Taiwan in the 21st Century

Throughout the twentieth century Taiwan was viewed as a model – whether as a model colony, a model China, or a development model. This perception is one that has been embraced by both politicians and scholars. The notion of Taiwan having undergone an 'economic miracle' gained wide currency based on its rapid and sustained economic growth and structural transformation after the 1960s; since the 1980s, political developments – in particular, the emergence of Taiwan as the first Chinese democracy – have focused more attention on the role of Taiwan as a model for political reform elsewhere in Asia.

Yet much of Taiwan's history during the past century has been unique, and many of the preconditions of Taiwan's economic modernization and political development may not be readily replicable elsewhere. This volume asks whether it is possible to disaggregate the unique from the general, and to identify the makings of a replicable model through the experience of a single nation. With contributions from an international team of prominent scholars, *Taiwan in the 21st Century* offers a critical analysis of Taiwan's economic and political development that will provide essential reading to students and scholars of Taiwan, political economy, and Asia-Pacific regional development issues.

Robert Ash is Professor of Economics at the School of Oriental and African Studies, UK.

J. Megan Greene is Assistant Professor of History at the University of Kansas, USA.

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2 Taiwan's success and vulnerability

Lessons for the 21st century

Gustav Ranis

Introduction

Taiwan has been widely admired as the leading member of the family of East Asian 'miracles'. In more recent years, the East Asian financial crisis has led to a reassessment, causing some observers to emphasize the ephemeral character of that success, as well as the system's vulnerability to systemic shocks resulting from its advanced state of 'globalization'.

The theme I hope to defend here is twofold: first, that there was no 'miracle' as Taiwan's unusually good performance can be fully explained; and second, that Taiwan, for somewhat similar 'explainable' reasons, stood out in relation to her neighbours by being spared the worst effects of the East Asian financial crisis.

This does not mean mistakes were not made in both the distant past and the most recent epoch, nor does it mean that all is well with either Taiwan's current economy or polity. But it does mean that a combination of her initial conditions and the policy choices made over time not only gave her sustained growth with equity over the long run, but also served to protect her from the worst effects of the inevitable exogenous shocks to which all systems are exposed from time to time. Societies seeking to graduate into modern economic growth, while moderating their vulnerability to crisis, are limited in their capacity to alter their initial conditions, yet more can be done in the realm of institutional and policy choices over time than is generally realized. In other words, there are no irretrievable 'basket cases' in the less-developed countries. Moreover, while no country's experience can ever be wholly transferred to another, understanding Taiwan's historical record can allow others selectively to adopt some of the lessons of that experience.

The remainder of this chapter falls into four parts. First, I outline Taiwan's favourable initial conditions, which helped make her an outlier even in the company of the generally successful East Asian family of countries. Next, I focus on the policy framework that was selected during the ensuing half century of development experience. The third section considers Taiwan's reduced vulnerability during the East Asian financial crisis. Finally, there is a brief concluding section.

Taiwan's initial conditions

Taiwan's colonial heritage undoubtedly made an important contribution to subsequent economic growth. The Japanese colonial administration – if for its own selfish reasons, such as its need for sugar and rice – expended substantial resources and attention on Taiwan's rural sector, in the form of road, drainage, irrigation and power construction projects. It also improved the rural institutional infrastructure through promotion of agricultural research, creation of experimental stations and, most importantly, the establishment of farmers' associations. These initiatives all constituted capital and institutional investments, which together, long before World War II, led to a significant agricultural revolution, especially in rice (with yields rising by 4 per cent a year between 1921 and 1937). Even more importantly, these investments laid the groundwork for full mobilization of the agricultural sector in the post-war era. Taiwan also benefited from Japanese colonial policies favouring primary education: by the early 1950s, 60 per cent of the population were already literate. This respectable initial stock of human capital was enhanced by the inflow of small-scale traders and entrepreneurs who accompanied Chiang Kai-shek's army to Taiwan in 1949.

A second, related and substantial initial advantage, shared in the region only by South Korea, was that of a three-step land reform, implemented between 1949 and 1953. Taiwan's reforms followed the much earlier (1905) Japanese colonial land reforms. Together, they led to an unusually equal distribution of land and proved instrumentally helpful not only in promoting increases in agricultural productivity, but also in redistributing income in favour of the lower-income groups.

A third initial condition was the unusually helpful intervention of Taiwan's main external aid donor in the 1950s and 1960s – the USA – which had three extremely positive manifestations. First, in the 1950s, it helped break the back of the customary early development deficit/inflation syndrome via budget support. Second, it led to the very helpful announcement, in 1961, to the effect that while the USA would support the famous Nineteen-Point Economic and Financial Reform Programme through much enhanced programme lending, economic aid would be terminated by 1965. Third, by establishing a structure centred on the Joint Commission on Rural Reconstruction (JCRR) and farmers' associations, it provided a useful framework for the promotion of economic democracy in the context of decentralized decision-making, the creation and spread of rural credit facilities, and the dissemination of technological information in agriculture and rural non-agriculture.

Although apparently counter-intuitive, I would add as a fourth favourable initial condition the overall scarcity of natural resources, which not only forced early attention to human capital and the broad enhancement of human development, but also helped Taiwan to avoid some of the 'stop–go' policies that have bedevilled many other middle-income developing countries. I return to this below.

