

# Industrial policy: A critique

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First published in **1997** by **The Free Market Foundation**  
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FMF Monograph No. 16

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ISBN: 1-874930-21-X

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# Foreword

In the paper which follows, Duncan Reekie starts by giving a thorough and scholarly account of all the theories of Industrial Policy which have been put forward from Adam Smith to the present day. He opens by quoting a passage in which Adam Smith objects to what we today call Industrial Policy on the two grounds which have been constantly reinforced and never refuted by theoretical developments ever since - that governments do not possess the necessary knowledge to form such a policy and that they cannot be trusted with the power necessary to implement one.

Professor Reekie outlines the policy debates which took place within the neo-classical paradigm and shows how weak and unsatisfactory were the various rationalisations for industrial policy which were put forward within that school. He also reminds us of modern public choice theory which has strongly reinforced Smith's view that government cannot be trusted. He deals also with the various so called neo-marxist proposals which have been put forward in Europe and South Africa and shows how weak they are.

He then turns to the empirical evidence, and reminds us what a poor track record industrial policy has in the world. He specially addresses the claim that the industrial success of Japan is attributable to the industrial policy administered by MITI. In fact, as he shows MITI's targeting of steel led to the overdevelopment of that industry ending in the lay-off of 50 000 workers and the scrapping of costly plant in the 1980's, while MITI had actively and persistently opposed the development of the Japanese motor industry. In thirteen industrial sectors in Japan, between 1955 and 1990, there has been shown to be a negative correlation between the rate of growth and the scale of policy support. Not one of the spectacular innovations which came out of Japan, like the VCR, the Trinitron TV tube, plain paper copiers, the Walkman, and many more, was targeted or promoted by MITI.

Turning to South Africa, Reekie shows how we have suffered in the past from a heavy handed and very damaging industrial policy, and while this has been partly abandoned, quite a lot of it is still in place, while some of the new initiatives being discussed, like the pursuit of "benefication" are incompletely thought out and of doubtful validity.

South Africa, as a developing country, is concerned not so much with industrial policy in the European sense, as with the great Third World question, how to promote growth. Here again, most of the theories which Professor Reekie reviews, are confused, mutually contradictory, and often not in accordance with known facts. The conclusion that Reekie reaches is that the most hopeful approach - indeed the only hopeful approach, is that of the Austrian School economists, and particularly of Kirzner. The key to growth is entrepreneurship, and the function of government is to ensure that the institutional environment is such as to encourage and facilitate entrepreneurship.

The views expressed in this *Monograph* are those of the author and are not necessarily shared by the members or staff of the Foundation.

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## The author

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## Acknowledgements

I am grateful to the Economic Society of South Africa for permission to reproduce the following essay which first appeared in the Society's journal, the *South African Journal of Economics* in 1995. I repeat also the thanks expressed there to Henry Kenney for both editorial and academic input.

**W Duncan Reekie**

# 1

## Introduction

he study of industrial policy draws on the literature of industrial economics, trade policy and development. Further, some earlier institutional and neo-Marxist literature is re-emerging in European Union debates, and more recently also in South Africa. This *Monograph* attempts a synthesis and adds a new dimension. It stresses entrepreneurship and its dependence on the right institutional framework.

In the first two sections the classical and neo-classical cases for and against industrial policy are sketched. Third, the public choice argument against, and revisionist views in favour of, industrial strategy are outlined. Fourth, empirical evidence and policy statements are contrasted. Fifth, an attempt is made to integrate the recent discussion on growth theory, entrepreneurship, and institutions into the overall discussion.

# 2

## A brief classical perspective

Industrial policy is neither more nor less than government regulation of industry. What is the appropriate relationship between governments and markets? Adam Smith showed how the mechanism of the 'invisible hand' would benefit the whole community. Individuals pursuing their own self-interest would be limited by the self-interest of others to pursue the common good of all. But if competition were restricted, the work of the invisible hand would be impaired. As Smith (1776, p456) put it:

What is the species of domestick industry which his capital can employ, and of which the produce is likely to be of the greatest value, every individual, it is evident, can, in his local situation judge much better than any statesman or lawgiver can do for him. The statesman, who should attempt to direct private people in what manner they ought to employ their capitals, would not only load himself with a most unnecessary attention, but assume an authority which could be safely trusted, not only to no one single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who had folly and presumption enough to fancy himself fit to exercise it.

Smith was in no doubt that law and order and contractual, property and exchange rights had to be recognised and enforced by government. North (1990) sums up these prerequisites in the word 'institutions'. In a path dependent world we must 'get the institutions right'.

