

1 Introduction

Since the late 1970s, the story of Vietnam has been one of dramatic change. It has not been driven, however, by the general prescription of most neo-classical analysts, who hold that large-scale and quick liberalisation is required in order to launch a whole package of reforms before opposition can build up (see, for example, Kreuger 1978). Rather, the Vietnamese leadership has approached economic and institutional change on an incremental and graduated basis ('step-by-step' in the official nomenclature). The next step, if it is taken, will depart from incrementalism and will involve not a step, but the kind of great leap that would please neo-classical thinkers.

The great leap would involve the dismantling of all barriers to Vietnam's integration into the global economic and trading community. A very major step in this direction is scheduled to occur in 2006, when Vietnam's full membership in the Asian Free Trade Area (AFTA) will come into effect. At that point, all tariffs relating to regional trade must be reduced to 5 per cent or lower. A second major step will occur when Vietnam achieves its announced objective of becoming a full member of the World Trade Organisation. For an economy still largely regulated by the state and insulated from external competition by an extensive range of subsidies, government-imposed regulations and other policy instruments, there can be no doubt that the consequences and implications of these steps will be far more extensive and permanent than all the country's previous steps towards liberalisation.

Not surprisingly, the prospect of all of this is producing in Vietnam an intellectual and political turmoil, which is greatly exacerbated by the economic and financial meltdown that has been occurring in the surrounding states of East Asia. The internal debate, however, appears to be less ideologically driven than might be expected, given the country's background. To be sure, there are questions of state control and frequent expressions of profound concern about the social inequities of fully capitalist societies. For the most part, however, the debate, even at the highest levels of the Communist Party, seems to centre not on whether to liberalise further or open the economy to the competitive forces of globalisation, but rather on how fast to do so. The credence of this interpretation of what is

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*Some Policy Issues
Facing Vietnam*

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happening is increased by the fact that it is exactly this concern with the rate, and not the direction, of change that has been the hallmark of Vietnam's reform (*doi moi*) process since the late 1970s.

The general intent, therefore, does not appear to be in doubt. What also appears to be clear is the centrality that will be accorded to industrial policy or (more appropriately termed in today's world) science and technology policy. The formulation most often stated in official government documents and in the speeches of the national leadership is 'to apply science and technology as the driving forces for Vietnam's economic development in order to become a modernised and industrialised society by the year 2020'. The general idea that appears to guide this formulation at most senior levels is the path that the Asian NICs adopted some 25 years ago: **gradually** moving up the technological ladder in industrial production to penetrate international markets.

Given this thinking, the next stages in Vietnamese policy and the speed of further reforms are likely to be strongly influenced by the national (i.e. state-directed) Science and Technology (S&T) strategy which the government proposes to announce before the end of 1998. The value of even having such a strategy is certain to attract critical comment.

2 Why a national S&T policy – arguments against

In recent years, there has been considerable debate as to whether there is, in fact, a role for **national** S&T or **national** industrial policies. Starting in the 1980s in industrial countries, it has been argued that **national** S&T policies have become obsolete. The argument goes as follows. National S&T policies are designed to provide advantage to a national economy by creating and facilitating a competitive edge for the goods and services produced within the borders of the nation. A globalised trading arrangement means not only that goods, business and finance move in an unrestricted manner across national borders, but that science and technology also move in the same manner. Thus, any possible benefits from national S&T policies will quickly move (leak) outside the individual country and such policies are, therefore, doomed to failure in a globalised world.

In its extreme form, the argument against national S&T policy goes further. It generally accepts as desirable national policies for macro-economic stability (e.g. exchange rate policies, fiscal balance). Beyond such fundamentals, however, the argument against holds that, rather than facilitating a national competitive edge, national S&T policy actually prevents development from occurring. Effective S&T decisions, it is argued, can only be made at the level of the individual company or firm; approaches to S&T must be entirely flexible in order to take advantage of rapid technological change; and national (i.e. government) policies are necessarily rigid and run counter to the interests of development. Again starting in the 1980s, it was widely asserted that this same argument against national S&T applied to developing countries. Open borders, liberalisation and privatisation were strongly recommended. Such measures as industrial strategy and S&T policies were frowned upon as counter-productive and wasteful.