Finally, I would emphasize the presence of three institutional ingredients, which Simon Kuznets identified as being critical to a successful transition to modern economic growth. They are secularism, egalitarianism and nationalism. Secularism in Taiwan was by no means confined to the elite; the attitude of 'stomach first and spiritual values later' was widespread. Egalitarianism, emphasizing equality of opportunity, was reflected in the competitive examinations system inherited from the past, as well as in a pronounced tendency to provide equal access in the workplace and in credit markets. Perhaps most important of all was the third element, organic nationalism ('a community of feelings grounded in a common historical past') – a force that acted as a bonding cement the impact of which, after some initial hiccups, was all the more powerful because of the perceived threat from mainland China in much of the period under consideration. The favourable presence of organic nationalism within a system obviates the prior need to create some kind of synthetic substitute. As a result, the government is less likely to make promises and commitments that it cannot deliver – to the ultimate detriment not only of the fulfilment of restricted but critical developmental functions, but also of its own credibility. Far from taking place in a vacuum, the policy choices that were subsequently made in Taiwan cannot be separated from the existence of a favourable overall institutional setting.

The policy framework

The story of Taiwan's development experience after the 1950s is, in its broad outlines, well known. It embraces the passage through an import-substitution phase during that decade and into the early 1960s, into an export-orientation phase, and on to a science and technology-oriented phase that began in earnest in the 1980s. Certain specific dimensions of policy pursued during these decades deserve special emphasis because they have contributed significantly to Taiwan's ability to avoid some of the worst effects of the recent East Asian crisis.

A critically important, often neglected, part of the success story was the early mobilization of Taiwan's agricultural sector, which provided the required domestic savings and became the first focus of Taiwan's export orientation. The export drive was built on the shift from rice and sugar cultivation to the production of mushrooms and asparagus – non-traditional crops that were much more labour-intensive and susceptible to labour-using technology (for example, the number of working days per hectare per annum increased from 170 in the early post-war period to 260 by the early 1960s). Some 45 per cent of agricultural growth during the 1950s can be attributed to an increase in total factor productivity as a result of government-supported research and technology-diffusion activities.

Policies played a very important part in this outcome, building on the system's favourable initial conditions by converting the above-mentioned farmers' associations (the origins of which can be found in the period of Japanese colonialism) into bottom-up institutions that undertook local infrastructural decisions, created cooperative banking networks, and helped diffuse both agricultural and food processing-related non-agricultural technology. This experience was in sharp contrast to that of Korea, for example – another colony that inherited farmers' associations established by the Japanese – which used the equivalent of Taiwan's farmers' associations (the National Agricultural Cooperative Federation) as a framework in which to implement top-down governmental tax and regulatory functions. Although the decentralized nature of the JCRR–farmers' association structure, as well as that of local government generally, has attracted comment, its implications for the promotion of economic democracy within an essentially non-democratic single-party central government in Taiwan have not always been given adequate weight.

What is more, in developing the rural infrastructure, the government in Taiwan was not content merely to depend on its colonial inheritance, but made continuous and substantial investments in power, transport and communications throughout the island. In short, Taiwan did not suffer from the kind of rural neglect that has typified so many developing countries. For example, rural and urban electricity rates were maintained at parity so that the power system, while 'on its own bottom' overall, was subject to internal cross-subsidy.

Booming non-agricultural growth, especially in the rural areas, and the increasing export orientation were also facilitated by policy measures, such as the streamlining of tariff rebates, the construction of several export-processing zones and bonded factories, and an accelerated learning-by-doing process throughout the private sector. The unusually decentralized process of rural industrialization in Taiwan was assisted further by initially high literacy rates, as mentioned above, and the nature of the land reforms, which converted feudal obligations into small business equity holdings.

Thanks to the highly equal distribution of land, as well as the shift toward more labour-intensive crop mixes and technology, domestic demand for non-agricultural products was increasingly directed towards these small- and medium-scale rural enterprises. This clearly strengthened the mutual backward and forward linkages between changes in agricultural and non-agricultural output, and helps explain the multi-dimensional success of the system in terms of growth, employment generation and enhanced equity. The proportion of rural household income earned outside agriculture rose from 25 per cent in 1962 to 43 per cent (by 1975) and 60 per cent (by 1980). Meanwhile, the rural income Gini coefficient also improved dramatically.