In Smith's analysis market processes promoted efficiency and led to just outcomes. He argued that, (1759, p161) provided self-interest is appropriately channelled, there is a moral basis for emphasising liberty. Self-interested man is 'recommended to his own care', for who is more fit to care for his interests than he himself? Reid points out (1989, p2) that such a system is itself a matter of institutional form and social evolution. Not only are there obligations to others inspired by the presence of the 'impartial spectator', but economies evolve and grow through stages as a consequence of the division of labour, the propensity to truck, barter and exchange, and a dynamic competition which Smith characterised (1759, p162) as 'the race for wealth'.<sup>1</sup>

This dynamic is not perpetual. It is self-limiting and dependent on the surrounding institutions. Skinner (1979, p81), commenting on Smith's stadial analysis remarked that the agrarian stage that preceded feudalism itself led to 'a state of conflict ... which gave the proprietors some incentive to alter the pattern of landholding'. The feudal pattern which then emerged was also self-limiting due to the inappropriate specification of property rights. Smith (1776, pp383, 384 and 393) detailed the problems arising from impediments to land subdivision and sale because of primogeniture laws and the disincentives to productivity arising from dues owed to feudal landlords.

If inappropriate institutions result in the exhaustion of opportunities, the question is how to move to the next and higher stage. Smith (1776, p422) describes the move from feudal to commercial society:

'A revolution of the greatest importance to the publick happiness was in this manner brought about by two different orders of people, who had not the least intention to serve the publick. To gratify the most childish vanity was the sole motive of the great proprietors. The merchants and artificers, much less ridiculous, acted merely from a view to their own interest, and in pursuit of their own pedlar principle of turning a penny whenever a penny was to be got. Neither of them had either knowledge or

foresight of that great revolution which the folly of the one, and the industry of the other, was gradually bringing about’.

As Reid (1989, p6) puts it, the

‘Historical changes wrought (were) thus the consequences of individual self-seeking behaviour, but (entailed) essentially *unintended consequences* ... of revolutionary significance’ (emphasis in original).

1

This interpretation of Smith differs from those who suggest instead that Smith was ‘a creator of general equilibrium theory’. Reid (1987, p3) argues that while ‘Smith did ... provide an analysis of how all markets would ultimately work harmoniously ... his greater emphasis was actually on processes of adjustment’ that neo classicists only model. ‘In Smith it is the process itself that is the competition. Further, this process is part of an analysis of growth’.



# 3

## The neoclassical arguments

Economic thought moved away from Smith's study of market processes and institutionally dependent stadial growth. By the mid-20th century general equilibrium theory had moved to centre stage. Unrealised gains from trade do not exist and institutional change is called for to aid return to, rather than to encourage departures from such conditions. Where Smith focussed on the dynamic benefits which flow from the invisible hand, neoclassicists sought to identify circumstances where markets did not function perfectly. A case for corrective government intervention could then be made.

There are two fallacies. First, it is logically self-evident, in theory, that market failures should be corrected. But the presumption that the abstract resembles reality is misplaced. Second, the correction of market failures is not costless. In practice there is a trade-off between government failure and market failure. What market failures are there? What policies have been suggested?

Smith noted the tendency of businessmen to collude. He did not, however, believe competition policy could be implemented in any way compatible with liberty or justice (1776, p145). Later the problem of natural monopoly began to be addressed. Antitrust policy, state ownership, rate of return regulation and marginal cost pricing rules were all alternative policies aimed at such problems. But even there, prior to the perfect competition paradigm, it was understood that 'competition for the field' was as meaningful as a policy directed at achieving 'competition in the field' (Demsetz 1968). More recently this has been formalised in the theory of contestability (Baumol, *et al* 1983) and policy towards natural monopoly now includes privatisation and deregulation.

Neoclassicists also invoke externalities to justify policy action. Lack of policy would result in too high a level of activity with external costs, and too low a level of activity in the case of external benefits. Pigovian taxes or standards are then the policy options. Again, as with monopoly policy, the obvious correctives to market failure have been questioned. The Coase theorem suggests that measures to facilitate delict procedures and better to define property rights are often less costly devices to attenuate externalities.

Neoclassicism also assumes full consumer information. If this is incorrect, value-maximising trades may not occur. Policy can compel non-fraudulent information disclosure. Alternatively, consumers, acting as principals, can hire agents with the expertise to carry out complex purchase decisions on their behalf. As with externalities, institutional frameworks can be designed to minimise transaction costs and encourage market activity. Formal policy may – or may not – be the least cost method of handling the problem.

