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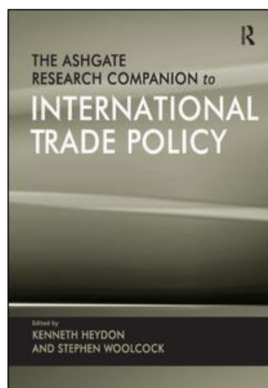

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Trade Openness and Growth Miracles: A Fresh Look at Taiwan

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Trade Openness and Growth Miracles: A Fresh Look at Taiwan

Arvind Panagariya[1]

Introduction

Taiwan was one of the two original miracles – the other being the Republic of Korea – that first convinced many development economists of the superiority of outward-oriented policies over import substitution. But authors such as Wade (1990, 2004) and Rodrik (1995) subsequently challenged the view that the Taiwanese success represented the triumph of outward-oriented policies and reinterpreted it as the outcome of a set of government interventions. While a number of original converts to outward orientation as the preferred development strategy, including Little (1996) and Bhagwati (1999), have responded to these critics, not all of the criticisms have been laid to rest. Consequently, the importance of the Taiwanese experience towards validating the case for outward orientation as a means to sustained rapid growth remains less than fully recognized. The objective of this chapter is to correct this deficiency in the literature.

My focus is principally on the approximately 15-year period from the late 1950s to the early 1970s. This is the key period during which the Taiwanese economy took off and grew on a sustained basis at near double-digit growth rates and was transformed into an industrial powerhouse. I will argue that a switch to outward-oriented policies was the key to both catalysing and sustaining the rapid growth Taiwan achieved during this period. I will also discuss in detail why the contrary view that gives credit to the government for launching the country into a high-growth orbit by acting strategically or coordinating private investments lacks validity.

[1] The author is indebted to Ken Heydon for excellent suggestions on tightening this chapter to meet the editors' constraints on length and to Gustav Ranis for comments on an earlier draft.

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An Overview of Growth: 1952–80

Figure 17.1 shows annual gross domestic product (GDP) growth rates in Taiwan from 1952 to 1980. As the scope for easy import substitution was being exhausted, the annual growth rates in the second half of the 1950s had been declining. The trough at 6.3 per cent in 1960 was almost 5 percentage points below the average of 1962–73 and a full 7 per cent below the peak reached in 1972. A critical breakpoint occurs at the border between 1962 and 1963 since this is when the high-growth path appears firmly established.

The higher growth rates were accompanied by a rapid transformation of the economy. Trade became progressively more important, exports reoriented from agriculture to manufactures, the share of industry in GDP rose substantially and the workforce shifted out of agriculture into industry in significant volumes. Before turning to this transformation, it is useful to review the evolution of trade and industrial policy.

Figure 17.1 Annual GDP growth rates in Taiwan: 1953–80
Source: Author's construction based on data in Yu (1999).

Trade and Industrial Policies

The Import Substitution Phase: 1951–60

Analysts on both sides of the debate agree that the period 1951–7 was dominated by policies commonly associated with import substitution. Tariffs were high, strict import licensing was applied and, despite several devaluations, the domestic

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currency remained overvalued throughout the period. Strict quantitative restrictions implemented through licensing generated large quota rents even after netting out the high tariffs. Scott (1979: 315) refers to Lin (1973) as reporting quota premiums over CIF import price plus custom duties equalling 48 per cent on wheat flour, 33 per cent on cotton yarn, 150 per cent on cotton piece goods, 350 per cent on soda ash and 100 per cent on ammonium sulphate in 1953.

Switching to Outward Orientation: Key Reforms of 1955 and 1958–60

In his important book, Lin (1973) points out that some major manufacturing sectors such as textiles, wood products and rubber goods had slowed down after the early 1950s as 'easy' import substitution came to an end. In turn, this led to a slowdown in the growth of the manufacturing sector as a whole. GDP grew significantly more slowly during 1955–8 than during 1952–5 (Figure 17.1). After 1954, there was also a pronounced decline in the absolute level of gross private sector investment.[2]

In July 1955, the Executive Yuan passed the Regulation for Rebate of Taxes and Export Products. This measure provided for the rebates of commodity tax, import duty and defence tax paid on exports. In addition, for purposes of private sector exports, the domestic currency was devalued from NT$15.55 per US dollar to NT$25 per US dollar. Given the high rates of import duty and commodity taxes around this time, the rebates made some of the previously unprofitable exports profitable while the devaluation boosted the value of the profits in the local currency. The measures led to a perceptible impact on non-agricultural exports, which grew 33 per cent per annum during 1956–8. The effect could even be seen in a favourable movement in total exports translating into a mildly rising trend in the exports-to-GDP ratio after bottoming out at 5.8 per cent in 1954. By 1957, the ratio had returned to its early 1950s level.[3]