By the 1960s the entire industrial sector, including rural industry, had gradually shifted its focus from food processing to the export of labour-intensive industrial products (textiles, electronic assembly, etc.). The reallocation of labour from agricultural to non-agricultural activities was not, however, reflected in large-scale movements of population away from rural areas. By 1963, for example, only 17 per cent of so-called 'migrants' had physically left their rural homes. Even in subsequent years there was a remarkable expansion, not only in absolute but also in relative terms, of rural industry and services; the 'chimneys in the countryside' programme has had an enduring impact and been of great consequence. Not only did this process facilitate rapid labour-intensive growth, but it also made possible an improvement in the distribution of income – one rarely observed in countries at a corresponding stage of development – as the labour force shifted from a relatively egalitarian agricultural sector to an even more egalitarian rural non-agricultural sector. Two main factors rendered the rural industrialization phenomenon consistent with an increasingly equal distribution of income, at least into the 1980s. The first was that, initially, the smallest and poorest farmers were able to participate more than proportionately in the economy's booming industrial and service activities. The second was that these rural industries and services themselves showed a capacity to become increasingly labour-intensive – at least until the late 1960s, by which time the economy's unskilled labour surplus had been exhausted. Such balanced growth in the rural areas proved critical not only in terms of achieving 'growth with equity' during the 1960s and 1970s, but also (as we shall see below) in terms of laying the groundwork for Taiwan's enhanced ability to reduce the impact of external shocks in the 1990s. Few people in Taiwan today lament the absence of the Korean *chaebol*-style urban industrial structure.

There is a second, critically important, dimension of this policy framework. In contrast to other developing countries, where the choice of import substitution as an initial policy choice has been virtually universal, in Taiwan the corresponding phase, lasting from 1952 through the early 1960s, was – by any international standard – relatively mild and short-lived. In most developing countries, substantial official doubts have been voiced early on about the adequacy of human resources, and about people's ability to bear risk and perform vital entrepreneurial functions. This, in turn, has almost always led governments to assume these responsibilities on a longer term basis, or carefully to select individuals – relatively few in number and often closely tied to the government – to whom would be given the required resources and permits, usually at subsidized prices, to do the job. In Taiwan, it did not prove necessary to cut the colonial tie and create hothouse infant industry regimes for the longer term. Its initial advantage in human capital and institutional infrastructure, alongside its poverty in natural resources, undoubtedly helped mould the decision when, in the early 1960s, the early non-durable consumer goods-focused import substitution sub-phase reached its inevitable end, leading to general rejection of the customary resort to a secondary – more capital-intensive, durable goods-oriented – import-substitution regime. Taiwan is one of the few countries that adopted a non-durable consumer goods-oriented export strategy as part of an increasingly competitive human resources-based development path.

Thus, while Taiwan began by adopting a typical import substitution policy package – including the use of protection, import controls, multiple exchange rates and substantial government deficits, as well as placing substantial initial emphasis on public enterprise and government planning – such measures proved to be mild versions of the syndrome, as measured by the general standards of less-developed countries. For example, from the beginning fiscal policy in Taiwan was deployed to avoid large-scale deficits. Initially, in the 1950s, foreign aid facilitated the fulfilment of this objective, but subsequently – and increasingly – it became a priority goal of the government. It is a rather unique feature of the Taiwan case that nearly balanced budgets were early, and consistently, seen as having important private and public value. As budgetary surpluses began to emerge in the early 1960s, it is also noteworthy that positive real interest rates – a very atypical phenomenon in less-developed countries (including those in the region) – had started to appear in Taiwan and were reaffirmed through most of its subsequent development history. Indeed, after the Nineteen-Point Reform Programme of the 1959–63 period was adopted – and long before the 'Washington Consensus' had been unveiled – there was already a 'Taiwan Consensus' in place.

Admittedly, government intervention in credit markets remained substantial and directed credit was also in evidence, as was the important role played by informal, family-dominated allocation decisions – now generally maligned as 'crony capitalism'. But it is also true that the notion that money creation was not to be used to shift profits to favoured private parties or state enterprises – and certainly not to the same extent as was practised in other East and Southeast Asian countries – came relatively early in Taiwan.

It is clear that protection and financial intervention remained substantial virtually throughout Taiwan's development experience, although, importantly, the long-term policy trend towards increased liberalization always remained abundantly clear. The essence of Taiwan's policy is captured in the realization that the increased competitiveness of domestic producers was essential for the ultimate penetration of international markets, but that exploitation of domestic consumers could continue as long as it was politically feasible. Put another way, once domestic entrepreneurs had demonstrated their competitiveness in foreign markets, it could be assumed that they would be less fearful of going head-to-head with foreigners in the domestic market. Consequently, by the 1980s and 1990s protectionism, which previously had been only marginally reduced, was for the first time substantially rolled back as Taiwan moved towards membership of the World Trade Organization.

The overall development effort was also aided immeasurably by a pragmatically flexible government policy towards education, which moved from an initial emphasis on compulsory primary education to one that also embraced compulsory secondary education. This shift occurred in 1968, at precisely the point when the scarcity of unskilled labour appeared imminent, as signalled by the first pronounced rise in unskilled real wages. Meanwhile, between 1955 and 1970 total expenditure on education was raised from 2 to 4.6 per cent of GNP, and from 11 to 20 per cent of the budget. Another important feature of educational policy was that vocational training, usually disparaged in developing countries, increased sixfold between 1966 and 1974, during which period the non-agricultural labour force increased by 80 per cent. In 1963 only 40 per cent of Taiwan's high school students were following a vocational track; by 1980 the corresponding figure was 70 per cent. Consequently, Taiwan was able to have access to a cheap, yet efficient and literate labour force, flexibly available to meet rapidly changing requirements and make its contribution to a massive export-oriented development drive.