Producer uncertainty may be even more important. It is argued that private investors can be discouraged. Therefore, to arrive at an optimal level of investment, government has to step in and encourage the development of, new (or, if not new then 'targeted') firms or industries. The infant industry argument received support from these developments. In countries supposedly lagging behind protection is warranted to permit an infant industry or firm to 'catch up'. If there are external benefits under-investment occurs. If uncertainties can be removed, say through a tariff or subsidy, then under-investment will be countered. Later, scale and lower costs permit the firm or industry to become competitive so that protection can be withdrawn.<sup>2</sup>

International agreements such as GATT, NAFTA and the Treaty of Rome attempt to prevent or limit government use of tariffs. The result has been a resort to non-tariff barriers and other industrial policies. In particular, taxpayers' money finds its way into targeted firms or clusters of firms. This takes quite a number of forms : decentralisation incentives, 'kickstarts' and sector-specific encouragement of 'strategic' industries, pricing and investment subsidies and actual price controls. We can identify two general classes (Burton 1983, p29). Accelerative policies aim to

increase successful business experimentation. They include small business policy, industry-specific encouragement and promotion of new technologies. Decelerative policies aim at slowing 'natural selection' by preventing bankruptcy or encouraging alternatives such as rationalisation.

Robert Reich (1982, 1983), was an early American proponent of accelerative policy. Management he argues, has a predominantly efficiency-based value system. This operates at the expense of a more civic-oriented culture. This, in turn, has resulted in America comparing unfavourably with countries whose comparative advantage lies in providing jobs which require skilled labour and in the production of technology intensive goods. Such jobs are 'relatively secure against low-wage competition because they depend on high level skills' (1983, p128). America must move beyond the era of mass production and the 'radical distinction ... drawn between those who plan ... and those who execute ... (which) is inappropriate to flexible-system production' (p135). What is needed, says Reich (1982), are policies to discourage management short-termism and worker conservatism as well as policies to speed the flow of labour and capital to high value-added activities.

Norton (1986) rejected Reich's pessimism. He relied on (pp35-6) Krugman's (1983) critique, which itself stays within the neoclassical framework. Krugman examined seven targets for accelerative policy. He found four to be invalid, and the remainder ambiguous. First, would labour and capital, if moved to high value-added industries, raise productivity and incomes? No, say Krugman. What makes some jobs high in value-added is a mix of acquired skill and capital back-up. Shifting capital to them in the face of market signals to the contrary would reduce aggregate output and job growth. Second, intermediate industries should not be targeted simply because they provide inputs downstream. Only market failure can justify this. Otherwise, inputs should be purchased 'as usual' from the least cost source, at home or abroad. Third, the infant industry argument of 'eventual competitiveness' is 'not a useful guide (for) selecting targets'. Many do not grow up, inappropriate infants might be chosen; but Krugman queries also whether future profits and export earnings, even if achieved, would pass a cost-benefit appraisal. Fourth, targeting industries whose opposite numbers receive aid from their own government promotes industries where excess capacity globally exists – 'not a promising approach'.

Krugman lists three deviations from the competitive model where targeting may be defensible – albeit a major problem is still policy information. Thus (anticipating his 1987 paper on international trade theory), where there is a duopoly and substantial learning benefits, a subsidy may help a domestic firm win the market. The assumptions necessary are that (a) government is more willing to incur up-front losses than commercial participants and (b) that the *ex ante* assessment is correct. But, there is little empirical evidence to suggest that government would have a comparative advantage in either taking such decisions or managing the results. Krugman's caution places him in the classical tradition. Smith argued against subsidies to trade on grounds of practicality not theory. He claimed (eg 1776, p111) unfettered trade to be workable (not optimal), and required that exceptions be regarded with the 'most suspicious attention'.

Krugman's second justification of targeting is externalities in R & D. This is Arrow's (1962a) textbook case. Krugman questions both the wisdom of government and whether firms do underinvest in research. Finally, industrial policy may be appropriate to offset other policies already in place. The correct response, says Krugman, may be to remove the offending policies, not to further distort market signals.

2 Such arguments have often been made in South Africa in the past to defend continued and high tariff protection in, for example, the textile and automobile industries.

# 4

## Public choice and other revisionist approaches

Smith's 'most suspicious attention' was a warning against capture. Policy makers and bureaucrats are part of the economic system. They do not simply see a market failure and develop a corrective policy in the public interest. What do they do? Unlike normal market transactions where people seek profits and wealth is created, in the policy market participants seek rents and wealth is simply transferred.<sup>3</sup> Political markets, like pecuniary ones, are inhabited by self-interested individuals. Preferences exist for differing government policies depending on the perceived costs and benefits. Conversely, politicians and bureaucrats have an incentive to supply policies to gain political support or expand career prospects. What are the implications for industrial policy?

Again, information, uncertainty and incentives are the keys. In the industrial policy market, incentive compatibility need not occur. Officials do not have the same positive incentives as do private entrepreneurs. They have no property rights in gains created from a profitable trade. Nor do they suffer losses from misdirecting capital or labour. The consequence is a weakened awareness of socially optimal acts and an inverse reluctance to exercise caution when faced with choices less likely to be successful.