3 Why a national S&T policy – arguments for

There are also strong arguments in support of the role that S&T Policy can play in national economic development. First, and perhaps most significantly, the strong argument of the past 15 years against national S&T policy is itself undergoing modification as a result of new evidence. For example, the World Bank (1997), following extensive examination, concluded that the role of national policy is critical to establishing the conditions for development that go beyond those which the market itself is likely to create. In arriving at this conclusion, the Bank is explicit on the imperative for poorer countries of building up the appropriate human capital and fine-tuning the complex relationship between the market and society. In this regard, the Bank observes that the experience of the East Asian tigers, as well as the failures of national efforts elsewhere, lend strong support to the need for appropriate instruments of modernisation, including national S&T strategy instruments.

Secondly, the investments that go with globalisation, and on which the latter depends, have proven to be directed by firms and companies not only to those locations where the comparative advantage is one of low-cost labour, but more often to

areas where particular strengths exist in S&T. For example, companies will invest in research in one country, in industrial design and engineering development in another, production in a third, initial sales in a fourth and after-sales service networks headquartered in a fifth. Long-term national policies and actions, particularly in Asia, have been shown to be critical in attracting and retaining such investments.

Thirdly, and of great significance is the fact that, if the strength of globalisation is in its wealth-creating capacity, its weakness, if undirected and uncontrolled, is being shown to lie in its disregard for and damage to the environment and its exacerbation of gross inequalities, both within and between nations. In Japan, such negative consequences are increasingly defined as evidence of market failure as they affect deleteriously such national purposes as social cohesion, reasonable equity and political stability.

4 Why an S&T policy review

Given the above, it is not surprising that an increasing number of governments, business associations and communities are assigning importance to discovering arrangements which will provide direct support to the production, access and mastery of S&T. A number of approaches and methodologies have emerged, including, for example, those which build scenarios and those directed to technology foresight.

A further such approach that attempts to assist in arriving at an appropriate S&T policy framework involves an S&T policy review. Vietnam's deputy prime minister, Dr Pham Gia Khiem, expressed his preference for this approach and he, accordingly, requested and commissioned an S&T policy review for Vietnam.¹ The approach followed in such reviews is highly pragmatic, is predicated on the assumption that S&T policy must be made in and adapted to local conditions, and takes the intimate involvement of national leadership as a prerequisite. The essential features of such a review are:

- The assembling of a multi-national team of S&T

policy professionals, from both developed and developing countries, whose task it is to bring multiple experiences and diverse perspectives to bear on the examination of national S&T policy and practice.

- The assessment and sharing of prior experiences and the lessons that may be learned from these. This may involve preparation by the country requesting the review of an assessment of S&T policy, including its history, evolution over time, current characteristics, evaluation of its performance, and a presentation of any major changes that are being contemplated.
- A substantive national assessment by the international team of the strengths, weaknesses and performance of stated policy from the perspectives of its principal stakeholders (government agencies, research institutes, universities, technical institutes, national and international investors, multinational and national companies, joint-venture operations SMEs, international development organisations, etc.). Thus, the central feature of an S&T policy review is that it attempts to capture and distil the experiences, assessments and views held of national policy and to engage in dialogue (to provide a mirror) regarding those experiences and those from other parts of the world.
- The juxtaposition, open examination, debate and bringing together of national views, observations and recommendations (obtained from government, scientists, technicians and the business community) and those of the international team of policy professionals.

5 The S&T policy review

During three weeks in September and October of 1997, I had the honour to lead an international S&T policy review mission to Vietnam. We travelled to different parts of the country and met with some 70 organisations, institutions, departments, firms and associations, and some 320 Vietnamese science and technology policymakers, policy implementers and those affected by the policies. Their views were solicited on all aspects of policy and practice affecting the economy, investment, science, technology and innovation. We also examined an

¹ Financing was provided by the Canadian International Development Agency and the International Development Research Centre. Pending final

endorsement by the Government of Vietnam, the full report will be published during 1998.

extensive range of available literature. A report of our findings, observations and suggestions was subsequently prepared and widely distributed within Vietnam, including to all those with whom we had held discussions. Four months later, in February 1998, we returned to Hanoi where our report was the subject of a comprehensive two-day workshop involving approximately 250 senior Vietnamese stakeholders.

