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What Can Africa Learn from Taiwan? Political Economy, Industrial Policy, and Adjustment

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ARE there lessons Africa can learn from Taiwan and the other East Asian newly industrialising countries (NICs)? Evaluating the relevance of their experience is fraught with difficulties inherent in making comparisons across regions, during different periods of time, with different preconditions. Clearly, developments in Africa have to be based on local institutions, values, and resources. Yet Taiwan's successful combination of industrialisation and growth with equity reflects goals that are important for African policy-makers. The country's G.N.P. *per capita* increased from $143 in 1953 to $7,284 in 1990. Even during the 1980s, its economy grew at an average annual rate of 8·2 per cent as against only 0·5 per cent in sub-Saharan Africa for the period 1980–7.[1] Taiwan's sustained growth has been widely shared by all income groups, with the top fifth of households only receiving 4·5 times as much as the bottom fifth. By way of contrast, in Côte d'Ivoire (1986–7) and in Botswana (1985–6), the share of the top 20 per cent was respectively almost 11 and 24 times that of the bottom 20 per cent.[2]

The purpose of this article is to explore the experience of industrialisation in Taiwan between 1952 and 1972, to compare its policy choices then with some of those made by African countries more recently, and finally, to attempt to extract some lessons that may be of relevance as regards African industrialisation strategies in the era of structural adjustment. The Asian experience is all the more compelling because it provides a model that both contradicts and reinforces different aspects of orthodox structural adjustment policies as promoted

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[1] World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Growth. A Long-Term Perspective Study* (Washington, DC, 1989); Economic Planning Council (E.P.C.), *Taiwan Statistical Data Book* (Taipei, 1975), current prices; and Economist Intelligence Unit, *Country Report: Taiwan*, No. 1 (London, 1993).

[2] K. T. Li, *The Evolution of Policy Behind Taiwan's Development Success* (New Haven, 1988), p. 161, and World Bank, *World Development Report, 1992* (Washington, DC, 1992), pp. 276–7.

TABLE 1

Comparative Indicators: Taiwan (1952) and Selected African Countries (1990)

	G.N.P. *per capita* U.S. $	% G.D.P. from manufacturing	Population per sq. km.	Life expectancy in years	Infant mortality per 1,000 live births	Adult literacy rate
Taiwan, 1952	444[a]	11	226	59	40[b]	58
Côte d'Ivoire, 1990	750	17[c]	36	55	95	43
Mauritius, 1990	2,250	24[c]	550	70	20	83
Nigeria, 1990	290	7	123	52	98	42
Kenya, 1990	370	11	40	59	67	59

Sources: *Taiwan Statistical Data Book*, 1975, 1989, 1991; *World Development Report, 1992*; and *The Economist* (London), 14 July 1990, p. 19. Notes: [a] G.N.P. *per capital* for Taiwan in 1981 constant dollars. [b] Taiwan, 1950. [c] Côte d'Ivoire and Mauritius, 1989.

in conditionality-based lending across Africa. First, however, we have to make the case that Taiwan can be a useful model for Africa.

The country may appear to be a special case given a common language and Confucian culture, a history of Japanese colonialism, large transfers of U.S. foreign aid in the post-war years, the stimulus of the perceived threat of communist China across the Taiwan Straits, and the fortunate timing of Taiwan's export push in the healthier international economy of the 1960s and 1970s. Yet in other respects its history looks very familiar. Taiwan suffered in the 1940s and 1950s from a difficult transition out of colonial rule, civil war, and refugee resettlement, inflation of 3,500 per cent, a severely over-valued exchange rate, a large and inefficient public enterprise sector with extensive corruption, and an economy dominated by agricultural commodity production. Some aspects of the régime's strategy for overcoming these constraints may be relevant for Africa.

The study focuses on the period between 1952 and 1972, when Taiwan's development was closer to current levels in Africa. By 1952, war-time damage had been largely repaired. After 1972, the economy had become very competitive and the nation had a comfortable cushion of accumulated wealth. Throughout, comparisons will be made between Taiwan at an earlier stage, and a set of four African countries today, all at one time or another considered possible 'models' for African industrialisation: Nigeria, Kenya, Mauritius, and Côte d'Ivoire. As may be seen from Table 1, key indicators for Taiwan in 1952 and these four African countries in 1990 are fairly comparable, lending some support to the juxtaposition of the two regions and time periods.

In order to put Taiwan's policy choices in perspective, we briefly review its colonial period, and the U.S. foreign aid programme, before focusing on the set of macro-economic and industrial policies that provided the underpinnings for Taiwan's extraordinary growth. The article concludes that its experience – in broad outline – has significant relevance for Africa, reinforcing structural adjustment recommendations that governments cut budget deficits, raise real interest rates, and avoid overvalued currencies. However, Taiwan's economic policy stressed stability over liberalisation, and its emphasis on the state as a developmental agent that controlled key economic parameters may mean that some aspects of its experience will be difficult if not impossible for African countries to emulate. The reasons for this have to do with critical differences in state capacity and ideology, as reflected in domestic political structures and state institutions in Africa and Taiwan.

PRECONDITIONS FOR INDUSTRIAL DEVELOPMENT

1. *The Colonial Period, 1895–1945*

Mainland China was forced to cede the island of Taiwan to the Japanese in 1895. They rapidly introduced standardised weights and measures, conducted a comprehensive cadastral survey, and imposed partial land reform. The colonial state's deep penetration of Taiwanese society through tightly controlled farmer associations and neighbourhood committees enabled effective and low-cost control. To increase smallholder production of rice and sugar for export to Japan, the colonial régime built irrigation structures and research institutions, and constructed almost 16,000 km of roads, 6,000 km of railway tracks, and two large harbours.

Initially, industrial development was protected for Japanese nationals, with restricted entry for Taiwan's native population. Sugar refineries, rice mills, and pineapple canneries produced imports for Japan. Industrial output grew by 6 per cent annually in the 1930s, and included textiles, bicycles, cement, paper, fertiliser, metal products, and petroleum refining.[3] As World War II began, the Japanese initiated capacity in industrial chemicals, machine tools, and alu-

[3] Samuel Ho, *Economic Development of Taiwan, 1860–1970* (New Haven, 1978), and Gustav Ranis, 'Industrial Development', in Walter Galenson (ed.), *Economic Growth and Structural Change in Taiwan: the postwar experience of the Republc of China* (Ithaca, NY, 1979), pp. 206–62.

TABLE 2

Colonial Investment in Capacity: Taiwan (1952) and Selected African Countries (various years)

	Share of manufacturing in G.D.P.	Railway miles per 1,000 people	Adult literacy (%)	Output of electric energy 1000 kwh/ 1000 people
Taiwan, 1952	11	751	27[a]	175
Côtre d'Ivoire, 1960	5	192	5	20
Mauritius, 1968	14	160[b]	61	246
Nigeria, 1960	5	68	n/a	12
Kenya, 1963	10	316	19	30

Sources: *Taiwan Statistical Book*, 1975; Ho, op. cit. p. 100; Peter Kilby, 'Manufacturing in Colonial Africa', in Peter Duignan and L. H. Gann, *Colonialism in Africa*, Vol. 4, *The Economics of Colonialism* (Cambridge, 1975), p. 472; and World Bank, *Social Indicators of Development* (Washington, DC, 1990). Notes: [a] Taiwan, 1940. [b] Mauritius, 1959.

minium. By then, approximately 27 per cent of the population was literate (in Japanese) due to programmes of free and compulsory primary education, and 79 per cent of primary school-aged children were attending classes. Investments in sewage systems, sanitation services, and vaccination programmes had cut the death rate in half.