The key problem still confronting many potential exporters of manufactures was the following: given the poor resource base of Taiwan, most of the potential export products required imported inputs accounting for two-thirds or more of the value of the product at world prices. The catch was that imported inputs were subject to strict licensing that produced very large rents. These rents exceeded the sum of the border price, custom tariff, domestic indirect taxes and retailing costs by a sufficiently large amount that their processing for exports was unprofitable even taking into account the fact that the tariff and other indirect taxes were refundable under the 1955 reform. The only way to make exports profitable was to substantially eliminate quota rents and provide inputs at world prices to exporters.[4] The reforms initiated in April 1958 and implemented over the following two years accomplished

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[2] Scott (1979: 318).

[3] I draw on Scott (1979: 324–5) for the discussion of the reforms described in this paragraph. The trends in trade flows described here are discussed in greater detail below.

[4] Scott (1979: 321–4) provides empirical evidence supporting the argument in the text.

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this task by the removal of quantitative restrictions on imports in many cases and streamlining the quota allocation in favour of exporters in others.

A further important reform, which complemented import liberalization, concerned the exchange rate. In November 1958, the domestic currency was devalued with the result that the exchange rate applicable to the bulk of the import and export transactions by private enterprises changed from NT$25 to approximately NT$40 per US dollar. This adjustment in the exchange rate greatly increased the profitability of processed exports achieved through the first reform.[5]

Additional reforms during this period included:

- the removal of export controls on more than 200 items, simplification of procedures for tax rebates, waiver of the 2 per cent harbour dues on exports and the provision of easier credit terms for exporters;
- the opening up of foreign investment, which brought multinational firms to the shores of Taiwan and helped expand the exports of electronic products; and
- tax holidays, accelerated depreciation, a ceiling on the corporate income tax rate and other remissions to encourage investment.

The Economic Transformation

In addition to the acceleration in growth previously discussed, the structure of trade, output and employment was dramatically transformed.

The Rise of Labour-Intensive Exports

The key reforms towards outward orientation took place in 1955 and during 1958–60. Against this background, Table 17.1 reports the shares of agricultural and non-agricultural exports along with the total value of exports on a continuous basis from 1952 to 1971. It can be seen that non-agricultural exports increased both in absolute and proportionate terms continuously. In 1959, the total exports fell due to a sharp decline in agricultural exports but non-agricultural exports, principal beneficiaries of the reform, showed a healthy growth. They rose from US$18.8 million in 1958 to US$32.1 million in 1959. The following year, agricultural exports fell again but the increase in non-agricultural exports more than made up for it. During 1959–63,

[5] It is important to understand that devaluation alone unaccompanied by the first reform could not have worked. This is because it would have led to a proportionate increase in the prices of exports and imported inputs in the domestic currency. Therefore, if exports were unprofitable initially, they would have remained so post-devaluation. But once the first reform created positive profits, their value in the domestic currency proportionately rose with devaluation.

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non-agricultural exports grew at the average annual rate of 50.3 per cent. In the process, the share of non-agricultural exports in the total exports rose from 11.4 per cent in 1958 to 39 per cent in 1963. The process of structural transformation of trade continued in the subsequent years with this proportion rising to 77.5 per cent in 1971. Table 17.2 offers more detailed composition of exports. Category 'others', which included such important labour-intensive exports as clothing and footwear, expanded from 8.1 per cent in 1955 to 39.8 per cent in 1970.

Table 17.1 Agricultural and non-agricultural exports of Taiwan: 1952–71

Year	Total ($Million)	Agricultural ($Million)	Non-agricultural ($Million)	Agricultural (as % of total)	Non-agricultural (as % of total)
1952	119.5	114.2	5.3	95.6	4.4
1953	129.8	121.2	8.6	93.4	6.6
1954	97.8	90.8	7	92.8	7.2
1955	133.4	124.4	9	93.3	6.7
1956	130.1	114.9	15.2	88.3	11.7
1957	168.5	155.4	13.1	92.2	7.8
1958	164.4	145.6	18.8	88.6	11.4
1959	160.5	128.4	32.1	80.0	20.0
1960	169.9	121	48.9	71.2	28.8
1961	214	131.9	82.1	61.6	38.4
1962	238.6	129.4	109.2	54.2	45.8
1963	357.5	218.2	139.3	61.0	39.0
1964	463.1	277.6	185.5	59.9	40.1
1965	487.9	286	201.9	58.6	41.4
1966	569.4	289	280.4	50.8	49.2
1967	649.9	296.9	353	45.7	54.3
1968	841.8	315.6	526.2	37.5	62.5
1969	1110.6	342.2	768.4	30.8	69.2
1970	1561.7	392.2	1169.5	25.1	74.9
1971	2135.5	480.1	1655.4	22.5	77.5

Source: Excerpted from Ranis (1999: Table 5.2, p. 117).

