business creation and indeed being self-employed is culturally unacceptable?

Invariably the main, and often the only, source of funds and credit is the family home, and the fear of losing it, together with the stigma of bankruptcy are the two major factors mitigating against new business creation. These fears can be addressed in three straightforward ways. In many US states a “homestead exemption” exists that shields the family home from creditors in the event of business failure. This applies to new and small businesses only, and as businesses grow and become stronger, the shield is removed. The effects of such protection is shown by the substantially higher rates of new business creation in states with high exemptions, where the family home is completely protected, than in states with low or no exemption and where the family home is, therefore, totally at risk (White and Fan 2003).

A further two ways to encourage risk can again be developed from the US, where “Chapter 11” protection is essentially a financial reorganisation available to either an individual or a limited liability company. This involves a plan of financial reorganisation to keep the business trading while paying creditors over time. The main criticism of “Chapter 11” protection is that debtors are in control rather than creditors, but that does not mean that a balance cannot be found between the two, providing that the correct legal and financial approach and protection is available for both.

An alternative means is available utilising “Chapter 13” protection that provides for the revision and payment of debts for an individual with a regular income. This scheme allows the debtor to keep property and pay debts over time, usually over a three to five year period. There is no adequate data on the extent of bankruptcies in Wales or the proportion of which are business related. However, data available for 2006 showed 1,531 declared bankruptcies and no fewer than 7,000 Individual Voluntary Agreements. Although a clear distinction would have to be made between business and personal financial failure, such schemes would go a long way to addressing the issue of risk, although adoption of these schemes would require not

only a change in the law but also a change in attitude. The important issue is that the protection offered by their adoption would reduce risk and encourage the creation of new businesses.

Knowledge based industries are a major driver of economic change and growth and will initially have a limited capital requirement. There are schemes, successfully used elsewhere that assist new knowledge based businesses. In Ireland new business founders qualify for 50 per cent of their previous year's income up to a maximum of €38,000 payable for a limited period of time. Such a scheme, in association with a short term overdraft guarantee would drive growth in this important sector.

A further consideration in terms of a cushion is that of businesses founded from the unemployed. There is substantial evidence of a link between high rates of unemployment and high rates of new business formation. While it is not suggested that the deliberate creation of unemployment should be a tool of development, it is a fact that as the economy changes and develops, skills become outdated and there is always likely to be a pool of unemployed individuals, very much in keeping with Schumpeter's "*waves of creative destruction*". Indeed, school and college leavers many with very good, modern skills, are initially "unemployed". The Enterprise Allowance Scheme, an experiment in providing a short term financial cushion for unemployed new business founders has proved to be a success, if to some extent, a qualified success. The costs involved in such schemes are quickly made up through business and personal taxation.

In developing and describing "Firm Strategy, Structure and Rivalry," Porter points to two 'soft' issues: organisational structure and national culture. Both are important and can not be separated from the 'harder' issues. New businesses, so vital for competitiveness, invariably have organic structures typified by innovative and cutting edge firms that are inevitably small, young, and usually locally owned. Such structures are uncomplicated, innovative, dynamic and capable of accepting and responding to change that in turn develops business, management and knowledge based skills. In addition, economic success based on innovation and international competitiveness breeds cultural awareness and a national pride in what has been achieved.

The Role of Taxation in Economic Development

While it is not suggested that taxation is the only *de facto* way forward, economic growth can be driven through an appropriate and innovative taxation regime. Tax incentives encourage successful, profitable, innovative and growing businesses, invariably with new, innovative products driving competitiveness and increasing the value of the initial investment. However, in a devolved governmental system, there will

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always be resistance from the centre to changes that may be regarded as too radical in approach, especially if there is the perceived danger that different taxation systems – both collection and distribution – might result in some areas being overtaxed or under taxed, relative to other areas. Although likely to be controversial within the UK context, taxation based economic development has been remarkably successful in other parts of Europe and its use in tackling the urgent needs of the Welsh economy needs to be addressed.

Its overriding advantage is twofold. Firstly, tax incentives are attractive to businesses, are simple to operate and are invariably of interest to successful and profitable firms. Evidence suggests that one measure used by successful, innovative firms is self generated funds. The careful use of taxation can have a further effect by reducing the tax bill, profit is increased and capital generated for further investment. Secondly, it is essentially internal to the firm and therefore does not require form filling, nor is there any requirement to prove need or be locked into job creation, as is the case with contemporary government financial incentives.

The success of low corporate tax economies has highlighted the use of taxation as an important tool in economic development since it can be manipulated to encourage economic growth. Taxation powers are not necessarily about raising taxes, and elsewhere in Europe the use of tax *varying* powers has been used with notable success. Therefore, the important role of taxation in encouraging economic development needs to be addressed. Tax incentives in their many forms have proved successful in many European states, and also within states, such as Catalonia in Spain. Low levels of corporation tax have been used as a principal tool of economic development in Ireland, which at 12.5 per cent is the lowest rate in the EU, closely followed by Lithuania and Latvia 15 per cent, Hungary 16 per cent, and 19 per cent in Poland and Slovakia. In the latter case the flat tax of 19 per cent applies to corporate, personal and value added taxes. In Estonia corporation tax is 24 per cent, and again, this level of taxation applies across all three taxation sources. Estonian transactions costs are low since all taxpayers complete their taxation demands via computer, reducing bureaucracy and increasing the tax take. These states display different, lower levels of taxation for small businesses, which, in turn, drive forward the number of local businesses and the level of domestic rivalry.

Corporation Tax

Lack of appropriate data at the sub-UK level makes prediction for regions within the UK difficult. However, Foreman-Peck and Lungu (2005) have constructed a model that describes the effect a 10 per cent reduction in corporation tax might have on the Welsh economy and is presented in Table 1.

Table 1: Estimated output and employment increase from a hypothetical 10% reduction in corporation tax in Wales

Total GDP increase	Total employment increase	Traded sector		Non-traded sector	
		Output	Employment	Output	Employment
1.09%	16,200 jobs	2.4%	8,000 jobs	1.2%	8,200 jobs

Source: Foreman-Peck and Lungu (2005)

The authors make a distinction between the traded sector of the economy (defined as manufacturing), the non-traded sector (defined as services) and the relationship between them. On the basis of a 10 per cent reduction in corporation tax, they suggest – *ceteris paribus* – that employment in the traded sector would rise by 8,000 and, as a direct consequence, 8,200 in the non-traded sector. Significantly, this research points to a number of wider issues. With increased capital available as a consequence of the tax reduction, there would be a substitution of capital for labour yet still a growth in employment. Manufacturing wage rates would rise by 8 per cent and, in addition, emphasising the wider multiplier role of manufacturing, the greater employment creation would be in services. The absolute additional employment total – 16,200 – is almost exactly the number of manufacturing jobs lost in Wales between 1998 and 2003. However, it is recognised that not all the new employment would be in manufacturing and that, initially at least, new service sector employment may not be as skilled or as well paid as those lost in manufacturing.