Africa's colonial experience was quite different. As Table 2 shows, investments in transport infrastructure and electricity were generally much lower in the four sample countries, both in absolute numbers, and relative to population. Lower investment in education led to lower literacy levels: in the Portuguese colonies, for example, only one out of a hundred people was literate in 1945. On average, fewer than ten per cent of African children were enrolled in primary school by 1945.[4]

2. *The Rôle of U.S. Aid, 1950–65*

What rôle did foreign aid play in Taiwan's economic transformation? In the late 1950s, development economists argued that external assistance should fill the two gaps of foreign exchange and domestic savings. Aid to Taiwan largely followed this framework, allowing a higher level of imports and of domestic capital formation than would otherwise have been possible. U.S. aid did not create dependency, terminating in 1968 after only 18 years. In contrast, most African

[4] Basil Davidson, *Modern Africa* (London and New York, 1983), p. 81.

TABLE 3

Foreign Aid, Taiwan (1951–61) and African Countries (1990)

	Aid as % of G.D.P.	Aid as % of gross investment	Aid as % of imports of goods and services	Grants as % of net O.D.A.	Ratio of debt service to exports
Taiwan,[a] 1951–61	6·0	36·8	33·6	84	4·5[b]
Côte d'Ivoire, 1990	9·0	90·5	32·8	47[c]	38·6
Mauritius, 1990	4·3	14·2	5·5	63[c]	8·7
Nigeria, 1990	0·7	4·5	4·1	n/a	20·3
Kenya, 1990	13·3	55·2	47·1	71[c]	33·8

Sources: *Taiwan Statistical Data Book*, 1975, and *World Development Report, 1978* and *1992*. Notes: [a] For Taiwan, figures are G.N.P., not G.D.P. [b] Taiwan, 1970. [c] Côte d'Ivoire, Mauritius, Kenya, 1987.

countries have been receiving foreign aid since independence in the 1960s, a period of some 30 years, with only modest improvements in living standards and productivity. Was Taiwan's aid somehow different as regards either quantity and/or quality?

As a percentage of G.N.P., aid to Taiwan was quite similar to aid to Africa overall, although percentages in individual countries vary widely. U.S. economic assistance amounted to approximately six per cent of Taiwan's G.N.P. from 1951 to 1961, averaging $67 million per year.[5] In 1987, African countries received the equivalent of eight per cent of the continent's G.N.P. in official development assistance (O.D.A.).[6]

U.S. aid filled the foreign exchange and domestic savings gaps by financing some 34 per cent of imports, 40 per cent of capital formation, 37 per cent of infrastructure development, and 26 per cent of Taiwan's human capital development in the 1950s and early 1960s.[7] Again, the comparative figures from Africa show a wide variation. As Table 3 illustrates regarding savings, O.D.A. in 1990 equalled 90·5 per cent of gross domestic investment in Côte d'Ivoire, 4·5 per cent in Nigeria, 14·2 per cent in Mauritius, and 55·2 per cent in Kenya. O.D.A. as a percentage of imports varied from 4·1 per cent in Nigeria to 47·1 per cent in Kenya.

[5] *Taiwan Statistical Data Book*, 1975. The U.S. provided an additional $2,500 million in military supplies and equipment, almost entirely financed by grants.

[6] *From Crisis to Sustainable Growth*, p. 251.

[7] Denis Simon, 'Technology Transfer and Technology Policies on Taiwan', in Edwin A. Winkler and Susan Greenhalgh (eds.), *Contending Approaches to the Political Economy of Taiwan* (Armonk, NY, 1988), p. 148.

Aid to Taiwan came at the right time. Support began during an economic crisis in 1950, and continued at high levels as the country undertook a major structural adjustment programme in 1960. Timing was also important in building up the foundation of equitable income distribution: in the first three years of the programme of assistance, half was used to underwrite a major land reform and associated agricultural development. Aid financed productive infrastructure (electric power generation projects took up 36·5 per cent of project-type aid) and contributed nearly 59 per cent of net domestic capital formation in agriculture – largely water use and control. Over 73 per cent of commodity aid came in the form of raw materials, ready for industrial processing: raw cotton (19·4 per cent), soybeans (9·3 per cent), ores and metals (8·1 per cent).[8]

In contrast, aid to Africa was influenced by a new generation of theories reacting to the perceived failure of growth-oriented aid to reach the poor, and was more experimental in nature. During the first post-colonial decades, the World Bank and other agencies gave substantial loans for programmes of integrated rural development, most of which failed to make a lasting impact.[9] Instead of traditional infrastructure projects, the U.S. Agency for International Development's 'New Directions' emphasised well-intentioned but poorly executed direct aid to 'the poorest of the poor'. A critic of U.S. AID's shift noted at the time that 'projects intended to build the institutions or infrastructure of developing countries are now undertaken surreptitiously, if at all'.[10] In Kenya, World Bank lending for transport infrastructure sank from 66 per cent of loans in 1970 to 27 per cent by 1980, with a large portion of funds shifting into 'not always usefully applied' experimental rural programmes.[11]

Finally, aid to Taiwan was offered on very generous terms, with a grant ratio of 84 per cent. In 1980, across Africa, the grant ratio of net O.D.A. was 71 per cent, and in 1987, only 66 per cent.[12] In 1974, almost ten years after aid ceased, Taiwan's ratio of debt service (almost entirely aid loans) to exports of goods and services was only 2·7 per

[8] *Taiwan Statistical Data Book*, 1975, and Neil Jacoby, *U.S. Aid to Taiwan: a study of foreign aid, self-help and development* (New York, 1966), p. 180.

[9] Vernon Ruttan, 'Integrated Rural Development Programmes: a historical perspective', in *World Development* (Oxford), 12, 4, 1984, pp. 393–401.

[10] William R. Cotter, 'How AID Fails to Aid Africa', in *Foreign Policy* (Washington, DC), Spring 1979, p. 107.

[11] Arthur Hazlewood, 'Foreign Aid and Economic Development in Kenya', in Uma Lele and Ijaz Nabi (eds.), *Transitions in Development: the role of aid and commercial flows* (San Francisco, International Center for Economic Growth, 1991), p. 137.

[12] *From Crisis to Sustainable Growth*, p. 251.

cent, compared with ratios from three to 14 times higher in the four African countries.

3. *Agriculture as the Foundation*

Taiwan benefited from the irrigation construction, research, and agro-industries developed by the Japanese, but the improvements in income and asset distribution were the outcome of land reforms imposed by the Kuomintang (KMT) after the war. By setting a ceiling on holdings and redistributing land to the poorest, the land reforms underwrote the remarkable income equality still felt today in Taiwan, an important lesson for African countries, many of whom are already facing the pressures of unequal access to land.[13]

The land reforms also enabled the authorities to better squeeze resources from agriculture without the need to compensate a politically powerful landlord class. Net capital outflows from agriculture averaged almost four per cent under the Japanese, and rose to ten per cent thereafter.[14] As one of its first economic policy decisions after arriving in Taiwan, the KMT Government set the terms of trade between the main staple (rice) and fertiliser, with the latter sold on a barter basis. Agricultural production received an implicit tax, with fertiliser overpriced in rice terms. Although farmers lost from the price squeeze, they benefited from stability and from the lower transaction costs afforded by fixed prices, and by the assured and timely delivery of fertiliser. Indeed, despite low prices, rice output increased steadily at about 3 per cent per year from 1952 to 1964, when farmers began diversifying into such higher-value export crops as asparagus and mushrooms.

The Government invested in institutional capacity and agricultural research. In 1948, the Chinese–American Joint Commission on Rural Reconstruction was established, with U.S. funding, as an insulated, semi-public 'de facto superministry of agriculture'.[15] By 1960, Taiwan had 79 agricultural research workers per 100,000 farmers, compared with 60 for Japan and 1·2 for India.[16] In Africa, government policy and

[13] The Government's appropriation of Japanese holdings and investments after the end of the war enabled extensive public land (25 per cent of the arable hectarage in Taiwan) to be sold to smallholders on easy terms, and allowed landowners to be compensated by industrial bonds based on confiscated Japanese factories.