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Table 17.2 Composition of exports of Taiwan (percent of total exports)

Item	1952	1955	1960	1965	1970	1975
Food, beverages and tobacco preparations	83.6	84.6	58.5	39.1	9.4	7.3
Textiles, leather, wood, paper and related products	0.9	2.4	17.1	26.2	30.3	24.4
Non-metallic mineral products	0.0	0.0	1.8	3.1	2.5	0.6
Chemical and pharmaceutical products	3.5	3.3	4.9	4.4	1.8	2.0
Basic metals	0.9	1.6	3.7	3.6	3.2	1.5
Metal products	0.0	0.0	0.6	1.1	1.4	1.6
Machinery	0.0	0.0	0.0	1.3	2.3	2.4
Electrical machinery and apparatus	0.0	0.0	0.6	2.7	8.8	9.6
Transportation equipment	0.0	0.0	0.0	0.4	0.6	1.4
Others	11.2	8.1	12.8	18.0	39.8	49.2
Total ($Million)	100.0	100.0	100.0	100.0	100.0	100.0

Source: Excerpted from Ranis (1999: Table 5.5, p. 122).

Rising Output and Employment Share of Industry

The structural transformation in exports was accompanied by a similar transformation in output and employment.

Table 17.3 reports the resulting shift in the composition of output across sectors. Between 1951–3 and 1958–60, the share of industry in the GDP rose from 26.2 per cent to 33.8 per cent. This shift accelerated during the outward-orientation phase with industry claiming 51 per cent of the GDP by 1971–3. Within industry, the share of manufacturing in the GDP rose even more sharply, increasing to 37.9 per cent in 1971–3 from just 15.5 per cent in 1951–3.

In parallel, the employment shares of various sectors shifted as well. According to Galenson (1979: Tables 6.2, 6.3), the proportion of the labour force in agriculture fell from 60.5 per cent in 1952 to 52.7 per cent in 1960, 36.8 per cent in 1970 and 29.9 per cent in 1975. Correspondingly, the employment share of industry rose from 18.4 per cent in 1952 to 25.2 per cent in 1960, 33.7 per cent in 1970 and 41.2 per cent in 1975.

Table 17.3 Composition of GDP in Taiwan

Period	Agriculture	Industry	Manufacturing	Services
1951–3	33.2	26.2	15.5	40.6
1954–7	27.8	31.8	19.6	40.4
1958–60	27.2	33.8	21.4	39
1961–3	24.9	36.1	23	39
1964–7	22.4	39.9	26.7	37.7
1968–70	16.5	46	32.3	37.5
1971–3	13.1	51.3	37.9	35.6

Source: Excerpted from Kuznets (1979: Table 1.10).

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Connecting the Outcomes to Policies

In linking outcomes to policies, let us first look at the role of trade liberalization. I then turn to the complementary policies whose presence played a crucial role in ensuring that the benefits of openness were actually realized. Finally, I outline a stylized story of the growth process.

Link to Trade Policies

Following the reforms of 1958–60, Taiwan clearly became outward oriented while accelerating its growth rate to the double-digit range. The exports-to-GDP ratio, which stood at 8.6 per cent in 1958, rose to 21.4 per cent in 1969 and then shot up to 43.9 per cent in 1973.

Various interventions notwithstanding, it remains true that Taiwan specialized according to its comparative advantage, exporting labour-intensive products in return for capital- and skilled-labour-intensive ones. Little (1979: 478) makes this point in the following terms:

> Although the boom was extraordinary, it is not really surprising. The great increases in exports came in clothing, textiles, light electrical machinery, radio and television, electronic components, and shoes. All these (except synthetic textiles, fiber, and yarn) are labor-intensive activities. Taiwan had a disciplined, hard-working labor force, working for a small fraction of the wages, prevalent in the developed countries.