The final report of the international team extends to over 100 pages and the intent here is not to try to provide a summary of the dozens of observations and recommendations that it contains, many of which are, in any event, of a rather situation-specific nature. Among the questions that the deputy prime minister asked, and which he requested we address specifically in our report, were several which lie at the core not only of Vietnam's current debate about the speed of further reforms, but which are central to most of today's discourse on development. It is these questions that I would like to address briefly in what follows. The questions posed were:

- What are the factors that Vietnam needs to consider in deciding how to confront the forces of globalisation?
- If Vietnam is to profit from the current technological revolution, is there an appropriate road map for technology transfer and what will this mean for S&T policy, wages, benefits and the national commitment to social equity?
- Can the export-led industrialisation models of South Korea, Taiwan and other East Asian states be replicated successfully?

6 Globalisation: factors to consider

There is, of course, much debate about globalisation, but few serious observers doubt that it is creating a porous world where the boundaries that had long been assumed are fast decreasing in significance. Among the strategic factors associated with globalisation are:

- Deregulation, of which the core element is the abolition of national controls over the cross-border movement of capital, has been occurring on an accelerating basis throughout the world.

- Foreign Direct Investment (FDI) has expanded dramatically and consistently over the past 15 years and the trend is expected to continue. FDI exerts pressure on regulatory regimes as international investors seek out low tax jurisdictions. FDI in developing countries has exploded in the last five years, although it remains highly concentrated in a few countries, whereas public financing for development (ODA) has stagnated and even declined.
- Trade liberalisation, particularly evident in the reduction and elimination of tariffs, has become the dominant issue in international economic relations.
- Financial markets, especially all of the major ones, have become tightly integrated, a trend which will continue. As has become all too evident in the East Asian events of late 1997, financial markets exercise the most sensitive and comprehensive influences on national policies. These influences are continuous, not episodic. Financial markets regard each country as presenting a total package of factors which the markets monitor closely, and any change (from macro-economic policy to labour legislation or expenditure plans) can produce a significant market reaction. The most obvious result is that macro-economic policies (monetary, fiscal and expenditure plans) are increasingly homogenised and the possibilities for experimentation almost non-existent. This is a particularly important point in that the kinds of macro-economic experimentation in support of industrialisation and export-led growth that were available to South Korea, Singapore and Taiwan during the 1960–90 period may no longer be possible for new aspirants.
- The fault lines between rich and poor are shifting. Globalisation is producing new gains and losses, new winners and losers. The dividing line that was once assumed to exist between the affluent and industrial North and the poorer South is fading into history.
- Income distribution in almost all parts of the world is becoming more skewed with larger percentages of wealth concentrated with the most privileged 10 per cent of populations and with declining percentages of wealth being available to the bottom 20 per cent of the income scale. Vietnam is a nation which has placed a high value on equity as a fundamental issue of

socialist principle. The integration of the nation with globalisation will probably challenge the extent to which that value can be preserved and protected.

- Management of the global economy must now be on a supranational basis, but the existing international institutions established over decades to deal with growing global interdependence are being found wanting.
- A key factor of globalisation is the fact that companies increasingly have global strategies and states increasingly adapt their taxation systems, labour laws, health and safety regulations, environmental laws, etc., in order to take account of this.

It is now clear that we are entering a qualitatively new phase in the international system and that this new phase involves a future that cannot as yet be clearly visualised. This increases greatly the uncertainties with which S&T policy or strategy must contend and the risks of policy failure. Vietnam's decision to join with the forces of globalisation will necessarily narrow the range of policy choices available to the government and will involve for its policymakers the delicate business of working out how the global economy will impact on various kinds of national social formation.