To paraphrase Coase (1937), which organisation can be expected to minimise transaction costs: a market or a hierarchy? Chang's book (1995, pp25-6) favouring interventionist industrial policy acknowledges this. He claims that overcoming bounded rationality is not a cost unique to government, and that the principal-agent problems of large organisations are present in both private and public markets. He writes:

'The fact that private transactions ... are conducted routinely shows that there are ways to control this problem through organisational innovations'.

Just so. Chang's argument is that hierarchies can indeed be designed to overcome information asymmetry. But the question remains : is this the least cost alternative?

Writings on the economics of regulation and collective action (e.g. Stigler, 1971; Peltzman, 1976; and Olson, 1965) suggest scepticism. It is not the lack of expertise of policy makers which is at issue but rather its direction. Hutt's consumer (1936) is not sovereign in the political market place.

Rather, because of interest group lobbies, consumers with their varying preferences will be under-represented. The 'losers' from inept policy, accelerative or decelerative, are consumers and taxpayers. Any one policy to them will have a low, and not very visible, cost. To the beneficiaries (labour and capital in the industry concerned), the benefits are visible and worth organising for. Because of diffused costs, any one of the losers, consumers and taxpayers, is much less likely to organise against selective policies lobbied for by gainers.

There is more. Industrial policy consequences may not only be perverse, they are also likely to be hidden. Niskanen (1971) showed that since bureaucratic success is partially measured by hierarchical size and status, the incentive to the bureaucrat is to invest to expand that hierarchy. Industrial policy becomes an end in itself. The politician, motivated by power and the desire to remain in office, will concur. The 'benefits' (e.g. new and additional jobs, exports and capital investment) are very visible. The costs, in terms of alternative products which could have been created, or the lower prices which could have been charged, or the employment in other industries which could have been available, are invisible and cannot be pointed to in response.

Public choice reinforces the wisdom of treading warily. It also complements the institutionalists who emphasise enforcing and clearly defining property rights, rather than blunting incentives through politically attractive but misguided regulatory actions.

Nevertheless, there remain those who argue for industrial policy on a theoretical basis. These are the neo-Marxists, typified by Cowling and Sugden (1994). Their unifying thesis is that modern industry provides 'socially incomplete decision structures' (Sugden, 1993, p88). Like public choice theorists, they argue that markets and institutions are influenced by a 'powerful subset of the population' (1994, p125). This 'strategic elite' takes decisions for its own benefit.

On closer investigation they come up with meagre conclusions, based on a failure to confront the principal-agent relationship. It is not enough to argue as they do, that economies are dominated by large, multinational oligopolists. It is quite possible that, given the risk of establishing themselves multinationals are not making abnormal profits. But the concern of decision-making by management while workers suffer is a red herring. We know by now that proposals for workers' control are non-starters, simply because it is not they, but the shareholders, who are the residual risk-bearers and have an incentive to maximise the firm's assets. The crux of the matter is which system of corporate governance is best designed to minimise agency costs resulting from the separation of ownership and control. As the work of Gerson (1993) has shown, government attempts to promote 'shareholder democracy', as in Britain and the US, may encourage the very 'short-termism' which Cowling and Sugden condemn. Also, the naturally evolved mining house structure of South Africa, for example, provided, without distorting legislation, a mode of gathering capital together. And it did so in a way that there was long term commitment to a given area which allowed savers and investors to delegate their management to proprietorial experts whose incentives were aligned with their own (Frankel, 1969). If such experts are a strategic elite then recipients of the benefits of such a division of labour clearly decided that this was something that they could live with.

After all the populist rhetoric, Cowling and Sugden come up with familiar and quite staid proposals. In the UK they do no more than recommend a return to the National Economic Development Office and the Industrial Restructuring Corporation of the 1960s, the National Enterprise Board, the sector specific Economic Development Committees and the discretionary targeting of the 1970s, coupled with a desire to revisit the debates of the Bolton and Bullock Committees on finance for small firms and worker participation on directorial boards respectively.

These nearly forgotten neo-Marxist initiatives in the UK are similar to suggestions which are now being made in South Africa. The Consultative Business Movement (1994, p54) speaks of 'Industry Triangles', which refers to 'consultation between government, business and labour (to) allow for a common understanding of, and shared learning around, industries' viability and relative competitive position'. The Minister of Labour developed the theme in late 1994.

'Soon we will launch a new statutory body, which will incorporate the functions of the NMC and NEF ... institutionalising a new form of governance and co-operation involving business, labour and other stakeholders ... to negotiate wages and income policy, productivity enhancing mechanisms, the level of ... investment ... and industrial restructuring ... I am speaking here of industrial policy ... We wish greater participation in decision-making ... (and) it is in the area of value-added products ... where quite obviously we should focus our energies.'