Additionally, several studies show that, on average, manufactures exports of Taiwan showed greater intensity of unskilled labour than its imports. For example, using data for 1966 and 1971, Liang and Liang (1976) show that export industries have ‘significantly lower ratios of fixed assets per worker than import industries, and their skill ratio is on average somewhat lower’.[6] Studies by Lin (1973: 131–7) and Scott (1979: 355–7) obtain similar results.

Complementary Policies

Why was the opening up strategy successful in Taiwan while the same did not happen in many African and Latin American countries in the 1980s? The answer lies in the presence of complementary conditions and policies in Taiwan that were probably absent from the unsuccessful countries in Africa and Latin America. I consider the main ones below.

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[6] Quoted from Scott (1979: 354).

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First, with a firmly established one-party rule and no opposition, Taiwan was politically stable during this period. This made policies credible and the policy environment predictable.

Second, Taiwan had an extremely flexible labour market during this period. The main social protection was in the form of a social insurance scheme (Little 1979: 469). This was a very different regime from that prevailing in a country like India where the level of protection to workers in the organized sector was and remains extremely high and exceeds that in the developed countries along many dimensions (Panagariya 2008: chapter 13).

Third, the government also provided a stable macroeconomic environment. Once the hyperinflation following the Second World War had been brought under control, inflation remained low. This was especially true during the export-orientation phase.

Fourth, as incomes rose, the savings rate rose as well. As in many other developing countries, household savings response to rising incomes in Taiwan was very substantial. The high interest rate policy pursued by the government perhaps played an important role in encouraging these savings.

Fifth, the government maintained and expanded infrastructure as needs arose. In the area of power, it not only made provision for industry at reasonable rates, it also brought electricity to rural areas. Of particular importance was the expansion of paved roads and linking of internal transport network to ports. The latter was especially crucial to facilitating the rapid expansion of trade that took place during the 1960s.

Sixth, the government also played an important role in ensuring the availability of an educated labour force that could quickly adapt itself to industrial production processes. According to Ranis (1999: 121), 'Most important to the success of the education system was the fact that vocational education was highly diversified, flexible and continuously responsive to changing market demands'.[7]

Finally, liberal rules relating to foreign investment also made a modest contribution to the growth of manufacturing. The reforms during 1958–60 had opened the door to direct foreign investment with no cap on the share of foreign investors and full repatriation permitted.

A Stylized Story of Growth

The earliest year to which the sustained spurt in the growth rate can be traced is 1961. However, the spurt in non-agricultural exports preceded it by three years. It is also important to recognize that the acceleration of growth itself was cumulative. The GDP growth rate rose from 6.3 per cent in 1960 to 6.9 per cent in 1961, reaching the double-digit level for the first time only in 1964. By this time, the total exports had already risen to 17 per cent of GDP and non-agricultural exports had climbed

[7] This paragraph is based solely on Ranis (1999: 121).

up to 40 per cent of total exports. In current dollars, these exports grew at the astonishing annual rate of 47.5 per cent from 1959 to 1964.

The proposition that the initial spurt in the growth rate in the early 1960s came from the switch to outward-oriented policies and the resulting increase in the profitability of existing as well as potential export sectors thus turns out to be quite robust. The remaining question then relates to the role of outward orientation in sustaining the high growth. Here one must confront the possibility of outward orientation leading to declining incentive to accumulate capital.

The Stolper–Samuelson theory (see also Chapter 1) tells us that opening to trade, which progressively raises the price received by labour-intensive exports, would push the real wages up (as indeed happened in Taiwan in the 1960s and early 1970s) and the real return to capital down. The latter fact would diminish the incentive to accumulate capital and thus choke off growth. This is a standard theoretical problem one confronts in explaining super-high growth rates over prolonged periods. A variety of endogenous growth models have been suggested to get around this problem.[8] My own view is that the most plausible explanation of the Taiwanese experience is in terms of a model postulating technological differences between the advanced and poor economies. High rates of growth in the poor, labour-abundant economies can then be accompanied by technological catch-up, which counteracts the Stolper–Samuelson effect and allows both real wages and the return to capital to rise for some time. The incentive to accumulate capital is thus preserved until technological catch-up is complete.