Education as a public sector responsibility has been part of a very strong cultural tradition throughout East Asia, but it is the flexibility, in terms of changes in overall educational emphasis and in its allocated proportions, that has differentiated Taiwan from some of its neighbours. Even as private sector schooling above the primary level – at both secondary and tertiary levels – increased in relative importance (rising from 10 to 60 per cent between 1950 and 1980), demand continued to be strongest for entry into the higher-quality elite public institutions. Expenditure per public school student has been at least twice as high as in private schools; in public universities the student–teacher ratio has been 12 to 1, compared with 29 to 1 in private universities. In private high schools and universities, parents had to pay 50 per cent of total costs, whereas in the public sector the corresponding figure was only 7 per cent. This, coupled with the importance of the examination system (rather than ability to pay or influence of family connections) in determining entry, completes the picture of Taiwan's relatively meritocratic and flexible educational structure.

Taiwan currently finds itself in what might well be called a science-and-technology-oriented development sub-phase. This means that agriculture, having performed its important historical mission, is no longer a major catalyst for development or a source of savings in support of development, and has instead become an unnecessarily heavily subsidized appendage of the economy. Secondly, the increasing shortage of labour has caused a marked increase in both legal and illegal in-migration of workers, as well as a marked shift in the economy's output and export mix. Electronics, information science and technology-intensive exports have soared, and now make up more than 80 per cent of total exports. Traditional textiles, garments, electronic assembly and other light industries have meanwhile been relocated overseas – largely in mainland China – as Taiwanese foreign investment has made use of cheap labour in neighbouring countries. The government has paid much more attention to infrastructural bottlenecks,

transport, environment, etc., as well as to financing large-scale, directly productive activities in more capital- and technology-intensive sectors.

By 1988 expenditure on education had risen to a new high of 5.2 per cent of GNP. At the same time, the share of educational funding allocated to primary education had declined from 50 to 30 per cent, while that allocated to tertiary education had risen from 15 to 30 per cent. Such figures demonstrate continued and remarkable flexibility in response to the changing needs of the economy. Within higher education, emphasis had shifted towards engineering and the natural sciences, and away from the traditional humanities and agronomy-related foci. The government intervened by adjusting entry quotas and by using financial incentives in favour of new departments, such as industrial engineering, industrial design, petrochemistry, etc. At the same time as Taiwan tried to prolong the life of its labour-intensive industries by investing in low-wage neighbouring countries, policymakers recognized that, at home, the maintenance of substantial total factor productivity change required a gradual shift away from the adaptation of relatively simple imported technologies towards Schumpeterian-type innovative responses, supported by high-tech manpower and investments in research and development (R&D). By the end of the 1990s, Taiwan had increased its formal R&D expenditures to around 2 per cent of GNP. While this was still substantially below the corresponding figure (about 5 per cent) for mature economies, it is unusually high by the standard of a typical developing country (around 0.5 per cent). Moreover, the Taiwanese figure does not include the substantial R&D input associated with informal, blue-collar, tinkering activities of the kind that takes place in machine shops and on factory floors of the many small- and medium-scale establishments, which even today still dot the economic landscape of Taiwan. Indigenous patents, although an admittedly imperfect indicator of innovative activity, have been exploding in number, while there has also been a manifold increase in paper citations (a measure of quality of the basic research output of the mainly government-sponsored institutes and universities).

While more than 50 per cent of Taiwan's formal R&D now takes place in the private sector, the government's contribution has continued to be of considerable importance. In most developing countries, public sector R&D institutes are notorious for becoming 'white elephants', their objectives being more concerned with pleasing an international community of scientists than with their practical application in the domestic economy. Taiwan's experience has differed markedly from this general model. The principal focus of the substantial number of research institutes and science parks established on the island has been to assist small and medium-sized firms, with support increasingly provided via the provision of overheads and private sector contracts rather than through continuing assured government subsidies.

As a consequence, the volume of technology-intensive exports increased fourfold between 1984 and 1994, while the share of total exports characterized by high technology intensity now exceeds 50 per cent (50.6 per cent in 2001). In addition, the reverse impact of exports on domestic productivity levels has become increasingly important, either via a feedback effect associated with equipment imports, or via technological licensing and the enhanced flow of foreign direct investment in recent years. This trend has been supported by a concerted effort to attract previously 'brain-drained' Taiwanese engineers and scientists from Silicon Valley and elsewhere in the USA to return home and participate in the domestic production and export drive. For example, more than 70 per cent of companies located in the Hsinchu Science-based Industrial Park have been led by returned overseas Chinese.

Paul Krugman, Alwyn Young and others have emphasized the importance of high investment rates, rather than technology change, in order to explain Taiwan's outstanding growth performance. However, this runs counter to the findings of Paul Liu and others, which indicate a fairly high total factor productivity performance – certainly higher than that of Taiwan's neighbours. The widely differing estimates of total factor productivity growth for Taiwan depend very much on how a heterogeneous capital stock is valued, as well as on the particular production function that is adopted. Even if (as I would agree) high investment rates are part of the story, we still have to explain why investment has remained so efficient and not subject to pronounced diminishing returns.