These ideas underlying what is now called NEDLAC are not novel within or outside of the Republic. Both Joe Slovo and Rob Davies, for example, have been proponents of what they termed 'socialisation' (see Reekie, 1993, p133). They reflect a desire to move towards 'industrial democracy', where the decision making is supposedly broadened so as to reflect the interests of the labour force as well. This, we hear will enhance productivity.

Again, the problem is an institutional one. Cowling and Sugden argue that if advantages of scale defeat the purpose of participation then smaller scale enterprises should be accepted. Some might scoff at the Neo-Marxist longing for the backyard steelworks associated with the wilder days of Chairman Mao. But Adam Smith did indicate that division of labour can 'brutalise us'. The real problem, however, is not with the division of labour but with the division of knowledge.

Coase (1937) showed why firms exist. The economies of hierarchical or internal organisation may, in certain circumstances, exceed the economies of transacting through the market. In particular, organisation of production through the firm reduces the cost of contracting. This, however, brings with it problems of coordination and monitoring. Who is to ensure that contracts are adhered to? Who has the greatest incentive to monitor them? We are faced with inescapable problems of information, which is not free and which is inherently subjective. It is in fact the subjective division of knowledge which is the *raison d'être* for market processes and which 'industrial triangles' of whatever complexity inevitably ignore.

In particular as Hayek (1945) argued there is a large body of non-scientific, unorganised knowledge of the specific 'circumstances of time and place'. Each 'individual has some advantage over all others with regard to this knowledge'. Market data are not given. Managers cannot apply objective rules by being notified of measured costs or inventories. Indeed it is the manager's task to find out what they are, what consumers want, what resources are available and what prices might be paid on that particular spot where he is. The process is one of conjectural discovery. Costs are then subjective not objective. They are not money outlays but the value of output in a foregone use. Since this alternative exists only in the mind of the manager one cannot check that he is following the rules since one cannot check his beliefs. Even if he were, it is still no guarantee that the firm's or industry's actions will be appropriate for discovering new or existing consumer demands (since consumers' preferences in turn exist only in their minds).

'Industrial triangles' exemplify precisely this inability to understand the workings of the market process. The CBM (1994, p55) argues that

'just as (South Africa) cultivated a home-grown political solution ... it should develop a custom-made industrial solution ... This will require appropriate partnerships and action by all interest groups'.

The analogy is attractive but faulty. In the political arena all interest groups were consulted – including the most numerous, the voters – who need only be consulted rarely. In markets the most numerous, consumers, must be consulted continuously and they cast their monetary votes in referenda many times daily. Yet this unavoidable indifference towards consumers has been responsible for many individual policy failures in the past.

3 I have been unable to ascertain to whom to attribute the formal distinction between wealth 'creation' and 'transferral' but believe the term originated in work by Gordon Tullock.

# 5

## Some empirical evidence and the recent policy upswing

Industrial policy has not been remarkably successful in those countries which have attempted it.

In Britain, suffice it to say, the record has been spectacular and poor, whether it has applied to green field truck and car plants, aluminium smelters or a supersonic passenger aircraft. (See e.g. Burn, 1967; Jewkes, 1972; Burton, 1983; and Scott and Cuthbert, 1985).

Enthusiasts have looked to Japan,<sup>4</sup> where MITI has been wrongly credited with apprehension of the demands of the future. The massive targeting of steel in the 1960s and '70s led by the late 1980s to layoffs of more than 50 000 steelworkers and the scrapping or underutilisation of costly plants. MITI's attempts to discourage the expansion of the Japanese car industry are both legendary and notorious. In thirteen industrial sectors between 1955 and 1990 there was a negative correlation between the rate of growth and the level of policy support. (See e.g. Zinsmeister, 1993; and Beason and Weinstein, 1994).

Just recently the European Union has become enthusiastic over industrial policy, but for reasons only slightly connected with economic argument. In COM[94]319 it notes that (p22) the EU has insufficient production in fields with 'extremely fast growing demand'. As a consequence of this 'diagnosis' the paper recommends aiding industries by 'targeting growth markets'. It concedes that the 'authorities do not know which products tomorrow's market will demand', still, (p25) as 'purchasers and investors', they can contribute to 'dynamic growth'. So despite a disarming denial of knowledge, the EU authorities do, in fact, choose to select industries and recommend policies for them.

There is lip-service to the virtues of markets and the advocacy of interventions to point markets in the right direction. The EU, in short, wants not disciplined and predictable government but disciplined and predictable producers and consumers. It fails to grasp that markets are 'spontaneous orders', as Hayek has put it. Rather it falls victim to what he has called 'the fatal conceit', viz. that civil servants can do better. 'The aim is no longer simply to endow the European Union with legislation removing the barriers to trade but to put into operation a 'market' in the true sense of the term' (p14).