Within the context of such a model, the stylized story of the Taiwanese growth may be told somewhat as follows: the introduction of some major export incentives, including substantial devaluation of the domestic currency, made many actual and potential labour-intensive export products highly profitable. This led to the movement of resources including some fresh capital into these activities. Exports expanded and allowed the expansion of imports as well. More productive machinery, including older vintage and second-hand machinery suitable for labour-intensive production and often underpriced relative to their productivities in labour-abundant countries, could now be imported in larger volume. Improved resource allocation and technological upgrading through diffusion and imported machinery led to increases in incomes. With other complementary conditions present, the savings rate rose, allowing investment to grow. Flexible labour markets ensured that wages did not rise faster than labour productivity. The provision of vocational training by the government helped ensure the availability of adequate supply of skilled workers at wages that would leave the sectors intensive in the use of these skills competitive. Likewise, the provision of infrastructure by the government ensured that domestic and foreign trade flowed smoothly. Finally, foreign investors also aided the process since they too could take advantage of the export incentives and operate in the large world market rather than stay confined to the small domestic market, as would have been the case under an import-substitution regime.

[8] For example, Ventura (1997) and Mulligan and Sala-i-Martin (1993).

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To round up the discussion, let me reiterate that it is difficult to imagine how Taiwan could have sustained its rapid growth without the ability to exploit world markets. To put the matter starkly, even if all complementary policies mentioned above had been present, Taiwan could not have sustained rapid growth for long under a pure import-substitution strategy. Indeed, that was precisely the experience in the 1950s, which led the policymakers to rethink their strategy. Technological improvement, which was probably an important factor in maintaining high rates of return on capital, was itself tied to the country's ability to trade. But equally important, profitability and hence the incentive to accumulate capital would have been exhausted in a relatively short period of time if entrepreneurs had been confined to the small domestic market. India ran into this problem in the first four decades of its development even with a potentially much larger market (Panagariya 2008: chapters 1–4).

Critique and Response

Wade (1990) and Rodrik (1995) have offered major critiques of outward orientation as the key to explaining the Taiwanese miracle. I consider each in turn.

Robert Wade

In his 1990 volume, reprinted in 2004 with a new introduction, Wade argues that the view placing outward orientation at the centre of the success of Taiwan, which Ian Little and other economists have espoused, cannot be right because the government in that country extensively intervened in the making of the miracle. Characterizing the policies identified by Little (1979) as the key to the Taiwanese miracle as 'neoclassical', Wade articulates his argument thus (Wade 2004: 72):

> In short, Taiwan seems to meet the neoclassical growth conditions unusually well. Yet other evidence shows that the government has been intervening for decades, often quite aggressively, to alter the trade and industrial profile of the economy in ways that it judges to be desirable. We then face a formidable identification problem. How can we decide to what extent Taiwan's exceptional economic performance is due to the presence of many of the neoclassical growth conditions and to what extent the government's selective promotion policies? Ultimately, I cannot resolve the issue. But for my purpose it is enough to demonstrate that the government has indeed been guiding the market on a scale much greater than is consistent with neoclassical prescriptions or with the practice of Anglo-American economies. For the fact of such guidance has been almost completely overlooked by neoclassical economists. Recall Ian Little's claim that 'apart from the creation of [these neoclassical conditions] … it is hard to find any good explanation for the

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> sustained industrial boom…' (1979: 480). In 20 thousand-word essays on the mechanism of Taiwan's development, both Little and Gustav Ranis largely ignore the promotional role of government after the economic liberalization of 1958–62.

It should first be stressed that Wade is factually incorrect in asserting that these authors 'almost completely overlooked' government interventions. What they did was not play up the role of the interventions in the making of the miracle and the reason for it was that they did not consider the interventions as a central, positive element in the miracle. This is particularly evident, for example, in Little (1979).

Turning to the more substantive weaknesses, let me note that as a critic Wade's burden is twofold. First, he must provide clear reasons for why the precise explanation offered by the economists he criticizes is invalid. Second, he must provide an alternative explanation that is more persuasive. He fails to deliver on both counts.

In trying to discharge his first burden, Wade argues that the explanation offered by Little and others, which he characterizes as representing the neoclassical model, could not have been at work since the Taiwanese government intervened extensively. But this is a non sequitur for at least two reasons. First, if the government interventions push the economy in the same direction as markets would and the country achieves rapid growth, this proves the success, not failure, of the neoclassical model. As Gustav Ranis has often argued, the government in Taiwan essentially speeded up what the markets would have done anyway.

Second, Wade provides no clearly articulated set of sufficiency conditions whose presence or absence would render the neoclassical model ineffective or inoperative. The bottom line is that significant interventions may exist in one part of the economy while another part gives entrepreneurs free play under neutral incentives and serves as the driver of rapid growth.

Turning to the second burden, Wade states at the outset that he cannot determine the extent to which the government's selective promotion policies contributed to Taiwan's exceptional performance. Ranis (2003: 34), who actually considers import substitution at the initial stage of development as necessary for the eventual success of outward-oriented growth policy, expresses his dissatisfaction with the analysis by Wade in these terms, 'Wade's [1990 book] *Governing the Market* describes government interventions on Taiwan *ex post*; but I could find no primer on just how to "act strategically".'