Although, for political reasons that are well known, Taiwan has been excluded from the United Nations Development Programme's Human Development Reports, my own estimates[1] show that Taiwan's performance has improved steadily, and that its Human Development Index level is now close to the average for the industrial countries. Between 1950 and 1970 the overall Gini coefficient fell from about 0.56 to 0.29, this reduction being accompanied by a dramatic decline in the incidence of poverty. Taiwan's case during this period clearly exhibits sustained 'growth with equity' in income terms, and a steady improvement in the quality of life. More recently, income distribution has worsened, as is the case in most countries that have reached the mature economy stage – a phenomenon that appears to be related to the growing wage gap between skilled and unskilled labour. However, as T. Paul Schultz has shown, even this recent deterioration in Taiwan may prove to be unfounded after adjustment for household income by household size.[2]

Vulnerability and the East Asian financial crisis

This section addresses the question of why the above combination of initial conditions and policy actions not only facilitated a remarkable record of growth with equity and progress in human development over several decades in Taiwan, but also enabled it to escape the worst effects of the East Asian crisis of the late 1990s. After all, initial transition growth strategies in almost all countries have involved similar policies of import substitution, accompanied by substantial government intervention in their mixed economies. In addition, while much of Taiwan's success has been attributed to its more pronounced external orientation and greater willingness to subject itself to the competitive discipline of the market, this also carried greater risks through enhanced exposure to the vagaries of international fluctuations, changes in the terms of trade, business conditions, etc.

It is my contention that not only the above-mentioned absence of a favourable natural resource endowment, but also the absence of large-scale foreign capital inflows, account in part for Taiwan's avoidance of the worst effects of the East Asian crisis. I believe that Taiwan's relatively monotonic, 'steady-as-you-go' performance, and its avoidance of the stop–go oscillations typical of most developing countries, can be explained in terms of the above-cited differences in initial conditions and policy-response mechanisms. As a result, Taiwan's circumstances were substantially different from those of more 'typical' developing countries, and even stood apart from those of South Korea, its East Asian neighbour with which it has frequently been compared.

Developing economies are inevitably exposed to shocks emanating from the rest of the world; when such external shocks (for example, changes in trade terms) are positive, most developing economies are tempted to seek to enhance domestic activity through additional borrowing and monetary expansion. On the other hand, when external shocks are negative, the temptation is to substitute expansion of the domestic money supply and budget deficits for the decline in externally generated resources. This often necessitates the re-imposition of controls, or ultimate recourse to large devaluations, or both. The syndrome is characterized by a general unwillingness to let prices gradually adjust to changing circumstances, and a tendency instead to seek quantitative adjustments.

In contrast, the case of Taiwan illustrates a tendency whereby growth has followed a more or less 'natural' path over time, dictated by the flexible response to changing factor endowments, as well as shifting technological capabilities at home and fluctuating demand conditions abroad. There has clearly been much less government activism in Taiwan during good times, but also fewer desperate attempts to maintain growth when times have been relatively bad. As Kuznets would put it, Taiwan's policies have been much more accommodating than obstructive in responding to exogenous shocks to which all societies must adjust if they are to manage a successful transition into modern economic growth.

A careful examination of the basic causes of the East Asian crisis reveals that most countries in the region, having pegged their currencies to a rising dollar, had experienced a pronounced appreciation of their real exchange rates. Given the prolonged period of stagnation of the Japanese economy, as well as specific negative factors affecting certain industries (especially electronics), a misalignment of exchange rates in most of the region followed. In contrast, Taiwan had shown greater flexibility, having devalued earlier.

But why did such countries choose to peg their exchange rates against the dollar, in contrast to the greater flexibility opted for by Taiwan? The answer lies in the earlier experience of the European Monetary System, as well as that of many Latin American countries, both of which had popularized a model in which fixed exchange rates provided the external anchor for a defence against inflation. In the case of East Asian countries, the general policy of maintaining a peg against the dollar was also intended to facilitate a continued programme of high-level investment, financed in part by external capital.

It is interesting that an analysis of the investment programme of East Asian countries from the 1950s until the 1990s reveals that, in South Korea, 60 per cent of total investment was provided by foreign capital inflows, compared with only about 15 per cent in the case of Taiwan. Some borrowing abroad to sustain high rates of investment at home is a common feature of fast-growing developing economies, and can be consistent with external solvency. During the 1990s, however, there was increasing evidence in most of East Asia that a substantial share of new investments was being directed towards projects in the non-traded goods sector, as well as in traded goods areas that were beginning to face slackening demand. Export growth rates were clearly declining in the second half of the 1990s, and there was evidence at the micro-level that new investments were becoming less profitable. Rates of return and incremental capital–output ratios were moving in unfavourable directions, while non-performing loans were rising throughout the region, including in Taiwan. The effort to try and maintain growth rates of 7–8 per cent, to which East Asia had generally become accustomed, by forcing investment into increasingly less profitable channels, I believe contributed significantly to the crisis that followed. But Taiwan, although not wholly innocent of such tendencies, was much more prepared to permit growth rates to move gently downward, and willing to permit the exchange rate and other prices to reflect this modest deceleration. After all, and especially as countries in the region began to approach economic maturity (Korea, for example, had become a member of the Organization for Economic Co-operation and Development), a willingness to accept GDP growth between 3 and 4 per cent per annum – levels that would satisfy most developed countries – was surely preferable to the effort required to maintain a growth rate of 8 per cent in the face of weakening demand and falling rates of return.