7 Technological revolution: meaning for S&T policy, wages and social equity

Behind the force of globalisation is a technological revolution which is altering fundamentally and radically all aspects of business, industry and manufacturing. At its core are the new information and communications technologies (ICTs). Their revolutionary effects lie in the fact that they are influencing all other sectors and that they are changing the very nature of industry, economy and society. They have already resulted in vast improvements in technical performance, as well as dramatic falls in costs and a counter-inflationary trend in prices. In brief, a complete reorganisation of the production system is now taking place and the reinvention of the very basis of manufacturing and industry is intensifying.

Among the many implications of these dramatic shifts for a national S&T policy, there are two that may be mentioned here:

- Flexible approaches and a relatively open framework are most likely required. Industrial planning with specific targeting has been the preferred S&T policy approach of many countries, but it would appear to be more appropriate and likely to produce success under the old paradigm than under the new. A good rule in S&T policy decision-making today is probably to consider the structure of the whole process in relation to the goal of the project, and in particular to integrate decisions on investment, production and marketing with decisions on research and development (R&D). What this would entail for science policy decision-making or for R&D decision-making would be the constant development of technical and economic forecasts as integral to decision-making itself.
- Government was the critical actor and played a central and directive role in bringing about development through industrialisation in Singapore, South Korea and Taiwan. The new paradigm suggests, however, that guidance and direction may now be more appropriately and effectively exercised through a gentler touch based, as Freeman (1992) suggests, on mastery of an inspired vision of an industrial society and on its communication.

Development theory in the 1960s held that technology transfer was the key to economic and social development. Circumstances have changed, but there are lessons that can be extracted from this previous experience. Proprietorship over technology is, if anything, stronger today than it was three decades ago. S&T policy needs to take this carefully into account and to seek the appropriate policy instruments to ensure that the technological packages obtained accord with the national interest. Secondly, the foundations that support and encourage a continuous process of innovation are of critical importance (more so today than in the past) and must be integral to S&T policy.

Experience and research over the period 1960–80 also showed that a developing country wishing to establish new export-oriented industries and new areas of R&D work usually began from a position of disadvantage relative to established industrial countries and leading firms. This gave rise to infant industry policies. Although the approaches varied somewhat, infant industry practices were key

components of the strategies of Singapore, Taiwan, South Korea and Brazil. Infant industry approaches are continuing today, but the much more integrated global economy and the speed and sweep of the technological revolution mean that the instruments used must be considerably more subtle and flexible than in the past.

A further factor which emerges clearly from recent cases where new technologies have been turned to national advantage is that international access to innovations and know-how is central. This does not diminish the role that national R&D may play, but the experiences of Singapore, Taiwan, South Korea and Indonesia make it clear that international connectivity is imperative.

It is also clear from the experiences of South-east Asian countries that the transition from the initial stage in their industrialisation, involving cheap labour and labour-intensive manufacturing, to skill-based competitiveness in manufacturing involved a difficult and delicate process. South Korea made the transition after years of fast productivity growth but relatively stagnant wages. When it initially attempted the transition in the early 1980s, labour costs began to rise. Until 1988, productivity and the demand for labour continued to increase and the transition to a higher-wage, skill-based economy appeared to be going smoothly. In 1989 and 1990, however, a wage explosion dramatically increased labour's share in the value added, and expansion in the number of employees came to a halt (Godfrey 1997).

In the case of Singapore, by the late 1970s severe labour shortages were appearing. At the same time, the government concluded that the wage restraint policy of previous years had promoted the retention of labour-intensive economic activities, hindering the natural process of economic restructuring and making the economy more vulnerable to international competition from other developing countries. Thus, in 1979–84, the government encouraged significant wage increases. The impact, however, weighed most heavily upon firms engaged in labour-intensive activities and the overall result was that employment in Singapore's manufacturing sector actually fell between 1982 and 1986, while labour costs rose. This was not reversed until 1986, following the abandonment of the centralised high-wage policy (Beng 1997).

The lessons here are not only that wage policy is integral to a successful S&T strategy, but also that wage policy has proved to be difficult to manage well, especially in up-scaling to skill-intensive manufacturing.