There is also a neo-Marxist desire to avoid centripetalism – irrespective of the dictates of scale. And the inconsistencies abound: 'products with a high value-added ... (help harness) the diversity of local production (and preserve) highly skilled trades' (p25) but 'structures must change wherever necessary ... to attain the critical mass required for competitiveness' (p23).

The EU wishes to establish networks of discussion fora where bureaucrats and industrialists (little mention is made of labour and none of consumers) can allocate taxpayers' resources to selected industrial 'clusters'. (This word sounds more modern than 'picking winners' but it is simply the concept of agglomeration well developed by Alfred Marshall in 1879). Given the ambiguity, regulatory schizophrenia and inconsistency of the EU parent document, it is unsurprising that sector specific documents also try but fail to be all things to all men (see Reekie, 1995). For instance the stated desire for high value added in pharmaceuticals is in admitted conflict with the price preferences of governments as purchasers. But one cannot have it both ways.

In South Africa the CBM's industrial triangles are akin to the EU's proposed consultative and corporatist state. So too is NEDLAC. Has the fatal conceit that Nirvana is attainable and that bureaucrats know enough to attain it been reborn with the new South Africa? Certainly some historic and perverse policies have been abandoned. No longer are there legal impediments to the flows of labour and of capital to those areas where at the margin one or other is more productive. Labour can move freely to metropolitan areas. Capital is no longer restricted to designated areas by the Environmental Planning Act of 1967.

By 1991 a more uniform regional approach was adopted providing output – and profit-based cash grants for investments up to R15 million. MacCarthy claims this should be viewed as sectoral rather than regional policy since the territorial element was limited to favouring industrial investment outside the core areas. But they favoured – even if only by default – capital as opposed to labour intensive industries. The relative prices of inputs were altered. And, as a further distortion the new policy was grant-oriented. The investment or depreciation allowances previously in place had the possible advantage of rewarding ‘successful’ firms *ex post* and not all firms *ex ante*.

To these were added historical trade policy distortions. The IMF (1992) and the World Bank (1993, Ch IV) argue that South Africa has followed an ‘inward looking’ policy since as early as the 1920s. This has resulted in heavy reliance on capital-intensive upper order industries as the basis for export expansion. Industrialisation for the domestic market has been favoured by protection. Adverse terms of trade for primary products in recent years, coupled with trade sanctions against manufactured goods, reinforced by a loss of competitive edge, itself induced by protectionism, has deprived the economy of many potential gains from trade.

The World Bank view (1993, pp68-77) is that even after liberalisation in the 1980s tariffs are not only high but are diverse, complex and unpredictable. Import surcharges, excise rebates, local content requirements and quotas still persist, all contributing to the inward looking policy. Conversely an outward-oriented approach would (p59), divert resources towards commodities with low domestic resource cost per unit of foreign exchange. In the absence of relative price distortions this would tilt the focus of manufacturing towards upper order and labour intensive production. This:

‘should benefit the economy through an improvement in productivity performance and by permitting fuller use of capacity. Exporters are usually exposed to much more intense competitive pressures in terms of quality and price, than producers relying on the domestic market’.

The anti-export bias (World Bank, 1993, p74) made sales at home more lucrative than sales abroad by allowing prices to rise above levels that would prevail under freer conditions. Second, intermediate purchasers faced higher input prices and so are less competitive in international markets. Perversely, export incentives merely intensify these distortions. MacCarthy (1994) pointed out that they effectively protect producers in foreign markets, so diluting the benefits of competitive pressures, whilst also adding another ‘layer to (any) system of selective protection’.

In addition (p35), South Africa has deliberately incurred large-scale investment in state-owned institutions, whether for infrastructure or employment creation for minorities, or in firms and industries deemed to be ‘strategic’. One indicator of the opportunity cost of these policy choices is the output-to-capital ratio in each of the private and parastatal sectors. The Bank (1993, pp40-2) notes that over the years 1960-92, the ratio for the private sector was ‘about 0.6’ and for the parastatal sector ‘about 0.2’. ‘At its peak in around 1980 (this amounted to) ... a drop of about 10% of both GDP and ... the potential foregone ..’

One recent strategy for export-led growth leans on the notion of ‘beneficiation’ – a term coined largely to mean the further processing of South African minerals and raw materials prior to export. The rationale for the accelerated (and selective) tax write-offs provided, for example, to the Alusaf aluminium smelter and Columbus stainless steel projects was that they were energy intensive and value adding. Beneficiation implies that the country could in practice export gold jewellery instead of ingots, cut diamonds instead of rough, and rolled steel instead of iron ore. The obvious question then is why existing entrepreneurs did not exploit such opportunities for profit? Perhaps it was due to local entrepreneurial incompetence, or it may have been because regulations made such opportunities unattractive, or it may simply have been that such beneficiation was not value-adding after all. South Africa may not have the comparative advantage which Holland has in diamond cutting, which France has in jewellery design or which the United Kingdom has in surgical

equipment manufacture. A policy which ignores current and future supply and demand patterns may end up failing to provide the benefits of 'beneficiation' to lower order producers. Unless such producers themselves receive lower input prices they are unlikely to buy. Inefficient subsidies encouraging inappropriate lower order domestic industries may satisfy interest group members of 'industrial triangles'. Consumers and taxpayers have other priorities.