Notwithstanding the positive changes in manufacturing that this evidence on corporation tax presents, it is clear that such a change in this tax would benefit other sectors in addition to the manufacturing sector. Research elsewhere has suggested that a further, unexpected effect of reducing corporate taxation is to increase the earnings of those who work for the organisation. The research suggests that a 25 per cent cut in corporation tax leads – after a time lag – to a 20 per cent increase in workers’ earnings (Hassett and Mathur 2006). This may seem perverse but as a consequence of higher profits, capital in the form of innovation and technology is substituted for labour and the employees then develop greater skills.

Capital Allowances

A further straightforward and administratively simple way to encourage greater investment by businesses is to manipulate the system of capital allowances (and since it is suggested later that such allowances could be used in ways other than the purchase of ‘capital,’ they should be redefined as *investment* allowances). This is an attractive way to acquire new and productive assets, for manufacturing firms in particular. However,

Table 2: Benefits of Different Systems of Capital Allowances Assuming an initial investment of £50,000 in plant and machinery (Calculated on a reducing balance basis, assuming corporation tax of 20%)

	Traditional system				Initial 40% system				100% first year capital allowance			
	Capital allowance	Amount offset against corp tax	Actual benefit to firm	Capital allowance	Amount offset against corp tax	Actual benefit to firm	Capital allowance	Amount offset against corp tax	Actual benefit to firm	Capital allowance	Amount offset against corp tax	Actual benefit to firm
Yr 1	25%	12,500	2500	40%	20,000	4,000	100%	50,000	10,000			
Yr 2	25%	9,375	1,875	25%	7,500	1,500						
Yr 3	25%	7,031.3	1,406.3	25%	5,625	1,125						
Yr 4	25%	5,273.4	1,054.7	25%	4,218.8	843.8						
Yr 5	25%	3,955.1	791	25%	3,164.4	632.8						
Yr 6	25%	2,966.3	593.3	25%	2,373	474.6						
Yr 7	25%	2,224.7	444.9	25%	1,779.8	356						
Yr 8	25%	1,668.5	333.7	25%	1,334.8	267						
Yr 9	25%	1,251.4	250.3	25%	1,001.1	200.2						
Yr 10	25%	938.6	187.7	25%	750.8	150.2						
Total benefit*			9,436.9*			9,549.5*						10,000

*Over a longer period the benefit would approach £10,000.

Source: dti

capital allowances would apply to other sectors seen as actual or potential growth sectors, such as tourism, In addition, they are particularly useful for smaller enterprises undertaking further investment. Capital allowances have a triple effect. They increase the incentive to invest in new plant and machinery, improve productivity and so increase competitiveness and drive innovation through new approaches and processes. In addition they assist the cash flow in the early years after the purchase of the plant.

The Department of Trade and Industry (dti) has produced an analysis illustrating the effect a capital allowance of 25 per cent would have on a capital spend of £50,000 together with an illustration of the effect of a 40 per cent initial allowance and a 100 per cent allowance which are shown in Table 2.

A capital allowance of 25 per cent improves the cash flow over the assumed life of the asset while the 40 per cent initial allowance boosts the cash flow in the first year. Not surprisingly, a 100 per cent initial allowance gives the greatest boost to cash flow at the difficult early stages of a project. This is of particular use to new and small firms that are often dependent on cash to sustain business. Consequently investment decisions are often influenced by the firm's cash flow situation. Apart from the relative simplicity of using capital allowances, such measures would be of use to firms which are investing in plant and are generating profits against which to claim the allowance. However, it is essential that capital allowance rates be permanent to provide a stable environment in which to make investment decisions and to drive investment.

Taxation and Indigenous Businesses

It is self evident that a progressive taxation system aimed at economic development and competitiveness would apply to externally owned businesses and just as importantly, to indigenous Welsh firms. The diamond model is premised upon economic development being essentially internal yet being internationally competitive. Therefore, there is an argument for different levels of corporation tax and other taxation instruments to apply only to indigenous businesses. In many parts of Europe, lower levels of corporate tax apply to 'small' – and invariably local – businesses, with tax liability as little as 10 per cent, and profits that are re-invested are free of tax. In addition, there are preferential tax levels for firms that export. Internal competition that eventually feeds into wider markets is basic to the diamond model. For incentive purposes, the definition of 'export' might mean any product or service that is delivered to and paid for outside Wales.

Furthermore, a full 100 per cent research and development tax allowance would encourage new product development. Indeed, recognising the importance of new product development to businesses, especially in the different parts of the UK, the Welsh Affairs Committee in 2005 suggested that there is a case for *regional* R&D tax credits.

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There may be a difference both in emphasis and practice between the use of capital allowances and tax credits; nevertheless, the encouragement of “blue sky” research is fundamental to economic growth and competitiveness. The role of R&D in cutting edge development is important. However, in reality *innovation*, small changes in existing products or services that are sufficiently different to market, is of greater importance in driving development and competitiveness. This requires a re-think of what is meant by ‘R&D’, and consequently explicit recognition of the need for appropriate, similar incentives to encourage *innovation*.

Taxation and the Role of Foreign Direct Investment

Foreign Direct Investment (FDI) retains an important role and although indications are that the number of available footloose schemes may be smaller than hitherto, tax induced investment can be an important economic driver. Reduced corporate taxes and increased capital allowances are particularly attractive to footloose inward investors, although there is a danger of competing with other regions and nations in as Himanen (2004) calls it “a race to the bottom.” However, a fundamental change in the way that FDI schemes are evaluated is required. Incentives, which must not be solely financial, should be offered on the basis of the “*production mandate*” prerogative, a concept successfully used in Canada. The idea is to attract investors and encourage investment with new products and processes, while at the same time encouraging indigenous businesses that support it. Incentives remain available, but are offered on the basis of the amount of ‘mandate’ i.e. autonomy, given to local management to purchase, recruit, and undertake training, research, product development and innovation at the local site. In addition, the focus of any future FDI must be on emerging sectors such as the health care, electronics, software, high technology, e-commerce and internationally traded services. The mandate can be applied to all sectors, including incoming multiple retailers and service sector organisations and represents a radical departure from the ‘any employment will suffice’ thinking that has dominated policy since the end of the Second World War.

Alternative Taxation Instruments

Taxation based incentives are a powerful tool of economic development. Nevertheless, based as the idea is on encouraging profitable, and hence it is assumed, successful organisations, profit has to be made before any such incentives become attractive. While the encouragement of profitable businesses is essential to economic well being, the definition of profit is at best ambiguous. Profit levels can be manipulated and, indeed, can be transferred between operations and countries. This can result in a situation where there are no profits to be taxed. Therefore, an alternative response is to introduce a tax based not on profit but on turnover, a system successfully implemented in some American states.