[14] Alice Amsden, 'Taiwan's Economic History: a case of étatisme and a challenge to dependency theory', in *Modern China* (Beverly Hills, CA), 5, 3, July 1979, p. 353.

[15] Erik Thorbecke, 'Agricultural Development', in Galenson (ed.), op. cit. pp. 172 and 184.

[16] U.S. Department of Agriculture, *Changes in Agriculture in 26 Developing Nations, 1948 to 1963*, cited in Ho, op. cit. p. 178.

TABLE 4

Infrastructure: Taiwan (1952 and 1972) and African Countries (1992)

		Highway Density		Railway Density		Electricity	
	Paved Roads %	m/sq. km	m/1000 pop.	m/sq. km	m/1000 pop.	Installed capacity 1000 kw	Consumption *per capita* kwh
Taiwan, 1952	7	434	1,922	170	751	332	132
Taiwan, 1972	50	442	1,040	156	366	3,519	1,052
Côte d'Ivoire, 1992	9	165	4,408	2	44	2,210	190
Mauritius, 1992	92	903	1,666	0	0	302	593
Nigeria, 1992	48	134	1,044	4	29	4,040	93
Kenya, 1992	15	94	2,220	5	111	575	128

Sources: *Taiwan Statistical Data Book*, 1976, and G. T. Kurian (ed.), *Encyclopedia of the Third World*, 4th edn. (New York, 1992), passim.

foreign assistance both have been biased against research in favour of extension. A recent view of U.S. AID's agricultural assistance in six Africa countries found that only 2·3 per cent was channelled to research, and criticised the programmes as 'short-term, fragmented efforts that could not be expected to make a significant contribution to the necessarily long-term task of building a national capability for research'.[17]

In Taiwan, land reform, investment in research, protecting farmers from risk, and assuring fertiliser supply, all helped to promote economic growth in the 1950s and 1960s by supplying agro-processing inputs and cheap rice for wage-earners, as well as by creating a market for locally produced industrial goods – small power-tillers, pumps, etc. Although the net transfer from agriculture to the rest of the economy amounted to some 15 to 22 per cent of total agricultural production between 1952 and 1969, the sector itself received considerable investment and recurrent resources from the Government, enabling it to increase productivity and to serve as the basis for economic transformation.[18]

[17] Bruce F. Johnston, Allan Hoben and William K. Jaeger, 'United States Activities to Promote Agricultural and Rural Development in Sub-Saharan Africa', in Uma Lele (ed.), *Aid to African Agriculture: lessons from two decades of donors' experience* (Baltimore and London, 1992), p. 301.

[18] Thorbecke, loc. cit. p. 203.

4. *Infrastructure*

In developing the island as a supply depot, the Japanese built an extensive network of rural routes, which the KMT Government needed primarily to maintain and improve. The percentage of paved roads rose from 7 per cent in 1952 to 50 per cent in 1972. The Government also continued Japan's programme of extensive rural electrification while constructing rural industrial estates that enabled farm families to supplement their incomes by working in decentralised factories. Table 4 compares Taiwan at the outset of its post-war industrialisation, and Côte d'Ivoire, Mauritius, Nigeria, and Kenya in 1992. The density of transport infrastructure – roads and railways – was still more extensive in Taiwan in 1952 than in these African countries today, although they have similar levels of electricity consumption *per capita*, and comparatively more installed capacity. This suggests that although the colonial period left Taiwan with better infrastructure, over the last few decades a number of African countries have begun to reach many of Taiwan's 1952 levels.

5. *Education*

Taiwan's industrial growth was fuelled in part by government investment in universal literacy, as well as vocational and science-based learning. Funding, social values, and legal compulsion brought Taiwan's literacy rates to almost 87 per cent by 1972.[19] On average, middle-income African countries reached Taiwan's 1952 primary enrolment rate of 84 per cent by 1970, although low-income countries are currently still at or below 68 per cent enrolment.[20]

Taiwan's emphasis on education finds reflection in the budgetary priorities of African governments. By 1975, Taiwan was spending 4·2 per cent of G.N.P. on education, whereas for Africa as a whole the comparable figure was 4·5 per cent in 1980, dropping to 3·9 per cent in 1983. As a proportion of total government expenditure, spending on the sector in Taiwan rose from 7·8 per cent in 1952 to 17·5 per cent in 1972. In Africa, the average has remained close to 17 per cent since 1970, although in the grim economic climate of the 1980s, most

[19] Council for Economic Planning and Development (C.E.P.D.), *Taiwan Statistical Data Book* (Taipei, 1989).

[20] 'Education in Sub-Saharan Africa: policies for adjustment, revitalization, and expansion', a World Bank Policy Study, Washington, DC, 1988, p. 131, and *From Crisis to Sustainable Growth*, p. 274.

countries have had to reduce *per capita* spending on education. This was cut in Mauritius by 17 per cent between 1980 and 1988; by 62 per cent in Sierra Leone, and by 73 per cent in Tanzania. Overall, spending on education per student declined from $32 in 1980 to $15 in 1987.[21]

Taiwan's Government invested heavily in planned, vocational training, which rose as a percentage of all senior high school enrolments from 37 per cent in 1950 to 55 per cent in 1980.[22] Like most African parents and students today, Taiwan's families in the 1950s and 1960s did not envision their educated children becoming factory workers, but rather white-collar office workers. Yet the Government did not provide the training demanded by society, but rather channelled students into educational streams needed by the economy. Whereas Taiwan had 767 enrolments in engineering per 100,000 population by 1985, the comparable average figure was only nine for the 13 African countries for which similar data existed.[23]

POLICIES FOR INDUSTRIAL DEVELOPMENT IN TAIWAN, 1952–72

After taking control of Taiwan from the Japanese, the KMT continued to promote industrialisation, at first through import substitution with a protected domestic market and overvalued exchange rates, and later through export promotion. As Table 5 indicates, structural change was rapid. Manufacturing rose from 11 per cent of G.D.P. in 1952 to 32 per cent in 1972. Textiles moved from 7·3 per cent of manufacturing production in the late 1950s to 27 per cent in the late 1960s, dropping to 12 per cent in the late 1970s when machine tools and other more technology-intensive enterprises were being created.[24] The industrial sector grew at 12 per cent from 1953 to 1962, accelerating to 20 per cent from 1963 to 1972.[25] In the pattern now common for East Asian NICs, much of the growth can be directly linked to exports, as may be seen from Table 5.

In the first ten years of the post-war recovery, Taiwan dealt with many of the same macro-economic imbalances that faced African countries in the 1980s and 1990s. After several years of funding a

[21] World Bank, 'Education in Sub-Saharan Africa', p. 138, *Taiwan Statistical Data Book*, 1975, and Unesco, *Statistical Yearbook, 1990* (Paris, 1990).

[22] Jennie Hay Woo, 'Education and Industrial Growth in Taiwan: a case of planning', Harvard Institute for International Development, Cambridge, MA, Employment and Enterprise Policy Analysis Discussion Paper No. 18, August 1988.

[23] Ibid. p. 33, and Manuel Zymelman, *Science, Education, and Development in Sub-Saharan Africa* (Washington, DC, 1990), World Bank Technical Paper No. 124, p. 27.

[24] John Fei, Gustav Ranis, and Shirley Kuo, *Growth with Equity: the Taiwan case* (New York, 1979), pp. 10–11.

[25] *Taiwan Statistical Data Book*, 1989.