The bottom line Wade offers is as follows:

> The fact of big leadership [meaning that the government leads private entrepreneurs through initiatives that significantly alter investment and production patterns] or big followership [meaning that the government follows the lead of private entrepreneurs in designing its interventions] does not mean that government intervention has been effective in promoting economic growth; it only means that government intervention cannot be dismissed as having made negligible difference to outcomes. But the balance

> of presumption must be that government industrial policies, including sectoral ones, helped more than they hindered. To argue otherwise is to suggest that economic performance would have been still more exceptional with less intervention, which is simply less plausible than the converse.

The first point to note about this line of argument is that it suddenly drops the bar for judging the success of interventions. Recall that the criterion applied to the policies emphasized by Little and others was whether or not they offered a sufficient explanation of the Taiwanese miracle, not just whether they made a positive contribution to the economic outcome. Arguing that the interventions played a neutral or marginally positive role and simultaneously claiming that they represent a successful development strategy, as Wade seems to do in this paragraph, is like having your cake and eating it too.

But this is not the end of the story. In his response, Little (1996: 12) goes further, questioning the very logic underlying Wade's argument head on:

> Since the less interventionist Hong Kong, Singapore, and Taiwan grew faster than Korea, it is unclear why Wade thinks it simply less plausible that less intervention would have been better, given also the widespread failure of government industrial policies elsewhere. I find it simply more plausible that Korea grew fast despite its industrial policies, than because of them.

The final point concerns the direct involvement of the government in the production activity. The absolute level of interventions discussed by Wade in various sectors at various points in time notwithstanding, over time the government became less and less important to the production activity starting from the early 1950s all the way down to the early 1970s. According to data provided by Ranis (1979: Table 3.31), the output shares of the public sector in industry as a whole and in manufacturing declined steadily between 1953 and 1972 with the decline accelerating in the 1960s.[9]

Dani Rodrik

The critique by Rodrik (1995) can be divided into two broad parts. In the first part, he offers arguments why the outward-orientation thesis explaining the Taiwanese and Korean miracles is wrong. In the second part, he offers his own alternative thesis based on a coordination failure model. I will consider each part of the critique in turn.

With respect to the first part, Rodrik makes two key points. First, the timing of the introduction of incentives for exports and export response do not match. Related, exports follow rather than lead the spurt in growth. Second, when the

9 There was a small temporary reversal of this trend due to the initiation and completion of the Ten Major Projects between 1973 and 1978. Three of these projects were devoted to the development of heavy industry. For details, see Kuo (1999).

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growth spurt came, exports were too small to pull the GDP ahead. Let me consider each argument in turn.

To make his first point, Rodrik compares the movements in two series: the total-exports-to-GDP ratio and a general measure of real exchange rate that begins in 1960. He notes that the former exhibited a spurt in 1963–4, which coincided with an appreciation of the real exchange rate. Evidently, exports could not have been responding to incentives, which had risen in 1958–60 but fell during 1963–4. The story of export incentives driving exports and exports driving growth, thus, simply does not work.

There are two serious problems with the data series Rodrik uses to drive his point home. First, unaware of the real effective exchange rate for exports, calculated by Lee and Liang (1982), he uses a general measure of the real exchange rate, which begins in 1960, to establish that incentives to export in 1963–4 could not have been behind a large expansion of exports during that period.[10] But this is a non sequitur. For one thing, with sufficiently large export-specific incentives, the real effective exchange rate for exports can show improved incentives even when a general measure of the real exchange rate does not do so. But much more importantly, to gauge the relative profitability in a post-reform year, one must compare the post-reform real effective exchange rate with the pre-reform rate. If the initial incentives to export granted by the reform are large, even a small subsequent reversal may leave exports highly profitable.

The second problem with Rodrik's analysis arises with respect to the specific measure of export performance he uses. Whereas the reforms during 1958–60 were designed to stimulate manufacturing exports, he uses total exports (as a proportion of GDP) to measure the export performance. But total exports may behave quite differently than manufactures exports, especially if they are heavily dominated by agricultural exports, as indeed was the case around this time (Table 17.1). Agricultural exports performed poorly during 1958–62, declining at an average annual rate of 3.4 per cent over the five years. This significant decline in agricultural exports, which accounted for 88.6 per cent of the total exports in 1958 and 54.2 per cent even in 1962, masked the large positive response of manufactures exports.