The great advantage of such a measure is its simplicity and transparency. Tax based incentives, such as capital allowances would still apply, but be off-set against the liability arising from the turnover tax. Turnover tax, matched to incentives such as capital allowances, would be a simple and effective way to move forward. The proposal to introduce a turnover based tax represents an initiative which, almost certainly, would be deemed too radical at present. Nevertheless, the idea of such an approach to taxation requires serious consideration. The mechanism for the collection of the tax already exists through the VAT system. The tax would incorporate a sliding scale at the lower end to encourage smaller, and probably local, businesses and as with VAT, there would be a threshold below which the turnover tax would not be paid.

Leaving aside the effect of possible tax incentives, it is informative to calculate what rate of turnover tax might equate to the total corporation tax take in Wales. Separate data on the amount of corporation tax paid in Wales is not available. A calculation made by extrapolating figures provided by Williams (1998) shows that the total corporation tax paid in Wales in 2006 was in the region of £800m. It is possible, based on the number of businesses registered for VAT in Wales, to estimate the effect of the introduction of a turnover tax.

The Digest of Local Area Statistics is published by the National Assembly and until 2000, contained data on the number of businesses in Wales paying VAT, delineated by seven bands of taxation. Using these data, an approximation of the turnover tax take is possible. For each of the seven bands the median value is taken. Using a sliding scale of allowances, it is suggested that a turnover tax of 1 per cent tax would be applied to firms with a turnover of less than £500,000; a tax of 2 per cent for those with a turnover of between £500,000 and £1m; and a 5 per cent tax for those above these thresholds. Clearly, these tax rates could be varied. However, this combination would realise in the order of £750m, approximating to the corporation tax take calculated earlier.

These taxation schemes raise a number of challenging issues. Notwithstanding HM Treasury requiring that any shortfall in overall taxation is recovered elsewhere, it is likely that in any event, increased activity would meet any deficit over time. In order to take advantage of taxation and other incentives, structural changes involving other taxation sources and legal practices would certainly be required. Firms would become tax-resident and register in a separate Wales Registration. With the exception of designated growth sectors, there should be a general presumption against global organisations in favour of indigenous firms. This would, of course, require the definition both of truly indigenous firms and externally owned firms that are resident in Wales.

CHAPTER FOUR

Demand Conditions

There are two key issues in understanding demand conditions. These are, the need for businesses to innovate in such a way as to be competitive both at home and in the wider economy and for local demand to drive businesses. To provide the impetus to innovate and compete, emphasis is placed on home demand as the driving force. Businesses are sensitive to the demands of their closest customers and so the characteristics of home demand are fundamental as the drivers of competition. In addition to a healthy local economy, made up of sophisticated and demanding buyers, growth is needed in the home market. On the supply side, businesses must provide specialisation in products, driven by differentiation but above all, innovation. Porter points to the way in which these two key issues interact:

Fostering an innovation driven economy should be the focus of development policy where continual innovation drives productivity which is the most significant determinant of living standards

The fundamental prerequisite in addressing this factor is a vibrant and wealthy local economy, which pre-supposes that the local population has disposable income and money to spend. Wales is a notoriously low wage economy with substantial pockets of poverty and high levels of dependency on social benefits. Therefore, the initial trigger must be to devise ways in which money and wealth can be injected into the economy. The way to improve this situation is to identify ways by which disposable income can be increased. The obvious method is to adjust – or reduce – individual taxation to increase the amount of disposable income available both to wage earners and those in receipt of social benefits.

Innovative in taxation – a personal flat tax

The present, complex tax system discriminates both against low-income workers and those on social benefits. Cutting marginal rates of tax, or, more courageously, adopting a single, flat tax applicable across the board would have the effect of putting money, and in the Keynesian tradition, demand, into the economy. Providing leakages can be reduced, the resulting economic dynamism would generate additional revenue for local businesses. In addition, low taxed incomes would mean that those on social security would no longer be penalised when moving into work, even if the work was low paid. This measure alone would have the particular attraction of addressing the benefits trap. There would be little or no loss in taxation income to HM Treasury, since many of those

who would benefit from this tax system would almost certainly be in receipt of social benefits or below the personal taxation thresholds.

The suggestion of a separate and distinct personal tax regime applicable to Wales would probably be unacceptable to HM Treasury. However, there is a long standing tradition of treating Welsh economic problems through different regional policy instruments and the proposal for a personal flat tax regime in Wales simply continues this tradition. There are two arguments in its favour. The first is that, of all the regional economies in the UK and Europe, the Welsh economy remains one of the poorest and is still in relative decline. The second is that the flat tax would, initially, act as a trigger to inject spending into the economy. After a period of time and as incomes grow through increased economic activity, the taxation income to HM Treasury would increase and indeed replace previous government social benefit payments. The wider effect of high levels of disposable income is illustrated by Storey (1994) who notes that

Areas with high levels of disposable income lead to a greater demand for income elastic products provided by local, small firms...higher disposable income also enables the founders of new firms to raise capital more easily and often at lower cost

The evidence on flat tax is appealing. Eight countries have adopted a flat tax, which include Estonia, Latvia, Lithuania and Slovakia, and all are small countries that have faced or are facing similar economic problems to Wales brought about by outdated industries with specialised non-transferable skills, high unemployment and external ownership. All have faced fundamental economic change, have adopted a flat tax system of taxation and flourished. The evidence is clear that such a tax has been a success in driving economic well-being and the effect that a flat tax might have in Wales clearly requires detailed analysis. Some UK economists suggest that a tax free allowance of around £11,000 and a subsequent tax rate of 30 per cent would be revenue neutral, but leave those earning over £20,000 slightly worse off.

The most successful economies mentioned above have tax rates of between 25 per cent and 33 per cent but, if the point of the exercise is to put immediate, meaningful and relatively painless spending power into the Welsh economy, a tax free allowance in the region of £18,000 and a tax rate of 45 per cent would provide such spending power. Average earnings in fourteen of the 22 local authorities in Wales are below the Welsh average. Significantly, these include former industrial areas and Wales' poorest areas of Blaenau Gwent, Merthyr Tydfil, Rhondda Cynon Taf and Caerphilly, together with most of the rural areas of the west and north. A tax rate of 45 per cent appears high, but such a seemingly high rate becomes payable only after the first £18,000 of income; there would be an injection of considerable spending into the economy. A further element in

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this debate is that more than a third of all employment in Wales is part-time and although hourly rates vary from area to area, an employee working the part time average of twenty hours per week would pay no tax at all.

Innovation

Innovation is the mainspring of economic growth and is central to competitiveness. The idea that pure, blue skies R&D, patents and entirely new, original ideas equate to innovation is dangerously misleading. There must be an awareness that innovation is not about technological change or totally new products and services. The great economist Schumpeter showed that innovation is the driving force of economic progress and that entrepreneurs are its agents. That is why such emphasis has been placed in the previous chapter on developing incentives to encourage the formation of new businesses. While new ideas are fundamental to economic growth, differentiation, segmentation of products and services and changes in markets are also demanded. Porter emphasises the point by defining innovation as

a new way of doing things; product and process changes, new approaches to marketing and distribution

and that in reality, innovation is actually

mundane and incremental rather than radical.