TABLE 5
Indicators of Major Changes in Industrial Structure

	% Share of Manufacturing in G.D.P.		% Share of Industrial Products in Exports	
Years	1952	1972	1952	1972
Taiwan	11[a]	32[a]	8	83
Years	1965	1985	1965	1985
Côte d'Ivoire	11	17	5	10
Mauritius	14	20	(·)	31
Nigeria	7	9	2	(·)
Kenya	11	13	10	13

Sources: *Taiwan Statistical Data Book*, 1976; *Statistical Yearbook of the Republic of China, 1991* (Beijing and Oxford, 1991); and *World Development Report, 1987*. Notes: [a] Taiwan figures for share of manufacturing are percentages of N.D.P. (·) indicates a fraction less than 0·5 per cent.

programme of import substitution, U.S. AID began strongly pushing for devaluation and other policy reforms, and Taiwan's first significant structural adjustments in 1960, the so-called Nineteen Point reforms, were accompanied by conditionality-based aid that involved devaluation, tax incentives to encourage savings and exports, higher public utility rates, and the relaxation of some state economic controls.[26] Exports as a proportion of G.D.P. increased by 67 per cent in the first four years after the reforms.[27]

1. *Exchange Rate Policy*

Taiwan's exchange-rate policies stressed stability while at the same time guarding against overvaluation – indeed, the Government devalued the *yuan* several times during the 1950s (from 5 to 40 NT$ to the U.S. dollar) and then moved from a multiple to a unitary rate gradually between 1958 and 1961. Thereafter Taiwan kept the nominal rate fixed (with some slight adjustments) at 40 NT$ to the U.S. dollar, allowing it to float only in 1978, when it was linked to a trade-weighted basket of Taiwan's major trading partners' currencies. This stability – an important boon to domestic industry – was possible only because Taiwan's fiscal and monetary policy and trade balances kept the real effective value of the *yuan* within a range of 44–30 NT$ to

[26] Ranis, loc. cit. p. 245, fn. 45, and Ho, op. cit. p. 118.
[27] *Taiwan Statistical Data Book*, 1975.

the U.S. dollar.[28] When the real value deviated from the nominal values, it was generally in the direction of undervaluation, which discouraged imports, while promoting exports.

Second, all foreign exchange was controlled by the Government and allocated almost entirely for development purposes – it was not allowed to be spent, for example, on travel for pleasure. Exporters were required to surrender all receipts to the Central Bank, although under a marketable foreign-exchange linkage system, many could regain 100 per cent of their export earnings.[29] Government controls like this are familiar in many African countries which, however, have generally suffered from overvalued currencies that promote capital flight and discourage surrender of foreign exchange. By 1983, overvalued exchange rates in Africa had led to average 'parallel' market rates of some 250 per cent above official rates.[30] Although such overvaluation is clearly untenable, allowing the exchange rate to float may not be the most sustainable strategy; already by 1990, four of nine African countries to have established floating rates had dropped them in favour of greater controls.[31]

2. *Credit and Interest Rate Policy*

Taiwan's experience of credit and interest rate policies during this period was also one of extensive government direction and control. The Government set targets for the state-owned banks to meet in directing finance to particular industries and sub-sectors, and control over interest rates was relaxed only in the early 1980s. In the 1970s, banks extended some 75 per cent of loans to industries targeted by government planners.[32] Had the market allocated credit, it is likely that traders would have cornered a larger share of bank loans – as it was, they generally paid a higher rate of interest than manufacturers.

Real rates of interest on both savings and loans, set at high levels to help control the hyperinflation of late 1949 and early 1950, remained

[28] Brian Levy, 'Prospects and Perils for Small and Medium Enterprises in Outward-Oriented Industrial Expansion: lessons from Korea and Taiwan', Harvard E.E.P.A. Discussion Paper No. 8, November 1987, p. 2.

[29] Ranis, loc. cit. p. 220.

[30] John Nash, 'An Overview of Trade Policy Reform with Implications for Sub-Saharan Africa', Trade Policy Division, The World Bank, Washington, DC, n.d. (*c* 1989), p. 11.

[31] Dani Rodrik, 'How Should Structural Adjustment Programmes Be Designed?', in *World Development*, 18, 7, 1990, p. 940.

[32] Nicholas Riegg, 'The Role of Fiscal and Monetary Policies in Taiwan's Economic Development', Ph.D. dissertation, University of Connecticut, Storrs, 1978, p. 96, cited in Robert Wade, *Governing the Market: economic theory and the role of government in East Asian industrialization* (Princeton, 1990), p. 167.

TABLE 6
Comparative Macro-Economic Policy

	Average annual inflation, 1980–90	External debt as % of G.N.P., 1990	Gross domestic savings as % of G.N.P., 1990	Real interest rates on secured loans, 1990	Real interest rates on time deposits, 1990
Taiwan, 1952–61	8·6	n/a	10	12·8	2·7
Taiwan, 1962–71	2·9	14·5[a]	22	10·7	3·7
Côte d'Ivoire, 1990	2·7	204·8	14	6·6[b]	– 1·8[b]
Nigeria, 1990	18·2	110·9	29	7·1[c]	1·9[c]
Mauritius, 1990	8·8	37·9	21	10·8[c]	5·3[c]
Kenya, 1990	9·2	81·2	18	7·5[d]	2·2[d]

Sources: *Taiwan Statistical Data Book*, 1975, 1979; *I.M.F. Financial Statistics Yearbook, 1992* (Washington, DC, 1992); and *World Development Report, 1992*. Notes: [a] Taiwan, 1965–71. [b] Côte d'Ivoire, 1988. [c] Nigeria, Mauritius, 1991. [d] Kenya, 1989.

quite high thereafter, as may be seen from Table 6. Secured bank loans were offered at real rate of interest close to 13 per cent in the 1950s. Taiwan's former Finance Minister, K. T. Li, named high real interest rates as one of the corner-stones of Taiwan's development management, and the basis of its high savings rates.[33] The success of the country's labour-intensive industrialisation may be partly attributed to the need to economise on relatively expensive capital.[34] Keeping real interest rates strongly and consistently positive on savings deposits encouraged domestic savings to finance industrial investment.

3. *Taxing and Spending*

Consistent with neo-classical recommendations, government deficits have been low or absent in Taiwan, and taxation has been biased in favour of consumption taxes, with low rates of business and personal taxation. In 1962, for example, 8 per cent of tax revenues came from income taxes, 22 per cent from customs duties, and 6 per cent from business taxes.[35] The African record is not as clear, in part because of the scarcity of accurate data on revenue composition. For the four

[33] Li, op. cit.

[34] Although the high interest rates in Taiwan seem to have been healthy there, we cannot be sure that they would have the same beneficial effect in Africa. As Wade points out in op. cit. p. 172, high interest rates can 'undermine export competitiveness, cause dangerously high debt/equity ratios, crowd out new borrowers, and fuel inflation'.

[35] *Taiwan Statistical Data Book*, 1975.

comparison countries, only Kenya has an equally high level of domestic goods and services revenue, but the share of customs and income taxes are not in the same proportion as those of Taiwan, as may be seen from Table 7.

Taxation policy in Taiwan has reflected both government capacity and economic policy. Reflecting the high level of capacity in Taiwan, the system was computerised after the Tax Reform Commission of 1969, which probably lowered evasion.[36] In keeping with the emphasis on individual savings, interest income from savings accounts has largely been tax-free. The regressive consumption taxes shifted income toward production activities; however, other aspects of tax policy compensated for regressive consumption taxes. Most households, for example, paid little or no personal income tax, and a progressive business income tax started at only 5 per cent for small enterprises.[37]

Furthermore, business taxes were themselves skewed in favour of manufacturing. The 1960 Statute for Encouragement of Investment that followed the Nineteen Point reforms provided a five-year tax holiday for manufacturers, a cap of 18 per cent on business income taxes for manufacturers (as compared with 32·5 per cent for traders), and tax deductions for reinvested profits and some export proceeds.[38]

4. *Utility Pricing*

Electricity in Taiwan was provided by a government-owned utility and was generally priced at 'realistic' levels ('no profit, no subsidy'), much as the World Bank advocates for African countries.[39] In 1961 the power rate in Taiwan was considered by local planners to be 'relatively low', at about U.S. $.01/kwh.[40] By contrast, almost 30 years later, 1989 power rates in Nigeria were less than U.S. $.008/kwh, and heavily subsidised. Poor performance of the system meant that 50 per cent of Nigerian factories in a recent survey experienced between five and ten

[36] Ian M. D. Little, 'An Economic Renaissance', in Galenson (ed.), op. cit. p. 481.