8 Can rapid development through export-led industrialisation be replicated?

The short answer is 'probably yes, but it will be more difficult than in the past'. Interpretations of the successes in East Asia usually emphasise the importance of domestic factors, in particular establishing the 'right' policies; but more critical assessment shows that a good part of the reason for East Asian success had to do with international factors (Wade 1990). The countries that were able to seize these opportunities were generally those which had already established an industrial base through previous policies of import substitution, had invested heavily in basic education and which also had determined governments committed to the strong management of an industrialisation process by the state. The external factors that exist today are vastly different from those that applied when the East Asian tigers penetrated international markets. There has been a dramatic fall in the demand for unskilled labour and raw materials per unit of industrial production. Tariff barriers may be falling, but quantitative barriers (non-tariff) have increased with special discrimination against developing countries.

There has been, in addition, a sharp increase in the volatility of the international economy, and therefore much more uncertainty. The internationalisation and deregulation of financial markets and the opening of capital accounts have given rise to unprecedented flows of short-term money, in amounts up to 80–100 times bigger than trade flows. Relationships between exchange rates and trade, interest rates and investment, and fiscal and monetary policies have become unhinged. Short-term flows have dwarfed long-term investments. Recent events in Asia confirm this volatility. The currency and financial crises in Thailand, Malaysia, South Korea, Indonesia and the Philippines have greatly complicated the regional scene and added major uncertainties about the future. Conflicting interpretations, explanations, accusations and counter-accusations of what has happened abound.

What has been clearly established by the downturn in the fortunes of these tigers, however, is that if the potential benefits of financial integration and private capital are large, so are the risks. The speed and magnitude of market reaction is an integral part of financial integration. The effects of the current crisis will almost certainly be felt in the region for many years and this must be expected to make the regional and global integration of Vietnam more difficult.

In addition, Japan, with the region's most powerful economy, has moved into a period of low growth, with the strong possibility of a prolonged recession. And, finally, China's recent policy announcement that unprofitable state-owned enterprises will no longer receive financial support from the state is likely to mean the availability of a vast reserve of low-cost skilled and semi-skilled workers who will, it must be expected, compete aggressively with the efforts of other countries in the region to attract investment, particularly for entry-level, labour-intensive manufacturing.

9 Implications for a Vietnamese S&T strategy

The implications of all of this for countries like Vietnam wishing to follow the previous East Asian miracle economies are numerous. First and foremost, there is a clear place and requirement for S&T policy. Far from being rendered irrelevant to success in a globalised order, the evidence suggests strongly that such policy is probably more important than before. Second, globalisation will replace tariff barriers with non-tariff barriers that are directed especially at light manufactured goods, precisely the products which countries like Vietnam are urged to make their principal export sectors. This will increase the difficulties and barriers to entry at the lower end of the value chain. Third, a new set of policy arrangements will be required to

establish and link to national and international systems of innovation. Included here would be subtle and flexible instruments that facilitate careful co-ordination of trade and financial liberalisation with technological and industrial change. Fourth, recent events mean that Vietnam will confront increased competition from the existing East Asian tigers which, having lost much ground in recent months, must now be expected simultaneously to push for expansion into the most advanced sectors while using technology to remain competitive in light manufactures. Fifth, the huge, low-cost, surplus labour pool that may soon be created in China implies that the prospects for Vietnamese growth through export-led manufactures are now much more complicated.

Faced with these new opportunities and dangers, it seems reasonable to conclude that the policies that created the previous miracles of East Asia will not work as well or even as easily as they did in the past. The less favourable and more complex conditions internationally are likely sufficient in themselves to confirm this assessment. This does not mean that new policy should not take careful account of what occurred previously in East Asia, for that would be a serious mistake. What it does mean, however, is that there is almost certainly no model available for Vietnam to meet its intent to become an industrial society within a little over two decades. What it also likely means is that an appropriate set of S&T policy instruments, tightly imbedded into, complemented by and complementary to a broad range of other economic, industrial and social instruments will be more important and critical than before. Finally, it means that a sound S&T policy framework must perforce contend with much greater complexity and uncertainty than was the case in even the very recent past, and must seek to facilitate arrangements that contain sufficient flexibility and agility to respond to circumstances that change and assumptions that prove to be unfounded.

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