This is the lesson for the Welsh economy. It is questionable whether the Welsh economy is equipped to develop new products and services that are in any way meaningful or groundbreaking. While it is not suggested that R&D, new ideas and patentable ideas should be abandoned, what is required is a change in approach to understand and develop a culture of innovation.

Essentially, innovation has two stages: the new idea and its application. The two are not the same. Bhidé (2006) illustrates these two stages in this way: first, the 'upstream' development and creation by engineers and scientists of new inventions and technological products, often with no obvious commercial use. This is the R&D stage, often supported and encouraged by governments and agencies but without any real understanding of any potential use. Secondly, there is the 'downstream' stage when these original ideas are developed for the market. This is the real meaning of innovation and is more complex than the original, first stage. Its commercial development is, in the spirit of Schumpeter, the most valuable for economic growth. The worth of the innovation at this stage is to the user, not the original creator. The real added value is at this, the consumption stage.

This vital insight has important implications for applying the diamond model to the Welsh economy. Consumers, including businesses, must be willing and financially able to try these new products and services. Consequently, as discussed above, there must be a level of purchasing power within the economy. In addition, the level of domestic rivalry is important, while the number of independent businesses and buyers is vital in creating an economic environment driven by innovation and segmentation by firms. This level of rivalry needs new and dynamic firms as discussed in Chapter Three to develop the “*innovative milieu*”, as Porter describes it, within which innovation, growth and competitiveness can flourish.

The issue to be addressed is how a culture of innovation can be created, noting that the factors which make up the diamond are – as Porter notes – creatable. In illustrating the inter-connectedness of the model, it has already been noted that small, local, organic organisations are far more adept at understanding the need for creation and change than, the larger, more mechanistic organisations. Moreover, research in the Republic of Ireland further underlines both this inter-connectedness and the role of innovation.

Of the mix of externally owned and indigenous businesses that took part in the research, four fifths undertook product innovation and three quarters, process innovation. Product innovation was driven by interaction with – in declining order – customers, suppliers, other external sources and R&D. The research highlighted the importance of process innovation, driven initially by limited R&D (though none was described as ‘blue sky’) and then, in order of importance, interaction with suppliers and customers. Remarkably, only one third contacted academics for assistance with product development and just a quarter of the businesses taking part in the research sought academic guidance on new processes. In a booming economy such as Ireland, this latter statistic questions the use of links between business and academia.

Mention has already been made of the use of 100 per cent tax allowance for R&D; a similar scheme must be applied to innovation, even though there are potential definitional difficulties. In similar vein, the formation of creative industries, owned and managed by talented and creative people would be encouraged through the taxation system. In Ireland creative people are free from income tax and as a consequence, creative industries have prospered and, typically for such industries, clustered. In addition, as in other parts of Europe, VAT can be used to encourage the manufacture of locally produced goods which would be sold to visitors and non-nationals from outside the EU, and which would be free of VAT, thereby increasing product and service innovation and competition. The danger of leakages from increased disposable income noted at the beginning of this chapter is clearly an issue. However, the ideas outlined here to encourage an understanding of innovation, new businesses to establish and others to grow would militate against such leakages. Finally, just as important as innovation, is the role of human resources. This is discussed in Chapter Five.

The Wider Issues

The danger with using taxation as a principal tool of economic development is that prices rise as indirect taxes compensate for cuts in personal and corporate taxes. The advantages gained from placing more money and extra spending power resulting from lower taxes is reduced and may not have the desired effect in boosting economic activity. Aside from the obvious multiplier effect, careful consideration is required in using taxation based incentives so that lower direct tax revenues do not lead to substantial hikes in indirect taxation. It follows that reductions in personal taxation coupled with additional reductions in corporate taxes would probably result in a lower overall tax take.

The case for reducing one tax must take into account its overall impact on taxation, as HM Treasury will require that any shortfall is made up from other sources, especially if tax based economic development becomes an instrument of regional policy. It is imperative that none of the alternative sources of taxation undermine the competitiveness of Welsh businesses. Over time, a general shift to local indirect taxation would make up any shortfall, provided the earnings are ring fenced. This taxation based development is 'owned' by the benefiting region, in this case Wales. Local taxes are a fact of life in many parts of the world and need not be punitive. In Europe and the US, it is common to impose a local tourist tax of, say, one per cent of the cost of a hotel stay and bed taxes are common. Such taxes in Wales would add just a few pounds per night to the cost of a stay and would be unlikely to deter visitors and, given the numbers of visitors to Wales, would amount to a substantial sum.

Similarly, a local sales tax of a similar proportion applied throughout Wales, need not have a detrimental effect. Such additional taxes might be included in an increase in VAT. Businesses may well complain about being the nation's tax collectors, but they always were – purchase tax predated VAT. Computers, linked to banks for easy transfer of tax collected, make collection, verification, payment and control straightforward. With final demand inelastic products and services the tax take would not decrease and would almost certainly increase. Indeed, with the adoption of the ideas presented in this volume, any short term price rises would be offset by increased competition.

CHAPTER FIVE

Factor Conditions

Porter points out that each region has its own particular set of factor conditions. Those that are inherited and identified as basic factors and those that are creatable and which develop and change over time: the advanced factors. It is the advanced factors that make the major contribution to competitiveness. However, an abundance of factors is not enough. What matters is how efficiently and effectively they are deployed.

Education and skills are at the heart of economic success. Mention has already been made of the need for innovation, creativity and knowledge development. These cannot develop in a vacuum or occur without an appropriate, flourishing and successful education system at all levels. The role of education is fundamental to economic development and many of Europe's most successful economies attribute their success to a root and branch overhaul of the education system. To further the proposition that the Welsh economy requires a new and radical overhaul, a fundamental rethink of the role, value and approach to education in Wales is needed, such that Wales becomes, in the words of Porter a 'learning region'.

The entire approach of this volume has been based on *higher order strategic themes*, and it is certainly not the intention here to propose a detailed education policy. However, since education is central to economic development and competitiveness, the education system must not be developed simply for its own sake. As in successful European economies, it must be developed toward and within an economic development framework, thereby changing and driving economic renewal.

Such an education system requires recognition of the needs of the economy, correct management, and where appropriate, incentives. The first of these must provide a knowledge based workforce of skilled, motivated individuals, with technical and scientific knowledge, management education and financial literacy addressed at all levels and throughout the curriculum. Research has pointed to the importance of management as the most important vehicle of innovation and growth. The second and more controversial aspect is a close re-examination of education management. This would lead towards lean management, decentralisation of responsibilities and less bureaucracy, backed by the philosophy that allows those, at all levels, to do what they are paid to do, which is to teach. A system of discipline based on rigorous tests is required. It is worrying that students in Wales are not tested until their teens, GCSE is avoidable and even at tertiary and higher education levels, test and examinations can be avoided.