International financial markets initially responded enthusiastically to policies oriented towards maintaining high investment and high growth in East Asia. Capital inflows far exceeded current account imbalances, leading to an impressive build-up of international reserves in several countries in the region. While both South Korea and Taiwan enjoyed very high savings and growth rates, the investment rate in Korea (38 per cent) was substantially

higher than that of Taiwan (around 21 per cent). This difference, which was fuelled by the much larger inflows of foreign capital (mainly portfolio type) into South Korea, was not accidental because the agricultural sector's contribution to domestic savings in Taiwan was much more substantial than in Korea. On the eve of the crisis, manufacturing sector debt–equity ratios were estimated to be 87 per cent in Taiwan, but a massive 300 per cent in Korea. However, most of Taiwan's accumulation of foreign exchange reserves – much higher than that of other countries in the region – was based on export surpluses, rather than on the inflow of short-term foreign capital. This was a notable contrast. At the outset of the crisis, Taiwan had foreign exchange reserves of US$86 billion, compared with US$17 billion in South Korea. Even more telling, Taiwan's total foreign debt was a mere US$100 million, whereas that of Korea was US$230 billion.

In the 1960s and 1970s, bolstered by the above-mentioned decentralized farmers' association structure (which also helped promote innovation in rural non-agricultural activities), Taiwan's agricultural labour productivity had grown twice as quickly as that of Korea. One implication of Taiwan's decentralized, rural-oriented industrialization path is that, while directed credit or 'crony capitalism' has by no means been absent, it has been much less pronounced, with the allocation of resources left more to markets and family decision-making than to favouritism by banks. Productivity increases in Taiwan's industry were also substantially higher than in Korea over several decades; with medium- and small-scale companies the norm, labour relations have also been less militant and labour markets significantly more flexible.

All these features stood Taiwan in good stead as financial turmoil began to engulf Asia in 1997. Currency traders were unwilling to bet against a currency backed by huge foreign exchange reserves and a minuscule foreign debt. Relative to all its neighbours, fewer companies in Taiwan had over-borrowed as a result of cheap official credit, or had been protected against bankruptcy by traditional government lending, subject to explicit or implicit guarantees and the infamous 'moral hazard' problem. It is noteworthy, for example, that by mid-1997, eight out of the 50 largest conglomerates in South Korea were already *de facto* bankrupt. Moreover, as early as 1996, 20 of the 30 largest *chaebols* showed a rate of return on invested capital that was less than the cost of capital. Such conditions were very different from those that prevailed in the predominantly small- and medium-scale industrial sector of Taiwan.

We have already noted that Taiwan also faced deficiencies in its domestic capital and financial markets. It continues to share with its neighbours some of the problems of inadequate transparency, inadequate banking supervision, and inadequate bankruptcy laws; but the notion that implicit or explicit public guarantees fully insured investments against all adversity did not prevail in Taiwan to nearly the same extent as it dominated entrepreneurial thinking elsewhere in East and Southeast Asia. When hit by sizeable macro-economic shocks, including Japan's prolonged slump, the likelihood that implicit insurance would distort incentives to conduct proper risk assessments in project selection was therefore much less evident.

In the period leading up to the crisis, Taiwan, like its neighbours, had encountered economic problems. For example, there had been an earlier boom in land, real estate and the stock market as high savings rates were increasingly translated into more speculative activities and non-traded goods sectors, rather than competitive traded goods sectors. But that relatively smaller bubble had burst a few years earlier. At the outset of the crisis in 1997, there was much less speculative investment left in international capital markets, and much less accumulation of short-term foreign liabilities. Taiwan's minuscule short-term foreign debt, relative to its foreign exchange reserves, was in stark contrast to that of both South Korea and Thailand. As a result, there had been no inward stampede of short-term capital, and there was no outward stampede once the crisis began. Indeed, the swing in international capital flows, overwhelming in most East Asian countries, was quite modest in the case of Taiwan.

In short, the problems of much of East Asia were caused by insistence on the inconsistent quartet of a fixed exchange rate, early liberalization of capital controls, and growth-promoting monetary and fiscal policies. Such problems were avoided in Taiwan because the exchange rate was kept more flexible, the liberalization of capital controls was not permitted to proceed as quickly as elsewhere in the region, and monetary and fiscal policies were more price- than quantity-oriented. Taiwan did not take large short-term positions in foreign currency, again in sharp contrast to its neighbours. Instead of investment policies pushing for 'full speed ahead' with respect to growth at the macro-level, and additional investments taking place in sectors that displayed weakness at the micro-level, decisions were more subject to arms' length rationality. Not until the mid-1990s, as part of Taiwan's drive to become a member of the World Trade Organization, was there major liberalization in trade and capital markets. Even so, while it took four decades to accomplish the opening up of Taiwan, especially to imports, the underlying thrust in that direction was clearly and consistently maintained.