Encouragement of beneficiation is a potentially important policy instrument (ANC, 1994, p27). A levy has been proposed, to operate in conjunction with the existing selective tax break system. In addition the ANC document argues that to ensure that South African firms obtain inputs from South African exporters at the same prices as export markets the minerals and mineral beneficiation industries should be regulated 'to favour the local fabricator'.

It is undoubtedly true that beneficiation projects that result from market judgements are as likely to succeed or fail as any other market based projects. In other words, they are far more likely to succeed than the projects emanating from an industrial policy. It remains true that there has been less market based beneficiation in South Africa than might have been desirable. But we already know why. The government has maintained an environment hostile to beneficiation. It follows that the policy reforms currently underway, reducing protection and permitting access to imports at lower tariffs than in the past, will change the relative profitability of many commercial activities, including beneficiation. And they will tend to do so on a value-adding and not value-subtracting basis.

4 Not that Japan was an economic failure. Indeed the reverse, and Franko (1993) points out that 'it was Japan's firms spending their own commercially oriented research and development money, not MITI, that developed ... the Lexus and Infiniti, the VCR, the Trinitron (TV tube, plain paper copiers, (fax) machines, the Walkman, miniature ball bearing, flat panel screens, motorcycles, robots and integrated circuits for electronics'.



# 6

## Endogenous growth and entrepreneurship

In a country like South Africa, supposedly now part of the less developed world, industrial policy has a special imperative. It is seen as an instrument for encouraging not so much manufacturing industry but general economic development. Even if it is accepted that industrial policy would be out of place in the more developed world we are told that there is a need for it here. Such arguments derive their support from two strands of literature: that of endogenous growth theory (e.g. Romer, 1990) and also from empirical work examining why growth rates differ (e.g. De Long and Summers, 1991). Reviewers such as Faberberg (1994) have attempted (not wholly successfully) to integrate the two.

Endogenous growth theorists like Romer (1990) and Lucas (1988) make the rate of technical progress endogenous and dependent on the amount of resources devoted to education or research. Previously neoclassical theorists (cf. Solow, 1957) had seen it as the main determinant of growth. Unfortunately it was also seen as an exogenous residual, not readily susceptible to promotion by government. Still, from a growth perspective the tendency to a steady state equilibrium is removed. When knowledge is permitted to vary in the production function, increasing returns are guaranteed.

If Romer's arguments are correct, the prognosis for 'catch-up' of the advanced by less advanced countries could be gloomy. Technology and education gaps will not even be eliminated by international trade since countries with a comparative advantage in research will permanently be pulling away from countries with a comparative advantage in traditional industries.

On the empirical side Faberberg (1994) reports on some 30 recent papers addressing growth. Openness to exports and imports, education levels and investment all appear relevant determinants of comparative growth. Research expenditures as such, however, were rarely included.

Scott (1993) expresses strong disquiet about these two strands of literature. In Romer's model growth depends on expenditures on research, adding to human but not to physical capital. However, the model:

'stands or falls by the distinction drawn between research expenditures and other forms of capital expenditure ... it must be possible to identify research expenditures and also to identify new designs ... (so) there is much to be said for stopping only when the *whole* (emphasis in original) of investment has been included ... (and) it is hard to see how they can be separated operationally at the aggregative level relevant to a theory of economic growth' (pp33-4).

What we are looking at are the sources of economic growth and how it can best be promoted. The evidence suggests that a major, indeed indispensable, determinant of sustained growth is technological change, which is itself due to the capacity to invest, to invent and to innovate. This is not far removed from Arrow's (1962b) concept of 'learning by doing' which also attempted to endogenise technological progress. New vintages of capital goods embody improvements based on previous vintages. Technological progress is an unintended side-effect of investment rather than an explicit act of R & D.

None of this really changes our knowledge of how markets work. Endogenous growth theory purists emphasise returns to research expenditure, with or without qualifications about externalities. Others link growth to returns on capital investment expenditures. As Scott (1993, p38) writes:

'If ... the future cannot be foreseen, and the world is being continuously changed by investments which create and reveal unexpected further investment opportunities, then

it should be no surprise to find that the average return to investment exceeds its marginal return. The juicy worms are there for those early enough to capture them’.