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The growing economies of Europe pay teachers well, give them discretion and ensure that teachers teach their own topics, while providing teachers with the managerial and professional support needed. Above all else, education adds value to the entire community, drives economic growth and cultural change and has the potential to include those who are excluded. But any change is doomed unless, as Porter puts it, teaching is regarded as a prestigious and valued profession. Given the evidence of European economies, there is no question that a successful and growing economy relies on the effectiveness, relevance and success of its education system.

The third is based upon the culture of tax based economic development and the role of appropriate incentives, albeit within the confines of the educational needs of businesses within the economy. Full capital allowances must apply to capital not simply in its traditional physical sense, but to human capital and the costs of training and education. This must apply where appropriate to all sectors of the economy and include higher education. In situations where such allowances may not be applicable, for example, to new or small businesses or those which have invested and await future profit against which to off-set an allowance, grant aid might be available. Alternatively, there is a case for a training board system that, in addition to making training available to businesses, would operate a system through which businesses are charged a levy, repayable upon providing training. This would be preferable to grant aid since it commits the employer to education and training or to facing a financial penalty.

However, such an education system must be dynamic and sufficiently aware to change as the needs of the economy change. There appears to be little technological sophistication in the Welsh economy and although it may be politically attractive to pretend there is, in reality, there is not. Research by Aghion and Howitt (2005) point out that the form of education in economies driven by advanced technologies is not necessarily appropriate in less advanced economies. This does not suggest that overall, higher education is of lesser importance. The upshot is that higher education is more important in the former economies while secondary and tertiary education is of greater importance in less developed economies. What the research does point out is the need for an awareness of economic dynamism and the associated need to make education relevant, effective and capable of change. In many ways this emphasises the wider role of education and intellectual capital in providing skills. Education and intellectual capital is not only about higher education or, indeed, the knowledge based industries but is recognition of the need for skills at all levels.

Porter refers to two other issues, each dependent upon the other. These are the physical resources – such as land, climate, location – and geographic size and infrastructure, especially transport. As with education discussed above, a volume of this type cannot fully address a detailed policy for transport. The transport network must be developed

not simply for moving goods, services and people around, but be central to why these things move, and that is the economy. Every country relies on the efficiency of its transport links. However, the unique physical resources and shape of Wales do present a particular problem and challenge. Perhaps it is no accident that the Assembly's Economic Development Minister is also responsible for transport.

There is no question that the transport infrastructure in Wales is poor and the Welsh Affairs Committee (2004) commented upon the poor quality of rail services, while the road system leaves a great deal to be desired. The transport infrastructure reflects not just why people move, but where they live. There has to be a realisation that the transport network in Wales is a function of the topography of Wales and to a great extent a consequence of the location of much of its former traditional heavy industry. This requires recognition that in the southern valleys and similarly, the mountains and industrial parks in the north, many employees have to commute to work. The transport system, especially the rail network of the south, has to meet this reality.

Capital Resources

It is often argued that two of the great weaknesses of the Welsh economy are the lack of a sound financial sector and the associated difficulties of funding business and raising capital. It has been recognised that there is a need for an investment bank and the idea of such a bank in Wales has more than once been suggested, but so far, without any success. Funds previously available through the Welsh Development Agency and now, available through the Welsh Assembly Government, together with imaginative use of Regional Selective Assistance, other government funds and with support from one of the clearing banks could have formed the nucleus of such a bank. However, rather than an investment bank, a more sophisticated means of building a sound, indigenous financial sector would be through the establishment of a stock exchange in Wales. The idea of a Wales based stock exchange is not new as witnessed by the functioning of the Coal Exchange in Cardiff, which, for many years was one of the busiest in the world, as was the former Metals Exchange in Swansea.²

A Wales Stock Exchange would substantially expand legal and financial expertise, and the development of a financial sector, and lead to an equity market built on understanding the unique needs of Welsh business finance. This, in turn, would extend both business education and the development of a wider, business and financially literate community. In addition, it would encourage internal growth and ownership, provide new sources of long term funds for Welsh firms and act as a catalyst for a regional financial cluster. The Exchange would offer a real but attainable target for growth without the difficulties of entering the London based AIM exchange, although it could be a feeder for it by increasing in number the few Welsh firms currently quoted on the London Stock

2) Both buildings still exist, the former as an office building and the latter as a care home.

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Exchange. At a time when world stock exchanges are merging, the idea of a new small, regional stock exchange may seem odd, yet a regional exchange has been established in the midlands of England, centred in Birmingham and the idea of a Scottish exchange has been mooted, although opposition from London's AIM has delayed its development.

The new Birmingham Stock Exchange (named Investbx) has been established by the Midlands Regional Development Agency with the aim of encouraging the local population to invest in businesses located within their own area. This may offer a way forward for the formation of a similar institution in Wales, although of course, interest in trading in the exchange might come from anywhere in the country or abroad. Investbx sees its role as addressing the "equity gap," which its sponsors suggest will require funds of between £500,000 and £5m based on an estimate by HM Treasury. This figure is probably too large for a Wales based exchange because the scale of potential investment in Wales is likely to be much lower. This is why fees and appropriate due diligence must be reasonable. Once fully established, Investbx plans not simply to be a source of funding, but of active share trading as well.

The establishment of a Wales Stock Exchange opens up further areas of innovative financial activity and there is no reason why the Exchange should not become a bonds market, allowing the Assembly to raise its own finance, thus providing the opportunity to raise revenue without requiring personal taxation. It would be a means by which government or, an appropriate government agency, might directly invest in a business. This is a system common in Europe. In addition, investment by ordinary shareholders in the market would stimulate other sources of personal wealth creation, especially if, as incentive to invest, there was a tax ceiling on dividends lower than that on earnings. Stock options for local management would in turn develop financial knowledge and organisational commitment, and individual share holding employees would build their own pensions while the Exchange would provide a source base for the business angels' network. It is likely, given the number of private limited companies in Wales that the Exchange would develop as a base for Tradable Unregistered Equity. This is a system in which shares are not sold in public offerings but through large investors. Trading of this type is of benefit to small, family owned companies that need capital but fear external takeover. In a further development, the Exchange has the potential to function as a corporate bond market. This market would form an important part of the exchange's activities. Corporate bonds are becoming an increasingly important source of business finance for growing businesses seeking to finance an expensive investment and which may prefer to borrow over the long term. Within Wales no such local funding opportunities are available.