[37] Erik Lundberg, 'Fiscal and Monetary Policies', in ibid. p. 305.

[38] Shirley Kuo, Gustav Ranis, and John Fei, *The Taiwan Success Story: rapid growth with improved distribution in the Republic of China, 1952–1979* (Boulder, CO, 1981), p. 75.

[39] According to Ranis, loc. cit. p. 215, 'government policy in the 1950s, supported by U.S. project aid allocations, was to maintain capacity well ahead of demand, to distribute it throughout the island, and perhaps most importantly, to aim for realistic (that is, no profit, no subsidy) overall pricing levels while maintaining a uniform set of rates as between rural and urban areas'.

[40] K. T. Li, 'The Growth of Private Industry in Free China', in *Industry of Free China* (Taipei), 16, 1, 25 July 1961, p. 5. According to *World Development Report, 1992*, p. 117, the 1991 tariffs for electricity in 'developing countries', averaged U.S. $.04/kwh, and only covered some two-fifths of the cost of supply.

TABLE 7
Structure of Tax Revenues and Deficits

	Central deficit as % of G.N.P.	Customs/trade	Income and business	Domestic goods
		% of total current revenue		
Taiwan, 1962	+0·6[a]	21·7	17·3[b]	49·4
Côte d'Ivoire, 1980	n/a	42·8	13·0	24·8
Nigeria, 1989	−10·5	16·4	44·2	6·4
Mauritius, 1990	−0·5	46·4	13·9	20·9
Kenya, 1990	−6·8	15·8	27·4	42·8

Sources: *Taiwan Statistical Data Book*, 1975; *World Development Report, 1992*; and *From Crisis to Sustainable Growth*, 1989. Notes: [a] Taiwan, average 1962–71. [b] For Taiwan, income and business taxes include household tax.

power outages per week. Every firm with over 20 employees, although connected to the national grid, had invested in its own power supply, at an average generation cost of U.S. $.51/kwh.[41]

Infrastructure deficiencies such as uncertain electricity supply are a significant implicit 'tax' on industry in Africa. Costs of operation and investment are said to be some 50 to 100 per cent higher than in South Asia, for example.[42] Although policies in many countries have kept the electricity rates charged to business consumers low, the ensuing budget inadequacies have meant an inability to maintain existing infrastructure, resulting frequently in businesses having to invest in private, supplementary electricity generation, roads, and water supply. In comparative perspective, Taiwan's 'low' rates were relatively high, and the system performed quite well, lending support to the push for realistic utility pricing in Africa.

5. *Labour Policies*

Labour policies in Taiwan kept employment high, urban–rural wage differentials low, and real wages rising at or below average productivity. A fairly competitive (or repressed) labour market was maintained: strikes were prohibited, trade unions remained weak, and there was effectively no minimum wage. Real wages grew at a slightly slower rate

[41] Kyu Sik Lee and Alex Anas, 'Manufacturers' Responses to Infrastructure Deficiencies in Nigeria', World Bank Policy, Planning, and Research Staff, Report INU 50, Washington, 1989.
[42] *From Crisis to Sustainable Growth*, p. 3.

TABLE 8

Comparative Wage Rates (U.S. $/year)

	1986	1987	1988 (a)	*Per capita* G.N.P., 1988 (b)	Ratio of (a) to (b)
Taiwan[a]	4,696	6,408	7,189	5,639	1·3
Côte d'Ivoire	5,950	5,916	6,200	770	8·0
Mauritius	2,000	1,917	2,166	1,800	1·2
Nigeria	4,770	2,639	1,790	290	6·2
Malaysia	3,416	n/a	3,100	1,940	1·6

Sources: *Taiwan Statistical Data Book*, 1989; World Bank, *Nigeria: Industrial Sector Report* (Washington, DC, 1990); *World Development Report, 1990*; and author's calculations. Note: [a] Taiwan's rates refer to wages in manufacturing.

than the consumer price index, just under the growth rate for labour productivity; by 1972, wages in Taiwan were still only U.S. $0.20 per hour.[43]

African wage trends are very different from this experience, and represent both colonial decisions about the bargaining power of major unions and, more recently, the effect of devaluation on labour as a 'non-traded input'. Before the current economic crisis, wages in Africa tended to be considerably higher than the average in India, for example. Government employees were estimated to earn 2·8 times what their low-income Asian counterparts received, and unskilled wage levels were 1·4 times higher.[44] At present, real wages have fallen below Asian levels. In Nigeria, the hourly wage for textile workers in 1989 was approximately $0·16/hour, compared with $0·58 in India, and $0·30 in Indonesia. Table 8 offers some comparisons, which illustrate both the continued growth in wages in Taiwan, compared with stagnation or decline elsewhere, as well as the modest levels in Taiwan, Malaysian, and Mauritius compared with their *per capita* G.N.P.

Taiwan's experience of very low levels of unemployment was undoubtedly assisted by the corollary of market-established wage levels. The structural adjustment policies that advocate elimination of dualistic wage structures (a highly paid urban labour force versus low, informal sector wages for everyone else), while undoubtedly painful for those families bearing the cost of lowered wages, are predicted to lead over time to greater employment and less capital-intensive indus-

[43] Maurice Scott, 'Foreign Trade', in Galenson (ed.), op. cit. p. 360.
[44] Nash, op. cit. p. 40.

trialisation, and eventually to the elimination of the labour surplus and, consequently, to sustainable increases in real wages. However, labour absorption requires additional investment and economic growth – outcomes that are probably assisted by focusing more directly on growth, rather than by the demand reduction policies now characteristic of structural adjustment.

6. *Trade Policy*

The controversial area of trade policy is perhaps where the experience of Taiwan is most contradictory to the policies advocated in structural adjustment dialogues with African countries. Taiwan's trade policy was both highly protectionist, and outward-oriented.[45] Its export success was not a matter of 'free trade' but of a dual incentive régime, where exports were promoted but local production was heavily protected, although often for strictly limited periods. However, trade policy in Taiwan was carried out by institutions with considerable implementation capacity, unlike the present situation in most African countries where many already weak public sector institutions have been further weakened by austerity cutbacks.

(*i*) *Protection for domestic producers through tariff and import controls*

Import restrictions such as quotas, and non-quantitative restrictions such as investment regulations, are considered by neo-classical economics to be the poorest way to support industry. Preferred methods are explicit fiscal subsidies, followed by tax exemptions and, as a poor third, by tariff protections. Few countries actually reflect this type of pattern, and Taiwan is no exception. Throughout 1952–72, exports surged and yet the trade régime was a model of controls and quantitative restrictions, characterised by considerable variation both across sectors and among commodities in a single sector.[46] During the period under review, import licenses were controlled for two-fifths of imported commodities, with permission given only if prospective importers could certify that domestic supplies were not available. Even in 1984, non-tariff barriers covered more than half of imports

[45] According to Amarendra Bhattacharya and Johannes F. Linn, *Trade and Industrial Policies in the Developing Countries of East Africa* (Washington, DC, 1988), World Bank Discussion Paper No. 27, p xi, an inward-oriented trade régime is characterised by 'controls, high and variable tariff protection and quantitative restrictions and administrative allocation', while an outward-oriented régime 'emphasizes linkages to the world economy through exports and enhanced import capacity'.

[46] Levy, op. cit. p. 3.