In short, Taiwan's policies were substantially more flexible than those being pursued elsewhere: the exchange rate was handled more realistically and not kept as firmly pegged to the dollar; there was a more cautious approach to capital account liberalization; and, by virtue of the sharply different level of industrial concentration, public guarantees of private investment as part of a growth–push strategy were much less dominant. Taiwan's relatively small real estate and stock market bubble had burst somewhat earlier, and the lessons had been learned.

Having been the recipient of much smaller quantities of short-term foreign capital, Taiwan was much less subject to the rapid reversal of such flows; specifically, the Japanese banking crisis and the sudden, unforeseen unwillingness of Japan to roll over Thai and other Asian debts did not

substantially affect Taiwan. With a reserve requirement of 8 per cent on international loans, compared with a corresponding figure of only 4 per cent on domestic loans, in 1997 Japanese banks, faced with a domestic squeeze, directed their immediate concern to reducing international lending by no longer rolling over Thai and Korean short-term debt. This, combined with the effect of Japan's continued unwillingness or inability to reflate and thereby provide markets for industries that were themselves reaching maturity and facing increased competitive pressure, was perhaps the single most important trigger determining the timing of the crisis. Not only did Japan pursue deflationary policies and slow its purchase of imports but, by allowing the yen to weaken, its industry also sought to reclaim market shares that had been lost to its regional competitors. Here again, the impact on Thailand and South Korea was heavier than on Taiwan, which had permitted a gradual depreciation of its currency.

In Taiwan there were few natural or foreign aid resources to maintain the momentum of an inefficient growth process. More importantly, it meant that the large rents usually emanating from such sources, and the resulting animated struggle among various vested interest groups, could be avoided. Moreover, given the high correlation between the supply of natural resources and exposure of the system to exogenous shocks, the stop–go phenomenon experienced by so many developing countries – including some Southeast Asian countries affected by the East Asian crisis – could also be avoided. We may call this the avoidance of an extended Dutch disease problem – extended in the sense that it transcended exchange rate inflexibility to become decision-making inflexibility.

The significance of Taiwan's ability to rely on domestic savings and to avoid significant dependence on foreign capital (plus the fact that most such capital was in the form of long-term foreign direct investment rather than short-term portfolio inflows) should by now be clear. Moreover, the ability to attract foreign capital is often closely related to a country's natural resource abundance. As a result, although one would expect changes in the level of capital inflows to be counter-cyclical – positive in bad times and negative in good times in order to ameliorate the political economy effects over the cycle – it is much more likely that foreign investors and foreign donors will behave more bullishly during good times (to the extent of exaggerating such behaviour), and more bearishly in times of recession (again exaggerating such behaviour). Thus capital movements are very likely to reinforce perverse political responses and decision-making of the extended Dutch disease variety.

Once Taiwan had reached the export orientation phase, it was much less susceptible to this disease. It was able to view the quantity of money and foreign exchange reserves as domestic or international media of exchange for transaction purposes, rather than as instruments to promote growth, interest and exchange rates being perceived as flexible adjustment devices in the face of external shocks.

All this decidedly did not imply a diminished role for government in Taiwan, nor did it lead to reliance on some kind of *laissez faire* policy. Rather, it generated a different, perhaps increasingly critical, role for policymakers. Organizational and institutional construction to facilitate the gradual depoliticization of economic activity, especially in the monetary and fiscal spheres, was clearly essential, as was appropriate government action to ensure the creation of appropriate institutions, including time-phased education, R&D, and science-and-technology-oriented instruments. Such activities went far beyond a government's narrow role, as customarily defined, of creating physical infrastructure, or even of facilitating the emergence of the kind of nationalism advocated by Kuznets, or of making exports more competitive via tax rebates, export processing zones, etc. The key in Taiwan was clearly institutional change, through the exercise of restraint in the pursuit of expansionary macro-economic policy over time, and accompanied by specific flexible and time-phased resource-allocation decisions at the micro-level.

Let me, finally, address the issue of the democratization of Taiwan – not only as a worthwhile objective in and of itself, but also as it relates to the basic issues with which this paper is concerned (why Taiwan succeeded in avoiding the major impact of the Asian crisis, and why, if one takes the longer view, it has produced what is undoubtedly the best development performance among developing countries). While some countries clearly are both undemocratic and unsuccessful, there are also some that are democratic and unsuccessful. If we accept Robert Dahl's broad definition of democracy in terms of an effective participatory role for most citizens, we may need to re-examine the Taiwanese experience before the introduction of a multi-party system. I would be prepared to argue that economic democracy, rather than Westminster-style political democracy, was in place in Taiwan at a relatively early stage. This form of democracy, characterized by group-oriented activity – social capital enhanced by horizontal ties – was certainly helped by ethnic homogeneity (compare the previous reference to the existence of an organic nationalism in Taiwan from very early days). Whatever the extent to which both development and democracy are based on credibility and explicit, enforceable contracts, it is clearly a function of government to permit and enable reforms to move forward, and avoid the stop–go pattern so typical of many developing countries.

A strong executive branch within a strong central government was a prerequisite during Taiwan's early import-substitution phase, when there was less reliance on markets, and political democracy was almost entirely absent. Subsequently, the increasing complexity of decision-making and the growing need for a more decentralized market mechanism generated political pressures, as educational levels advanced, civil society gained in importance, and not only economic but also political participation became possible. Thus we have witnessed in Taiwan a 'natural' transition from economics to the political scene, reflecting the commonly held notion that,

after a certain passage of time, development promotes democracy via the rise of a middle class, the introduction of a multi-party system, the acceptance of electoral outcomes, etc. The more difficult question is: does democracy also promote development?