Just as important as the actual activities of the Wales Stock Exchange would be the cultural boost given through the establishment of such an organisation. The local, Welsh nature of the Stock Exchange would be likely to draw and attract Welsh based businesses

which would be more willing to take part. However, it is important that the skills and benefits that would out-spin from such an important and potentially groundbreaking development should bring benefits to the whole of Wales. Therefore, it is suggested, in the spirit of spreading economic wealth, that the establishment of a Wales Stock Exchange is based in a part of Wales other than Cardiff.

To estimate the effectiveness of a Wales Stock Exchange is difficult. However, work by Huggins (2004) has considered different scenarios and the possible effect of the Wales Stock Exchange on the Welsh economy, Table 3.

Table 3: GDP per Capita Scenarios Relating to an Increase in the Number of Stock Listed Companies within particular UK Regions

Region	Current Index of GDP per Capita	20 more listed companies	30 more listed companies	40 more listed companies	50 more listed companies	60 more listed companies
Wales	80.5	83.1	84.7	86.3	87.9	89.4
North East	77.3	83.9	87.5	91.0	94.5	98.0
North West	86.9	91.0	93.1	95.1	97.2	99.2
Yorkshire & the Humber	87.9	95.7	99.7	103.7	107.7	111.7
East Midlands	93.6	99.4	102.6	105.8	109.0	112.1
West Midlands	91.7	97.8	100.9	104.0	107.2	110.3
South West	90.8	96.8	99.9	102.9	105.9	109.0
UK	100.0	100.0	100.0	100.0	100.0	100

Source: Robert Huggins Associates (2004)

Therefore, the task is to establish just how many companies there are in Wales. Data from Companies House lists just over 66,000 private limited companies registered in Wales and 120 public limited companies. However, these data should be treated with some caution as some of the public limited companies are actually subsidiaries of earlier inward investment, and some private companies are registered at their adviser’s premises while their actual activities are elsewhere. It is also apparent that many companies register general activities, making sectoral analysis difficult. Despite these shortcomings, the absolute numbers do indicate a substantial distribution of potential investors.

When established, the Wales Stock Exchange is likely initially, to be small and consequently, to have less active stock, lower liquidity and slower trades. Although as at the Malta Exchange electronic trading may well be the way that trades are made, such an exchange lends itself to a “trading floor.” This may seem odd, but the need to develop financial, business and management skills in Wales would be hastened through daily, personal contacts, not only within the exchange, but also with and between those businesses and organisations outside the immediate exchange but that deal with it.

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With appropriate expertise, the Wales Stock Exchange would exploit an increasingly growing gap in the market by establishing itself as an institution used by smaller business organisations. This strategy would counter the increasing tendency of the London Stock Exchange and others to trade only with large investors and big business, a trend confirmed by the numbers of small, quoted firms that continue to leave the stock market (Huggins 2004). In 2005 the European Private Equity and Venture Capital Association issued a report calling for a European “Small-Cap” exchange to make finance available to smaller firms. Although this may be too ambitious for a Wales exchange, it illustrates the growing need for sourcing small amounts of finance. Increasingly, economies are seeking to become a source of internationally traded services and the exchange has the potential to provide a base for such developments, within the Welsh economy yet serving a global market.

The problems of establishing an exchange are many but it is instructive to note that Malta has established a stock exchange trading just 15 stocks and a number of corporate bonds, while only 26 are traded at the Palestinian Exchange.

CHAPTER SIX

Related and Supporting Industries

Porter maintains that the inter-dependence of the factors within the model are brought together in clusters. Precisely what constitutes a “cluster” is unclear and many definitions have been used. Auditing Welsh Industry (2005) noted eight separate definitions and the dti, six. Pundit (2002) provides a definition. A cluster is

a geographic concentration of competing, collaborating and interdependent companies (sic) and institutions which are connected by a system of market and non-market links.

The strength of this definition is the explicit reference to geography, although what constitutes distance within the cluster, which is fundamental to the idea of clusters, is avoided. Porter describes successful clusters as being made up of domestic, but internationally competitive suppliers and sector related industries, demonstrating supply chain co-operation. In turn, they are supported by appropriate managerial and technical personnel, operating within an environment where a firm’s external economies are internalised within the industry cluster.

This idea is not new. Clustering is a form of critical mass that enables individual economic activities and businesses to gain advantage from clustering in the same location. However, there is a danger in attempting to adopt cluster theory as the basis to facilitate economic development, and such an approach requires caution, especially within Wales.

The first and most obvious is size. Much of Porter’s thinking on clusters is based on very large and successful economies, such as the USA. In a country of such distance end to end, local clusters of firms make economic and geographic sense. In contrast, the dti (2001) noted that in small countries and regions, clusters were not as deep, and that the

size of the region typically impacted on cluster depth and number.

Wales is a small country and the reality is that the main industrial and business activity is concentrated within the narrow valleys and coastal plain of the south and a pocket in the north east. If the policy ideas suggested in the previous chapters are pursued, the entire economy would be stimulated and become more generally competitive.

Secondly, in successful economies such as Finland, economic growth policy has been based not on encouraging the formation of specific clusters but on creating the right

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conditions for overall economic growth. This has been backed by a degree of externalisation involving cooperation between business and universities and based on an excellent school system.

Research in Ireland questions the importance and attributes given to clusters by Porter. There was little co-operation with suppliers and only one quarter of the businesses undertook regular contact with competitors, many of whom were some distance away. The great danger with clusters – dependent of course on the sector or industry – is the lack of diversity and over concentration on particular sectors or industries.

According to the dti, there are fourteen clusters in Wales, of which only three are defined as international – opto-electronics – a small cluster, bio-technology – a shallow cluster and aerospace, a declining cluster. Three clusters, which include tourism, are defined as growing while the three largest in employment terms, metal processing, consumer electronics and automotive products, are not only quite basic industries, but are locked into declining down-stream users. Further work sponsored by the Welsh Assembly Government, sub-divided the Welsh economy into 21 sectors and in general, reflected the earlier work of the dti, notably identifying the clusters based on metals and electrical goods. Reflecting the dominance of the public sector in Wales, education, public administration and health were each, statistically, clusters. Allowing for the level of aggregation, the striking thing about these data is the lack of clusters based on final demand products, the domination of the public sector together with a continued reliance on derived demand products.

This is not to say that the idea of clusters must be abandoned. In providing support and encouragement to identified growth sectors, for example tourism, and adopting a wide definition of manufacturing and services to attract incentives, businesses in food, beverages and other products basic to tourism, would cluster and flourish. Equally, small clusters such as books and literature at Hay on Wye, for example, would be encouraged. However, clusters cannot come into being by edict. They must emerge organically, albeit with support as appropriate and within a healthy competitive environment.

Notwithstanding whether clusters can be developed or allowed to develop organically, the real issue for economic development is the supply chain rather than clusters *per se*. Businesses, public services and local residents must be prepared to spend on suppliers of goods and services based within their own area. Clearly, the place to start is by developing the domestic, but internationally competitive suppliers, as suggested by Porter. The need is to base manufacturing on finished goods, products that are initially domestically attractive, innovative, productive and potentially capable of export. Porter points to the German brewing industry, driven by large numbers of small breweries, initially serving local and then international demand while also recognising the need to

develop and innovate in all aspects of the business – including knowledge based skills, such as marketing, finance and technical support.