(by value), and tariffs were still 'minutely differentiated by product, ranging from zero to well over 100 per cent'.[47]

How do levels of protection in Taiwan during the early years of export promotion compare with those in Africa? When all trade-related taxes and subsidies and non-quantitative restrictions are taken into account, effective protection for manufacturing in 1966 averaged 44 per cent, as against 126 per cent for the portion of output sold domestically for consumption goods, 48 per cent for intermediate goods, and 32 per cent for capital goods.[48] Manufactured goods in Mauritius, for example, had average effective rates of protection of 89 per cent in 1983, while Zambia in 1975 had effective protection on a quarter of consumer items over 500 per cent.[49] Currently, non-tariff barriers in Africa are far higher than anywhere else in the world, and their lowering or elimination is a key element of liberalisation.[50]

Denis Simon points out that in its first several decades of power, the KMT was 'reluctant to open the Taiwanese economy to outside forces and was adamant in its belief that the local economy would be destabilized by allowing greater economic openness'.[51] Taiwan's resistance to lower protection is reflected in many African countries. Even Mauritius, which enjoyed a growth of manufactured exports averaging 30 per cent a year between 1983 and 1988, was 'not ready' in 1986 'to agree to [the World Bank's proposed] schedule for phased rationalization of the overall tariff structure'.[52]

Protection can be effective in the support of infant industries, but the risk is high that entrenched interests will resist being weaned. For some enterprises, export promotion offered the missing discipline.[53] In other cases, programmes were applied to lower tariff protection by an agreed percentage per year, provided producers reduced their prices as their efficiency increased. The strong and autonomous state used the instrument of liberalisation with precision, at times down to the level of

[47] Wade, op. cit. pp. 117 and 122.

[48] Scott, loc. cit. p. 334, citing T. H. Lee and K. S. Liang, 'The Structure of Protection in Taiwan', in *Economic Essays* (Taipei), November 1971.

[49] Ravi Gulhati and Raj Nallari, 'Successful Stabilization and Recovery in Mauritius', World Bank E.D.I. Development Policy Case Series, Washington, DC, 1990, p. 11, and *From Crisis to Sustainable Growth*, p. 116.

[50] R. H. Erzan, S. Marchese, and R. Vosennar, 'The Profile of Protection in Developing Countries', undated Unctad Discussion Paper No. 21, New York, which calculated that countries in sub-Saharan Africa in the 1980s had the highest rate of import licence requirements, advanced import deposits, and Central Bank authorisation requirements, leading to the highest overall rate of non-tariff barriers among developing-country groups.

[51] Simon, loc. cit. p. 143.

[52] Gulhati and Nallari, op. cit. p. 55.

[53] Tyler A. Biggs and Brian Levy, 'Strategic Interventions and the Political Economy of Industrial Policy in Developing Countries', Harvard E.E.P.A. Discussion Paper No. 23, October 1988.

individual factories, enforcing requirements that industries become able to compete internationally within an agreed time-frame.

When the structure of protection is established primarily to encourage multinational investment with few backward links to the domestic economy, or to protect uncompetitive state-owned industries for long periods of time, as seemed to be the case in many African countries, carefully phased liberalisation, coupled with export promotion mechanisms, may be necessary to stimulate more productive use of resources. Countries without Taiwan's capacity to finely tune the tariff structure, or without the autonomy of the Government and its ability to enforce scheduled reductions in protection, domestic content requirements, and other industrial policies despite entrenched interests, may find the theoretical 'level playing field' of a low and even tariff structure to be best for stimulating efficient investment. However, if it is true that intelligent manipulation of tariffs accelerated Taiwan's industrial performance, foreign aid resources could also be invested in building the capacity of government officials to more finely tune the tariff structure to encourage more efficient import substitution, and export diversification. In addition, as one advisor to the World Bank argued recently, 'since the effects of import liberalization on export performance can be weak and delayed, policy ought to concentrate on exports directly'.[54] Such a strategy would also better reflect the experience of Taiwan.

(*ii*) *Export promotion*

Taiwan's export promotion instruments were intended both to remove positive discrimination against production for export, and to provide direct incentives for exporters. Among the latter were lower interest, short-term loans as export finance credits, with nominal rates of less than 12 per cent, compared with ordinary business loans, with bank rates of approximately 20 per cent and private money-lender rates of 36 per cent.[55] Export sales were exempt from business taxes; duty drawbacks were extensively used. Taiwan also provided export insurance at reasonable rates, export quality inspections, beginning in 1953, and assisted companies to market exports through branch offices of the Central Trust of China.

Exemptions from duty or duty drawbacks were very important mechanisms in export promotion in Taiwan, and simplified procedures

[54] Rodrik, loc. cit. p. 941.

[55] Scott, loc. cit. p. 340. These lower rates, it must be emphasised, are still high in real terms compared with other industrialised countries.

made them easy to implement. As early as 1955, the executive branch had established regulations allowing exporters to import or purchase inputs without paying duties or taxes by posting a bond that pledged to pay these if the materials were not in fact exported. The Government sacrificed substantial revenues in order to implement the rebate scheme. In 1972, for example, the value of taxes foregone due to duty drawbacks and duty exemptions would have doubled customs revenues.[56]

In general, Taiwan's programme contrasted in a number of important ways with similar schemes in Africa. First, the rebates were available to both direct and indirect exporters, meaning that domestic producers who imported inputs to make intermediate goods or produce raw materials, and sold them to a factory producing for export, would be able to deduct duties on those products. This made sure that domestic producers were not discriminated against by exporters looking to find sources of raw materials and intermediate inputs. In addition, the Taiwanese programme provided rebates from duties almost immediately – in the case of posting a bond, this was effective the same day the goods were exported. In Nigeria, by contrast, receiving a rebate can take six months to more than a year, and the process is so cumbersome that many industries do not bother to even apply. In Madagascar, the duty-free import scheme requires that 51 documents be stamped and verified an average of three times each.[57] Finally, Taiwan was able to remove the discretionary aspect of the rebate by making it a function of fixed input–output coefficients, which by 1968 had been set for 7,000 products.[58]

Neo-classical theory finds it difficult to explain why the export promotion bias in the East Asian NICs has worked so well. As noted by Ron Findlay:

> In terms of the standard theory of trade and welfare a bias in favor of exports is not better in principle than a bias against them... It is therefore hard to see why an export-promotion strategy should produce such successful results... It is clear that an answer must be sought outside the conventional bounds of the standard model, in the murky but relevant waters of such concepts as X-efficiency and 'learning by doing'.[59]

[56] Levy, op. cit. p. 4.

[57] Nash, op. cit. p. 30.

[58] Levy, op. cit. p. 6. Once exports were well developed and Taiwan began to run up against import barriers in its chief markets, the Government concentrated on upgrading the quality of exports within certain broad categories, providing incentives to firms to increase the value of their products but not the quantity. Thomas Gold, *State and Society in the Taiwan Miracle* (Armonk, NY, 1986), p. 82.

[59] 'Comments' by Ron Findlay, in W. Hong and L. B. Krause (eds.), *Trade and Growth of the Advanced Developing Countries in the Pacific Basin. Papers and Proceedings of the Eleventh Pacific Trade and*

(iii) Export-processing zones (E.P.Z.s)

Taiwan established one of the world's first E.P.Z.s in Kaosiung in 1965 expressly to encourage technological advance and to expand exports. They combined the attraction of an industrial estate (and associated infrastructure) with the ease of a 'one stop' process of administrative approval. A different model of export-processing zones adopted by Mauritius in 1970 has been highly successful in promoting exports. Nigeria, Togo, Cameroon, and other African countries are now hoping to take advantage of their new situation as low-cost suppliers of labour.