But who will be alert to the ‘juicy worms’? Politicians and bureaucrats do not have the knowledge of time and place, of circumstance which is a prerequisite making for such alertness. Nor do they have the incentive to be alert. They are the wrong agents to serve the principals who constitute the consumers and have an interest in higher standards of living. The appropriate agents are the entrepreneurs, who do have an incentive because their success in doing so will be reflected in ability to make profits. Economists of the Austrian school have been especially perceptive in noting this role of the entrepreneur in driving the whole market process and so also economic growth.

In modern Austrian theory the entrepreneur does not merely bring together producer and consumer and facilitate a mutually beneficial exchange. He is also the person who is alert to the presence of such opportunities before anyone else. Also he is not simply an alert middleman. As Kirzner (1982, pp154-5) emphasises, he may,

by his own creative actions ...*construct* the future as he wishes it to be ... (entrepreneurship) accomplishes ... a tendency for transactions in different parts of the market (including at different dates) to become coordinated. The incentive (remains) the lure of pure profit.’ (Emphases in original).

So there is reason for optimism, both with respect to policy and theory. Entrepreneurship is the one truly costless resource. It exploits and creates previously unrevealed profit opportunities. What Hayek (1937) called ‘endogenous’ disturbances to individual plans are happening continuously. Consumer preferences and producer technologies are continuously changing and providing opportunities for arbitrage. Entrepreneurs are at work arbitraging across time – innovating in the broadest Austrian sense.

Given that it is entrepreneurship which promotes growth then policy encouraging R & D or investment is misguided. Even if historically successful entrepreneurship has been linked with R & D (or with capital expenditures, or with manpower training), the entrepreneurial profit will have gone to the entrepreneurs and will have been revealed in that specific factor market with which they were primarily linked. It is tempting to use intellectual shorthand and presume that it will have been manifested in returns to capital because that is where accountants (both national and corporate) report apparent increments to value. But if the primordial cause of growth is entrepreneurship then aggregate returns to capital (human or physical) are not necessarily a guide as to how the harvested rewards were originally sown. So what then are the implications for industrial policy?

# 7

## Concluding thoughts

Kirzner (1985, Ch2) emphasises that while entrepreneurship is costless it is not a stock available to society at any and all times. Rather it emerges precisely when decisions have to be made. There is no opportunity cost. If a particular decision is known about and not taken then a cost *has* been incurred. The decision may have been right or wrong (an error could have been made) but there was no entrepreneurial shortage. Faulty entrepreneurship as such occurs when costlessly available alertness remains ‘latent and untapped’. That begs the question of how to switch on entrepreneurship. What incentive is required to reveal a socially desirable opportunity to an individual when no one at all has yet perceived the possibility?

To ‘switch on’ alertness to such opportunities, says Kirzner (1985, p29), one must offer gain to the discoverer himself. But by definition, such an offer cannot be made, *ex ante*, by policy-makers. The positive role for policy-makers is not to pick winners – whether individual firms or clusters – but rather to ensure that the ‘discovery procedure’ (Hayek, 1978) of the market process is not thwarted. Thus barriers to market entry which remove the personal gain entrepreneurs could have reaped may result in discoveries not being made at all. Regulation and price controls not only choke off the upper reaches of a given supply curve they may also inhibit unsuspected shifts of the curve to the right (arising from new products or sources or methods of supply).

Douglass North (1981) reached a similar conclusion when arguing that institutions matter. If individuals have proper incentives they will behave in way which enrich both themselves and the rest of society. The crux is the right to own and exchange property. Further, in a path dependent world, how a society starts is important in determining how it proceeds and where it ends. The state has the task of protecting and enforcing property rights in North’s world and yet historically ‘shackling’ the state has also been necessary to prevent it favouring special interest groups. The right balance is crucial.

Most economists (with the exception of strategic trade theory enthusiasts) agree we cannot pick winners. Yet politicians continue to use taxpayers’ money to do so. Development giveaways are now so ubiquitous and so large that a recent UNCTAD report (1995) conceded that they were not only encouraging investment where the net return for global society was negative, but were diverting funds from more traditional forms of government spending. It is here that perhaps the state should be shackled in the 1990s. Just as GATT and the WTO have steadily worked to remove the threat of ‘beggar they neighbour’ tariff wars from mid-century to the present, so at the end of the century the WTO may require to direct its attention at the dilemma activist politicians find themselves in. Self-cancelling inter-governmental rivalry in industrial policy handouts should somehow be shackled.

Constraining the predatory instincts of politicians will also feed back and aid and abet the discovery process. Industrial policy giveaways not only tend to miss their ostensible target. They encourage rent – rather than profit-seeking behaviour. They discourage entrepreneurship and channel the effort of discovery towards superfluous and wasteful ends at best and corrupt practices at worst.

There is an enormous research agenda here. For policy-makers we can only urge caution. It is not modesty which makes economists say we don’t know what we don’t know. Rather it is an understanding of markets.

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