The dominance of the public sector should be used in the development of traded services, innovation and the knowledge economy, but with different powers and mind set to serving local statutory needs. Realistically, therefore, following the model of Finland, Wales is too small to be divided – in economic development terms – into a search for, or development of, individual clusters. It is more appropriate to see Wales as the cluster, based on appropriate and high value externalities. If the synergetic benefits of clusters are to be achieved then in this context the ‘cluster’ is Wales.

CHAPTER SEVEN

The Role of Government

The whole approach of the diamond model is predicated on economic growth and the well being that comes about as a consequence of successful businesses, innovation and competitiveness. Porter refers to the role of government in unleashing and enhancing economic forces, certainly in the short-term, and while not an explicit factor in the model, the role of government within the Welsh context cannot be ignored. Presently, the public sector is the dominant power, employer and investor in services and infrastructure in Wales. To achieve the sought-after changes in the economy, a significant and fundamental change in the economic structure is needed, not least, a general loosening of controls and a rolling back of the public sector to encourage competitiveness, business and economic growth. This is the proper role required of government.

Planning conditions

Often ignored in debates on economic development is the wider physical environment, and this is an area where government intervention can make a substantial difference. Economic growth also requires structural regeneration and this must sit alongside planning policy. The appropriate planning regime is a fundamental requirement in driving forward a planned, coherent, economic strategy. There must be a general presumption against development outside centres of population. The description, 'centres of population' is deliberate and is used as a direct contrast to out of town development which has a different dimension in Wales. There must be such a presumption for development within Wales' towns and cities, in the valleys and rural areas.

Even limited development away from existing population centres that requires transport must be resisted. This is reflected in Planning Policy Wales (PPW) which has provided guidance on development within centres of population where the need to travel – apart from walking or cycling – is minimised and all services are also within easy reach. Such a policy would not only help to re-vitalise declining communities, which will stagnate without development, but reflect growing concerns about assisting the environment. In France and Denmark, and to a limited extent in Ireland, there is a general presumption against large new shopping outlets outside population centres.

Sadly, much of the physical character of Wales has been destroyed in the name of 'good planning'. To assist in the re-development of run-down population centres, small, local

shops and retail outlets should be exempted from meeting all the planning requirements. To improve the physical environment there is a case for a major loosening of planning controls such that Wales' communities become physically different, develop organically and become attractive. This would have to be part of a coherent strategy aimed at breathing life, introducing skills and encouraging businesses into declining communities. Empty business premises are at best unsightly, present a health hazard and are a very real indication of wider economic and social decay.

Yet, these properties can be at the centre of both physical and economic renewal. Too many properties that can usefully contribute to economic development are empty because of punitive leases. Property professionals are obsessed with long leases, display inflexibility and seek high rents. The tax system should be amended such that after a period of vacancy the empty property is taxed to the full value of the lease. A similar scheme, if somewhat less punitive, has been suggested by the UK government, making empty property subject to business rates after three months of vacancy. Similar proposals to apply payment of business rates to vacant and derelict land have also been made. There is a positive side to this. The UK government has also suggested a Business Premises Renovation Allowance, a tax based scheme to encourage re-development applied after the property has been vacant for more than a year. In reality, the most likely and effective way to bring property back into use may be to allow the full cost of property renovation against tax. This contrasts with much current planning development policy in south Wales which is to treat the valleys as dormitory settlements and encourage all new development to locate on the M4 corridor; a policy reflected with the A55 trunk road in north Wales.

The Public Sector as Purchaser

The public sector dominates the Welsh economy in terms of employment and to a large extent, economic activity. It has massive purchasing power and although there is strictly no legal obligation for public sector bodies to purchase from the lowest tender, in practice this tends to be the case. However, the drive within local government brought about by sub-inflationary settlements has resulted in value for money principles having to be applied virtually across the procurement spectrum. Allied to this has been the move for local authorities to form consortia for purchasing energy, fuel and common supplies. Working together and showing commitment, imagination and courage, the public sector, emphasising its place as the largest employment sector in Wales, can be a driver of the Welsh economy and competitiveness.

Although Welsh Local Government Association (WLGA) rules do in certain circumstances allow local authorities to purchase goods and services from other than the lowest tender, public bodies generally must be allowed to take into consideration

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matters other than simply cost. While it would be appropriate for clauses in public procurement contracts to stipulate local firms, the definition of 'local' has to be clarified, as current EU procurement legislation precludes any such moves and it is an offence that might lead to economic sanction. However, with tender assessment now including a weighting for elements offered by tenderers, it is opportune for public bodies in Wales to develop guidance in such matters based on local needs, employment, and the wider multiplier effect, including environmental issues, and which local suppliers find easier to meet.

Manufacturing Firms

Within the context of the Welsh economy, any economic strategy, and especially one based upon the diamond approach, has to recognise the role of manufacturing. Indeed, the long tradition of manufacturing in Wales can be regarded as a basis for future competitiveness. Any suggestion of encouraging manufacturing requires a definition of exactly what constitutes manufacturing. This may seem to be a secondary consideration, and indeed, irrelevant but two important facts need to be noted.

Firstly, manufactured products in all their forms drive the economy, create wealth, drive innovation, earn foreign currency, and remain a major source of good quality, well paid employment. These attributes are fundamental to the diamond model. Secondly, manufacturing requires knowledge based skills in product development, engineering, business and management, and for the manufacturing sector to survive and grow, such skills need to be recognised and nurtured. Traditional areas such as precision engineering are just as capable of innovation as high technology and ICT organisations and, indeed, in many ways, more so.

The Importance of Manufacturing

Often omitted from the debate on manufacturing is a broader understanding of the complete service over the product life-cycle. A definition that recognises the entirety of manufacturing is that developed by the Scottish Manufacturing Group which described manufacturing as,

...creating and making, the entirety of the process incorporating research and development, design, supply, production, software, services, distribution delivery and aftercare

This definition emphasises the wider importance of manufacturing and shows that the process of making is but a small part of the contribution that this sector makes to economic well-being. Growing sectors of the economy that provide added value are

manufacturing final demand products such as water bottling, food and beverages, toys and clothing. Again, and reflecting the inter-connectedness of the model, such businesses build on domestic demand, and need the kind of education, knowledge based, business and management skills inherent in the wider diamond model.

Despite the substantial job losses and closures in Wales over the past years, around one job in five remains in manufacturing. Many of these are well-paid jobs in an economy notoriously dominated by low paid employment. In addition, manufacturing still accounts for almost 20 per cent of Wales GDP and in 2004 exports from Wales were worth in excess of £8 billion. Often overlooked, is the extent to which other sectors are interlinked with, and rely upon, manufacturing. Many sectors seen as services, such as wholesale and retail distribution, construction, maintenance and after-sales services use manufactured goods as the reason for their existence. As an example, even the fast food industry should be classified as manufacturing, organised as it is on manufacturing principles and adding value.