Taiwan's experience with E.P.Z.s suggests several lessons. They were successful at drawing foreign investment and providing employment, mainly of unskilled labour (trained on the job), but also of local managers and technicians. Wages were higher and working conditions in the zones were widely regarded as more attractive than outside. Finally, and perhaps most importantly, the zones were not the only area of export promotion and were officially regarded as a transition mechanism, intended to lower transaction costs connected with investment for export during a period that combined import substitution and associated protection, with export promotion. The Government, both through bonded factories outside the zones, and through numerous other export incentives, promoted export activity throughout the country. The E.P.Z.s never accounted for a large percentage of Taiwan's exports – generally less than ten per cent.

7. *Liberalisation*

Liberalisation of trade and other economic policies in Taiwan has been incremental, gradual, with important sequencing, a strategy that maintained stability. Only in the early 1970s, when the nation had a trade surplus of U.S. $474 million, did the Government embark on a major liberalisation programme. A floating exchange rate was eventually introduced in 1978, while interest rates were liberalised in 1981 and the capital market in 1983. In fact, the entire period of this study (1952–72) was characterised by a strictly controlled trade and financial system that emphasised stability, enhanced predictability, and rewarded performance.

Development Conference (Seoul, Korea Development Institute, 1981), p. 31, cited in Martin Fransman, 'Explaining the Success of the Asian NICs: incentives and technology', in *IDS Bulletin* (Brighton), 15, 2, April 1984, p. 53.

By contrast, many African countries undergoing structural adjustment have attempted both stabilisation and liberalisation rapidly and simultaneously. In 1986, Nigeria liberalised the exchange-rate system, removed many price controls, abolished import licenses, and eliminated agricultural marketing boards. One result has been a crippling instability in key economic parameters. Real interest rates, adjusted for inflation, swung from −39 to +16·5 per cent over the two-year period 1988–90. An alternative to underdeveloped and uncontrolled markets, suggested by Taiwan's experience, is to maintain fixed rates, adjusting them when necessary so that they stay above the rate of inflation. Nigeria's rapid and unhappy liberalisation experience has been repeated in any number of African countries. Though in part they reflect the lack of domestic consensus and weak élite commitment to structural adjustment reforms, a different analysis might suggest that more careful attention to the sequencing of reforms, or to building capacity to manage interim alternatives to free (and unstable) markets might have resulted in programmes with greater political sustainability.[60]

Taiwan's import-substitution industrialisation began in the 1930s, and its trade régimes were gradually liberalised over a long period of time, albeit notably in the 1970s and 1980s once the economy was quite strong. In contrast, many African economies are being liberalised at an earlier stage of industrialisation, and the outcome may be efficiency-enhancing for some enterprises, but fatal for many. The alternative of domestic protection, coupled with strong incentives for export, allowed Taiwan's industries a protected base from which to reach out to international markets. The severity of the balance-of-payments crises faced by African countries magnifies the necessity of policy reform, but it is clearly an open question as to whether the stability required for renewed growth is aided or thwarted by rapid liberalisation. Support for a more gradual process might have been a more sustainable strategy in Africa.

8. *Science and Technology*

During the 1960s, Taiwan was able to expand production by following Japan's technology curve and product cycle, often purchasing second-hand equipment and machinery from Japan, as well as adopting a technology policy that promoted diffusion and adaptation, rather

[60] Rodrik, loc. cit.

than outright invention. In the early 1970s, towards the end of the period under study, when Taiwan's natural comparative advantage in low-cost labour was ending, the Government supported a transition to growth led by technological innovation and increased automation, again following the model of Japan by investing in the creation of a new, dynamic comparative advantage in skilled labour, manufacturing, and electronics technology.

This suggests that in the earlier period of industrialisation, a broadly educated workforce, as well as sufficient engineering skills to adapt imported processes for local conditions, may be the most efficient strategy. Governments and international agencies could assist African entrepreneurs to make connections with the producers at the previous level of the international product cycle, through joint ventures, or even assisted business trips and study tours. For Taiwan, this model was Japan; for some African countries, it could be Taiwan. Indeed, in one region of Nigeria, where education has long been valued, local entrepreneurs have been importing and adapting used machinery from Taiwan in order to produce locally the products they formerly imported from Taiwanese companies.[61]

9. *Foreign Investment in Industry*

Although opening up the economy to foreign trade and investment is a corner-stone of structural adjustment policies, Taiwan's experience only partly fits the model of liberalisation. Foreign investments with 100 per cent foreign ownership were allowed, no limits were placed on the repatriation of profits, and firms were not restricted from bringing in their own nationals in technical or management positions. Unlike the liberal model, Taiwan restricted the entry and activities of multinational companies in many ways, tightening controls as goals of technological upgrading and foreign equity investment were reached.

Policy changes in the late 1950s and early 1960s encouraged investment which had previously been almost negligible.[62] While most proposals of all types were approved in the 1960s, by the 1970s the

[61] Deborah Bräutigam, 'Regional Industrialisation in Eastern Nigeria', Western Africa Department, The World Bank, Washington, DC, 1992, and Tom Forrest, 'The Advance of African Capital: the growth of Nigerian private enterprises', in Frances Stewart, Sanjaya Lall, and Samuel Wangwe (eds.), *Alternative Development Strategies in Africa* (London, 1992).

[62] Private foreign investment between 1952 and 1961 averaged only U.S. $3 million a year, compared with foreign aid of some U.S. $67 million a year. In the period from 1962 to 1972, foreign investment averaged U.S. $134 million a year. *Taiwan Statistical Data Book*, 1989.

Government was more selective, welcoming foreign investors primarily in production for export in areas where Taiwan did not yet have critical technologies or capacity, such as electronics (33 per cent of approvals, 1952–74) or metal products and machinery (18 per cent), but not in agriculture, forestry, and food processing, or in services such as construction, transport, and banking.[63] Export requirements ensured that the new industries would be globally competitive, while local content requirements pushed foreign investors to help upgrade Taiwanese suppliers to international quality standards. By 1976, the minimum percentage of domestic content required for the local manufacture of motorcycles was 90 per cent, switch exchangers 80 per cent, and colour television sets 50 per cent.[64]

Many of the foreign firms that have invested in African countries have taken advantage of generous protection granted by governments interested in employment and other economic benefits of external investment. Producing for the domestic market, protected by high tariffs, these firms have had few incentives to maintain a sharp competitive edge. Orienting foreign investment towards exports was a critical component of Taiwan's strategy that enabled greater economies of scale through increased production, and ensured continual upgrading of the technologies used.

The state in Taiwan took an active rôle in creating backward and forward linkages between foreign and domestic capital. Local sourcing, sub-contracting, and worker-training targets were mandated and frequently revised, and the Government monitored and enforced them, threatening (and carrying out its threats) to remove protections and incentives for firms that failed to meet their targets.[65] In Nigeria, by contrast, although the same targets are frequently part of the investment package, the Government fails to monitor and take action early when targets are clearly not being met. In the motor-vehicle assembly industry, for example, foreign firms agreed to progress in stages towards 100 per cent local content, but they failed to adopt programmes to implement this strategy, and after 30 years of assembly, less than 30 per cent of components are locally procured.

[63] Ibid. 1975.
[64] Scott, loc. cit. p. 333.
[65] Interestingly, most of the technical co-operation projects approved in Taiwan (73 per cent) were between Japanese and Taiwanese companies, while U.S. firms tended to 'remain insulated from domestic firms', according to Ranis, op. cit. p. 251, indicating that the nationality of the foreign investor may make a difference in African countries.