Once we consider the conceptually correct real effective exchange rate for exports calculated by Lee and Liang (1982), which covers both pre- and post-reform years, we find that even during periods of appreciation in the 1960s, the revenue in constant-price local currency for each dollar's worth of exports remained minimally 38.2 per cent above its level prior to the 1958–60 reform. More importantly, a major spurt in the growth of non-agricultural exports fully coincided with the 1958–60 reform. Both the reform and the surge in exports preceded the acceleration in the growth rate of the GDP. Rodrik's observation that total exports as a proportion of

[10] From the statement 'Unlike in Korea, we do not have a synthetic measure of an effective exchange rate for exporters', I infer that Rodrik (1995: 65) was unaware of the work by Lee and Liang (1982). Curiously, he also makes no mention of the important paper by Scott (1979) who analyses the implications of the 1955 and 1958–60 reforms for the profitability of exports in great detail.

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GDP did not respond until 1963–4 is entirely an artefact of the poor performance of agricultural exports, which the real exchange rate depreciation could not have helped in the short run in a major way. Symmetrically, the spurt in total exports in 1963–4 to which Rodrik alludes also resulted from huge expansion of agricultural exports. It had virtually nothing to do with investment boom requiring imports of machinery and therefore export expansion to pay for it, as Rodrik surmises.

Rodrik's second criticism of the thesis that exports were the key to Taiwan's success is that the level of exports in Taiwan in the early 1960s was simply too small to pull up the GDP at a faster pace. As Bhagwati (1999) has argued, this too is an incorrect argument. Even if exports are small, the exportable sector is not. When depreciation makes exports more profitable, it makes all exportable products, whether exported or sold at home, more profitable. It can also make some exportable products not initially exported profitable to export. Therefore, the depreciation increases investment in not just exports but the entire exportable sector including products that may not be exported at all in the initial equilibrium. Moreover, since the world markets are virtually limitless from the viewpoint of a small economy, demand is not a constraining factor in this sector.

To put the matter in an economist's jargon, it is the scope for expansion at the margin rather than the initial level of exports that determines the ability of a sector to spur growth. Besides, it needs to be emphasized that the miracle is made not just by catalysing growth but also by sustaining it. And, surely, given how rapidly manufactures exports grew and became a significant proportion of the GDP, it is implausible that growth could have been sustained without them.

Both of the major criticisms of Rodrik (1995) thus fail to stand up to close scrutiny. Let me next turn to his interpretation of the Taiwanese miracle. He argues that the government made the miracle by engineering a significant increase in the private return to capital by subsidizing and coordinating investment decisions. In his story, there existed investments subject to substantial scale economies that would yield high rates of return if undertaken jointly but low rates if undertaken individually. But an individual investor could not be sure that investments that raised the return to his particular activity would be undertaken and therefore would either under-invest in the activity or not undertake the activity at all. If the government offered investment subsidies that made the activity attractive to the investor even when undertaken in isolation, all investment activities would in fact be undertaken and the country would reap the high social rate of return.

To clarify, consider an example. Suppose the return to investment in toothbrush production would be high if investment takes place simultaneously in toothpaste but not otherwise. If there are no scale economies, an individual investor can, of course, invest in both activities and reap the high return. If there are very substantial scale economies, however, capital constraints may allow him to invest in only one activity, say toothbrushes. But without assurance that someone will invest in toothpaste as well, he may find the investment unprofitable. The coordination failure problem may thus arise. The government may break the logjam by underwriting the losses of both toothbrush and toothpaste manufacturers and thus help investors realize the high rates of return. Since no losses will actually be realized, the government

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will not even have to pay the two manufacturers anything. Rodrik argues that this is just what the government in Taiwan did, not by underwriting the losses but giving explicit investment subsidies.

Of course, we know that trade expanded very rapidly in Taiwan during the growth process. So what is the link of this story to the rapid growth in trade? Here Rodrik argues that investments required machinery, which had to be imported. But, beyond aid, which had been shrinking around this time, imports are not possible unless exports generate the necessary revenues. Rodrik concludes, 'Thanks to appropriate macroeconomic and exchange rate policies, export supply was adequate to meet the increase in import demand, and rose alongside imports'. In other words, exports were merely a passive response to the need for imports, which was itself a response to the investment boom the government had engineered.