Manufacturing is an important element in the Welsh economy, and must be at the heart of economic policy. The Welsh workforce has specific skills in manufacturing and there is a great deal of knowledge rooted in the things that made Wales recognised throughout the world and which needs to be nurtured, developed and transferred to newer industries. Manufacturing in all its forms is fundamental to economic well-being, international competitiveness, innovation, and growth. With the correct policies and support it can also have a significant multiplier effect in the economy. In order to maximise the influence of manufacturing on the economy of Wales, the role of the public sector, notably government, is important in influencing the development of manufacturing. There is no substitute for a healthy, dynamic, competitive economy capable of driving forward and renewing itself. However, since the latter cannot be said to describe the current state of the Welsh economy or, that of manufacturing within it, it leaves the public sector or, government to seek and provide ways in which the manufacturing sector can be nurtured and supported.

Direct Assistance to Manufacturing

Finance and innovative taxation have their place in stimulating the economy, but in addition require an appropriate support programme which is inexpensive to implement. Notwithstanding the important role of taxation addressed in Chapter Three, there remains a case for sources of direct financial support. The principal government scheme of financial support is Regional Selective Assistance (RSA) under the provisions of the 1982 Industry Act. This scheme has been heavily criticised for failing to impact upon unemployment or to improve the relative wealth of the poorer regions of the UK. Improvements in manufacturing emanate from productivity gains and inevitably the use

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of high technology. The basis upon which RSA is allocated works against the encouragement of productive manufacturing and the scheme should be simplified and changed to address productivity and competitiveness because improvements in manufacturing emanate from productivity gains and inevitably, the use of high technology. Specifically, two changes are required to improve the effectiveness of RSA. Firstly, the job creation criterion must be removed. Secondly, the twin concepts on which the scheme is based, 'additionality,' –

*the project will not go ahead in time or scale without assistance
from the public sector*

and viability –

the project must demonstrate financial viability

need to be reviewed, in particular, the basic conflict between the two requirements, as additionality and viability are mutually exclusive. The inclusion of the additionality element of the scheme “the project will not go ahead in time or scale without assistance from the public sector”, suggests that probably, the project was not viable in the first place.

Small-scale manufacturing enterprises are invariably locally owned concerns which have a vital role to play in the future of manufacturing and the future well being of the Welsh economy. Means by which barriers to entry and growth can be removed or reduced and productivity and innovation improved, can have a major impact on business success. An initiative similar to the Small Engineering Firms Investment Scheme (SEFIS), which was available throughout the UK in the early 1980s would meet this need. Bureaucracy was kept to a minimum and a grant of 30 per cent of the capital cost was paid upon production of an invoice. The objective of the scheme was to stimulate investment by small engineering firms in new advanced capital equipment. This would reduce barriers to entry, stimulate investment, increase productivity and innovation while at the same time provide a boost to manufacturers in all sectors.

The SEFIS scheme proved successful and provided a significant boost to competitiveness, productivity and quality. By targeting small, local firms it brought an added and important extra dimension by which competitive firms developed wider skills in innovation, product development and soft skills such as marketing. During the limited life of the original scheme, £70m was paid in grant across the UK. Research showed that the use of SEFIS hastened investment decisions, brought cost savings and improved profits for both the benefiting firm and its customers. Table 4 illustrates the overall impact of the scheme.

Table 4: SEFIS Quantifiable Benefits

*Outgoings		Benefits	
Grants	£70m	Users' profits from extra sales	£7m
Publicity/Manpower	£1m	Users' profits knock-on sales	£2m
		Users' profits from cost savings*	£16m
		Customers' cost savings*	£16m
		Customers' extra profits	£6m
		M/c tool mfrs' profits	£3m
		Less publicity/manpower	-£1m
		Net benefits due to grant	£58m
		Benefit of the grant itself	£70m
Total outgoings	£71m	Gross benefits	£128m

Source: dti

*Net of proportion of grant paid on expenditure leading to additional sales.

Unfortunately, separate figures for Wales are not available. However, the gross benefit to the UK economy was estimated at £128m and, if the cost of the grant is deducted, a net benefit of £58m arises. Similarly, the overall effect of productivity advances is not known but is reckoned to be substantial. In addition, the adoption by small firms of advanced manufacturing equipment brought the added bonus of acquiring or developing wider engineering skills. Although SEFIS was not proposed as an employment creation scheme, and in many ways it could be regarded as having the opposite effect, estimates suggest that in the UK 300 jobs were created down-stream by grant recipients' customers. This further illustrates the important multiplier effect of manufacturing on the economy. In a Welsh context, such a scheme would have a dramatic effect on manufacturing in Wales, especially as suggested earlier, if the definition of 'engineering' becomes 'manufacturing' and includes the cost of capital in all production sectors such as printing, paper, toys, food production and other final demand products.

CHAPTER EIGHT

Conclusion

The purpose of this volume has been to raise questions and encourage debate. It is not intended to be a wish list of proposals to resolve that most intractable of problems that is the state of the Welsh economy. Rather, it is intended to show that the range of measures that could be applied and the solutions proffered have worked elsewhere. It may well be that some or all of the ideas presented are beyond the present political system but, even so, they should not be dismissed but need to be considered and debated. The intention of this work is to sow the seeds of innovative measures designed to tackle the ills of the Welsh economy. It was never the intention to drown the reader in tables, numbers and statistics.

However, having raised the issues, probably the next steps should be to cost and evaluate the efficiency of these ideas in meeting the criteria for economic resurgence. Of course, a volume such as this, suggesting as it does a fundamental re-think on economic development should not, and in reality, could not, ignore influences that impact on economic development outside this work. Such a fundamental restructuring of the economy cannot take place in a vacuum. The factors that will drive change, as described in this volume, in turn depend on other factors which themselves, are important in the way that they impact or restrict economic development. Of these, education and transport are the two of the most obvious and although outside the core context of this volume, will require further informed discussion.

It is accepted that many of the ideas contained herein may well require changes in the law, powers of local authorities, and the public sector in general, and the National Assembly of Wales. There may well be European Union issues so far as tax changes are concerned. Indeed, some changes are radical and thus far unaddressed. However, this must not mean that such changes and ideas should not be explored or considered or be seen as a barrier to addressing the wider issues of building a successful and thriving economy.

Finally, Porter finds an important role in national competitiveness for cultural institutions and quality of life. While cultural differences can and do contribute to economic wellbeing, a successful and thriving economy, based on locally owned, successful and competitive businesses can stimulate pride, national awareness and quality of life. The lessons from other, small countries in Europe have set the example and shown how economic wellbeing can be achieved. Wales must follow suit.

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