THE STATE AS AGENT

In the past decade, the economic literature has rediscovered the state. While some scholars continue to view the state as an arena of distributive conflict, many see it as the critical agent of development. Douglass North and others have argued that governments shape economic performance by establishing institutions – the contracts and property rights that reduce transaction costs and structure an economy's activities.[66] Robert Wade and Alice Amsden have pioneered detailed studies of developmental state interventions in East Asia.[67]

The state in Taiwan was clearly an active agent of industrial transformation. The country's industrial development depended heavily on strategic interventions by a régime marked by stability, strength (capacity and autonomy), and élite ideological commitment to economic performance. Both by supplying public goods such as agricultural research, paved roads, and electricity, and through purposive intervention in the economy, the Government acted to reduce many of the high transaction and production costs common in developing countries. The rôle of the state in Taiwan was influenced by élite values formed in response to the KMT's defeat on the mainland, and was also shaped by a high degree of capacity and autonomy.

Stability and economic performance became critical political values in Taiwan following the humiliating exodus of the Nationalist Chinese leadership from the mainland and exile on an underdeveloped island. The value placed on stability was reflected over and over again in policy choices made by Taiwanese officials. Economic performance became both a goal and a means of legitimisation for an authoritarian, non-democratic régime. The broad élite consensus on these values was importantly conditioned by the perceived threat of a communist takeover.

Furthermore, the strategy followed by the KMT Government reflected the high level of state capacity on the island. The concentration of trained personnel that shifted from China's mainland to Taiwan after 1949 meant that capacity levels in the bureaucracy were unusually high, compared with any African country in its post-colonial period. As Steve Chan has pointed out, U.S. aid 'was instrumental in promoting the rise of a foreign-educated techno-

[66] Douglass C. North, *Institutions, Institutional Change and Economic Performance* (Cambridge, 1990).
[67] Wade, op. cit., and Alice Amsden, *Asia's Next Giant: South Korea and late industraialization* (New York, 1989).

bureaucratic elite...over the opposition of the party old guards and military stalwarts'.[68] In addition, economic planning was centred in semi-independent agencies staffed primarily by engineers, with high salaries (sometimes double) and other incentives to attract the cream of the graduating classes.[69] Engineers tend to be less bound than economists by the abstractions of economic theory, and, as Ian Little points out, they are more focused on 'the efficacy of forward and backward linkages ... than with rates of return'.[70]

Two aspects of state autonomy distinguish Taiwan from most African countries. In part, the central régime's ability to implement its decisions was due to the origins of KMT political control in a classic 'revolution from above' that removed an entire generation (some 10,000 to 20,000 people) of urban intelligentsia and potential opponents in the massacres of 1947, while the land reforms of 1949 and the early 1950s eliminated rural élites as an opposition force. In addition, there is little evidence that the state in Taiwan was 'captured' by patronage networks and used to promote their short-term interests. Relations between industry (largely dominated by native Taiwanese) and the state (largely dominated by mainland Chinese) have not been particularly close. Business associations in Taiwan have had little influence on the direction of state policy, aside from a consultative rôle; trade unions are sharply restricted, and the predominance of small, decentralised industries makes it difficult to organise labour.

The distinct differences between state capacity and autonomy in Taiwan compared with Africa may have critical implications, limiting the relevance of some of its experience. Yet despite the weak capacity and low autonomy of many African states, there are also many instances of purposive and developmental actions having been taken across the sub-continent, with the experience of Mauritius as only one example. In addition, the entrenched interests formed by the relatively brief import-substitution era in Africa may not be as difficult to dislodge as those in place since the 1930s in Latin America.

[68] Steve Chan, 'State-Making and State-Breaking: the origins and paradoxes of the contemporary Taiwanese state', in Edward S. Greenberg and Thomas F. Mayer (eds.), *Changes in the State: causes and consequences* (Newbury Park, CA, 1990), p. 143.

[69] For example, the Industrial Development Bureau, with a staff of 180, appointed its first economist in 1981. K. Y. Yin, an electrical engineer, was the architect of Taiwan's economic reforms in the early 1960s. K. T. Li, Minister of Economic Affairs, 1965–9, and Minister of Finance, 1969–76, was a physicist. In fact, 11 of the country's 14 previous Ministers of Economic Affairs have been scientists or engineers. Wade, op. cit. pp. 203 and 219.

[70] Little, loc. cit. p. 504. This indicates that in developing capacity to support industrial development, African governments might invest more in training engineers than neo-classical economists!

SOME CONCLUSIONS

As the decade of the 1990s moves to its midpoint, African countries remain mired in a vicious circle of debt, low productivity, inadequate skills, crumbling infrastructure, and poverty. The gap between Africa and Asia continues to widen, and critics both inside and outside the Bretton Woods institutions are demanding revisions of standard structural adjustment strategies. What might be learnt from Taiwan's experience?

Taiwan in 1952 and sub-Saharan Africa today are different in many important respects, both in areas that this article has been able to address, such as colonial history, experience of foreign aid, infrastructure, and agricultural foundations, and in others, including cultural heritage and international economic conditions. Japanese colonial investments produced a strong agricultural sector, extensive transport infrastructure, and a base of literacy. After World War II, extensive government-imposed reforms preceded the export push, providing industrial development with a basis of equitable asset (land) distribution, and spreading the benefits of growth quite evenly. The state raised agricultural productivity and supported diversification while simultaneously relying on agriculture as an important source of tax revenues in support of industrial development. United States foreign aid was more extensive and more oriented towards infrastructure and balance-of-payments support than aid received by Africa régimes, much of which was spent on well-meant but ineffective integrated rural development and social sector programmes.

African countries cannot control these preconditions. They are being called on to liberalise 'in the midst of macroeconomic instability',[71] whereas the sequencing of policy reforms in Taiwan emphasised the gradual, but sustainable, achievement of stability before trade or financial system liberalisation, price deregulation, or privatisation. The Government maintained a monopoly of foreign exchange and banking, and controlled interest and exchange rates. Throughout the period 1952–72, Taiwan's export-oriented régime was not 'liberal' but highly protected, with a variety of tariff and non-tariff barriers, quantitative restrictions, and outright bans that rewarded performance, enhanced market stability for producers, and lowered start-up risks. Given the inability of neo-classical theory to establish a link between liberalisation and the rate of growth,[72] it may be that an illiberal régime such as

[71] Rodrik, loc. cit. p. 933.

[72] Ibid.

Taiwan's actually supported growth, perhaps in the 'murky' area of X-efficiency and 'learning by doing', as suggested by Findlay.[73]

Because of the generous levels of aid provided by the United States during Taiwan's period of stabilisation and deficit reduction, public investment levels did not have to be curtailed, but were in fact enhanced. Education, transport infrastructure, and power supply all improved during stabilisation. Levels of aid available to current adjusters are generally much lower, and are unable to cushion the forced reduction in government spending.

Other aspects of Taiwan's reforms are similar to structural adjustment programmes in Africa: in particular, the currency was devalued as part of an effort to shift from import substitution with overvalued exchange rates to import substitution with export promotion. However, the nominal exchange rate was tightly controlled by the Government, which kept it at realistic levels. Interest on savings and on loans were consistently positive in real terms, similar to structural adjustment recommendations that rates be set at positive real levels: these undoubtedly assisted the high savings rate and local resource mobilisation, while not subsidising capital and assisting industry to develop in a labour-intensive manner. Assisted by generous aid from the U.S., and driven by the fear of hyperinflation, the Government in Taiwan rejected deficit spending strategies and resolved to balance the budget through direct and indirect taxation, bringing about a surplus from 1964 onward.

Taiwan has the advantage of proximity to Japan, frequently visited and closely studied by government planners and business people alike. Sub-Saharan states have no such model, with the possible exception of post-*apartheid* South Africa, and they lack the advantage that Taiwan had when its export push began in the friendlier international environment of the 1960s and 1970s. Above all, the state in Taiwan is one of considerable capacity and a high degree of autonomy: industrial-support policies involved an extensive government rôle, while structural adjustment programmes in Africa are predicated on reducing the rôle of the state. All of these factors make Taiwan's path difficult to follow, and this article does not propose such emulation, but rather encourages reflection.

[73] Findlay, loc. cit.