The links between political democracy and development – in terms of both vertical and horizontal dimensions of institutional construction – pose difficult questions that remain underexplored. Early on, the focus of democracy in Taiwan was broadened participation in decision-making (through heavy reliance on farmers' associations with the JCRR as the core), while the bureaucracy was relatively isolated from pressure and bribery. During this early period, this kind of economic democracy helped promote growth in Taiwan, as it strengthened the existence of organic nationalism. Later, economic growth assisted in nurturing political democracy, as Taiwanese society was confronted by an increasingly complicated set of decisions that demanded more decentralized mechanisms for resource allocation, and for well known dynamic reasons. In Taiwan, decentralization and the attainment of improved income-distribution equity proved generally consistent with economic democracy, with political democracy following in more recent years. As political scientists like to put it, as long as the median voter is satisfied, there is less likely to be a spill-over into populism or other threats to sustained growth.

Some conclusions

As we have been able to explain Taiwan's success in terms of the existence of favourable initial conditions and the subsequent implementation, over time, of appropriate policy responses, there is no sense in which its experience need be described as a 'miracle'. The main initial ingredients included a Japanese colonial heritage that provided land reform early on, and highlighted the importance of the provision of physical and institutional infrastructure in rural areas. Other key aspects were the establishment of farmers' associations and agricultural research institutes, and early emphasis on primary education and literacy.

The poverty of Taiwan's natural resource endowment then forced a timely concentration on the importance of human development, eliminated some of the rent-seeking that typically accompanies resource-based bonanzas, and, by helping Taiwan avoid the stop–go processes associated with the extended Dutch disease phenomenon, guaranteed the avoidance of similar stop–go fluctuations in response to inevitable exogenous shocks.

Moving beyond the initial conditions, the main elements of favourable policy decisions that subsequently helped Taiwan avoid the worst effects of the East Asian crisis included the second, early post-independence land reform, which further cemented the foundations of rural 'growth with equity'. Early attention was also paid to sustained increases in agricultural productivity, enabling that sector to make a major contribution to household saving and early exports. This was complemented by a relatively mild and relatively brief variant of an import-substituting industrialization phase, which obviated the frequently encountered creation of encrusted patterns of rigid prices, deficit finance, protection and inflation.

As a priority, continued attention was paid to education, marked by flexibility in adjusting to changing economic needs, moving from primary to vocational secondary, to technical junior colleges and, finally, to engineering and science-oriented tertiary – this last buttressed by a policy of bringing back overseas Chinese with high-tech expertise who had migrated to the USA. All this process was complemented by the creation of R&D institutes, science parks and other institutions whose incentives were geared towards making a contribution to the economy. The continuing necessary adjustments were facilitated by the existence of a relatively flexible labour market. Taken together, these features facilitated the implementation of a relatively decentralized rural industrialization strategy, which generated a workably competitive industrial sector that was less subject to the degree of industrial concentration and government directed credit syndrome of other Asian economies. Thanks to the substantial contribution of agricultural savings and a rural-biased and labour-intensive industrialization effort, Taiwan required only modest recourse to foreign capital inflows, especially in terms of short-term portfolio capital, while mounting export surpluses facilitated the accumulation of substantial foreign exchange reserves. These reserves played a role of major importance in helping to ward off speculative attacks on the currency. Moreover, Taiwan generally showed greater flexibility towards prices, including the exchange rate regime, with gradual devaluations preceding the actual crisis by several years.

Rapid, relatively steady growth in Taiwan over the past four decades was accompanied by the virtual elimination of poverty and, counter to the predictions of the Kuznets hypothesis, an improvement in the distribution of income, at least until recently. All this was accompanied by a substantial degree of economic democracy in the early years, and more recently by the steady evolution of political democracy.

In sum, from any long-term or comparative perspective, one cannot but be impressed by the remarkably steady and, by any international standard, outstanding overall performance of the Taiwan economy. While no country's experience can ever be transferred or serve as a reliable guide to another, much can be learned from this experience over the past half century. No other developing country has grown as fast, achieved such success in eliminating poverty, and maintained such a favourable initial trend in the distribution of income. Taiwan's success in avoiding the worst effects of the East Asian financial crisis – and doing so in the absence of the need (or ability) to resort to IMF assistance – gives us confidence in its ability to be able to respond imaginatively to the inevitable shocks of the future.

Notes

1 G. Ranis, 'Reflections on the economics and political economy of development at the turn of the century' in G. Ranis, S. C. Hu and Y. P. Chu (eds), *The Political Economy of Taiwan's Development into the Twenty-first Century: Essays in Memory of John C. H. Fei*, Volume 2, Cheltenham, UK: Edward Elgar, 1999.

2 T. P. Schultz, 'Income inequality in Taiwan 1976–95: changing family composition, dying and female labour force participation' in G. Ranis, S. C. Hu and Y. P. Chu (eds), *ibid.*