There are several problems with this story. First, when the avenue to trade is open, the coordination failure argument has limited validity. In the toothpaste and toothbrush example above, the manufacturer of toothbrushes could either export toothbrushes or toothpaste could be imported. The higher return would be realized either way. To validate the argument, one must argue that there exist interdependent investment opportunities subject to scale economies in non-traded sectors. Rodrik (1995) is aware of this problem and argues that there indeed were such activities but offers few convincing examples. Private investment mostly grew in manufactures, which were by and large tradable and, therefore, not subject to the coordination failure problem.

Second, ignoring this problem, if the story offered by Rodrik is correct, we must observe an investment boom occurring first, followed by import expansion, growth acceleration and then export expansion. But as I have already argued, manufactures exports had begun to grow rapidly well before the growth spurt. As for the sequencing between exports and imports, in a comment on Rodrik's paper, Norman (1995) has already pointed out that it was the reverse of what Rodrik predicts even using Rodrik's aggregate data.

Third, in view of the activist policies to boost exports in both Taiwan and Korea, the argument that export expansion was a passive outcome of the investment boom is problematic as well. Both Taiwan and Korea consciously went after exports by instituting a free trade regime for exporters. The governments made a significant effort to create the necessary administrative machinery to implement the exemptions of custom duties and indirect taxes on direct as well as indirect imports. Korea went even further, setting export targets, which the government then carefully monitored on a regular basis. Westphal (1990: 56) describes the priority the Korean government assigned to exports in these terms: 'If nothing else, policies towards exports have created an atmosphere – rare in the Third World – in which businessmen could be certain that the economic system would respond to and subsequently reward their efforts aimed at expanding and upgrading exports.'

In turn, the study by Westphal and Kim (1982: 271), on which Westphal (1990) draws, assigns a central role to outward-oriented trade policy in stimulating growth in Korea. Westphal and Kim thus turn the Rodrik story on its head, partially

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attributing the growth in investment itself to export growth and the income increase stimulated by it.

Finally, even granting for the sake of argument that investment coordination catalysed growth, we must ask whether this growth could have been sustained without the outward-oriented policies the countries pursued. India's experience points to an unequivocally negative answer to this question. India intervened far more heavily to boost investment. But unlike Korea and Taiwan, it did so in an autarkic environment and achieved far poorer results until it changed course (Panagariya 2008: chapter 1). As far as trade openness is concerned, the prescription provided by Rodrik's story is no different than that offered by pro-free trade advocates.

Conclusion

The role of openness in the making and sustaining of the Taiwanese miracle has been seriously questioned by some analysts. The presence of interventions and protection during the high-growth period in this case is no more in question than in the cases of China and India. But it is also true that, as in China and India, the general movement of the economy was towards increased openness and reduced role of the government at least in manufacturing activities. There was a small surge in government activity during 1973 to 1978 in Taiwan but the country returned to more open and less interventionist policies soon after.

Though the government in Taiwan intervened heavily, at least until the early 1970s, it did not cause the outcome to deviate significantly from what a neutral policy regime would have produced. Sectors that showed the best performance on the export front were invariably labour-intensive and not subject to selective targeting. In Taiwan, the share of the public sector in industrial and manufacturing outputs also fell sharply.

In summary, growth in Taiwan was driven by rapid growth in private sector investment and characterized by rapid expansion of exports by private entrepreneurs. The composition of output was also consistent with what we would expect under neutral policies. Therefore, a reasonable conclusion is that the government interventions more or less followed the lead of the private sector, reinforcing what the market equilibrium under neutral trade policies would have produced in the first place.

In concluding, we may ask what lessons the Taiwanese experience has for countries that remain poor and are struggling to achieve sustained rapid growth, mainly in sub-Saharan Africa and South Asia. Apart from the obvious that small poor countries have little hope of achieving sustained rapid growth through inward-oriented policies, two points are worth emphasizing. First, in principle, countries can proceed as Taiwan did by providing a more or less free-trade regime for exporters while still maintaining, initially, substantial protection against imports. But in practice, this is not going to work. The Taiwanese government that followed

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this strategy was highly capable and enjoyed effective control of the administrative machinery. It was also able to respond quickly to changing circumstances. Therefore, it could efficiently administer what was a relatively complex set of measures without subversion by corrupt officials. Most governments in poor developing countries are going to find the literal emulation of the Taiwanese model a real challenge. Therefore, pragmatism dictates a more conventional approach involving clean import liberalization complemented by an exchange-rate policy that avoids overvaluation. Second, outward oriented policies by themselves will be insufficient. Complementary policies such as macroeconomic stability, labour-market flexibility, adequate infrastructure including the supply of electricity at reasonable prices and the provision of skills through vocational training are critical to the success of outward-oriented policies.

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