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Occasional Paper

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Some Policy Reflections On the Emergence of the Republic of China as a Newly Industrializing Economy

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Cherng-Shin Ouyang

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I. Introduction

Promoting economic development has always been the over-riding, though by no means exclusive, commitment of the Chinese Republican government in Taiwan. In keeping with this commitment, the government has launched a series of modernisation programmes which were designed initially to revive and stabilize the War-plagued economy and afterwards to push for economic growth. During the last four decades, particularly since the early 1960s, this island of 20 million population is credited with a remarkable development record. Either measured in terms of GNP growth rate, price stability, employment level, distribution justice, or other important statistics, Taiwan stands broadly in the front on a world scale. The speed at which the economy expands in annual cycle and the quality of growth (Table 1) it exhibits have thus turned it into a showcase of economic success. Partly for this reason and partly for the increasing significance it occupies in the Pacific-rim area, Taiwan was reclassified by OECD in 1979 together with three other equally dynamic and efficient market economies in Asia - namely South Korea, Singapore, and Hong Kong - as the "newly industrializing countries" (NICs)[1]. These countries/territories were grouped together rightly because they display certain common characteristics in growth performance.

The Asian NICs are of course not an undifferentiated homogeneous entity; much

[1] Outside of East and Southeast Asia, Mexico, Brasil, Portugal, Greece, Yugoslavia, and Spain have also been classified as NICs.

less convergent were the respective development approaches undertaken and paths followed in their pursuit of export-led growth and industrialization. But as their differences appear to have been obscured by similarities the grouping makes sense. Be that as it may, this grouping shows itself more as a stationary descriptive category than one of historical evolution. For a study that is directed to the latter--which is what this paper is concerned with--it is necessary to treat each Asian NIC as a separate entity. Moreover because in a generalized scheme of comparative development analysis the critical factors that are unique to the state of economic advance of individual entity tend often to be disregarded or excluded, the choice is self-evident.

With this restrictive aim in mind I shall concentrate, in what follows, on two essential features of evolution of Taiwan's economy, namely :

(1) rural reconstruction and development;

(2) protective industrialization and export-led growth[2].

Before proceeding allow me to say a few words about Taiwan's general economic environment. Taiwan has a total area of 36.5 thousand square KMs of which two-thirds are covered with maintain chains, and only one-fourth of its land surface or around 900000 hectares are arable. Arable plains are clustered along the west coast facing the Taiwan strait, which is about 200 km in width off the south-eastern coast of the Chinese mainland. The narrowly stretching east coast plains are relatively underdeveloped compared to the west. Granted favourable subtropical and tropical weather and aboundant rainfall throughout the year a relatively flourishing agriculture was developed originally under Japanese colonial rule (1895-1945) and sustained up to the present. Still, due to diminishing land fertility, two to three crops of rice - one of the most important cash crops till around mid 1960's - have been maintained only through intensive farming and application of chemical fertilizers. Taiwan is a resource poor country; industrial development depends primarily upon foreign

[2] The classification of development stages is bound to be somewhat arbitrary. A relatively earlier attempt in this was made by Fei, Rains, and Kuo (1976), which distinguished a period of primary import substitution from 1953 to 1961, and one of export substitution from 1961 to 1972. This periodisation left the activities before 1953 and after 1972 unidentified. Also since there was no clear date at which the export-led growth phase terminated in the present paper it is recognised as an "open-end" phase.

trade. This disadvantage has been compensated largely by a rather high population density (in 1989, 558 inhabitants per square KM) which was also once the basic consideration for developing labour-intensive manufacturing processing industries beginning in early 1960's. The GNP of ROC in 1990 was US$161.73 billion with per capita income standing at US$7332. Total foreign trade reached the level of US$121.93 billion in 1990 of which the US, Japan, Hong Kong (indirectly with mainland China), and the FRG are the top four most important trading partners. As Taiwan's export of goods and services has generally been expanding faster than that of import the volume of foreign exchange reserve grew to the excessive height of US$72.44 billion at the end of 1990, surpassed only by Japan and FRG, the two economic giants with huge surplus reserves. Presently the government of ROC is trying to diversify its external markets, to liberalize its trade and financial structure, and to open its internal market. Typical of this massive campaign of comprehensive restructuring is the promulgation of a US$300 billion National Economic Construction program extending over the periods, 1991-97. By the completion of this program the ROC will probably be qualified as a new member of the developed industrial economies.

II. Rural Reconstruction and Development, 1946-67

Foremost attention was paid to the rural sector in early stage of Taiwan's economic development. However, this choice was made by no means arbitrarily but preconditioned in all conceivable circumstances. From the viewpoint of supply, the legacy bequeathed by the Japanese in transforming Taiwan's subsistence agriculture into a surplus food producing and exporting platform was of course strategic. In fact it has been argued that the extraordinary agricultural performance in the post-War era can be properly understood only in the context and as a continuation of changes that occurred during the period of Japanese colonization (Lee & Chen, 1975; Ho, 1968; Thorbecke, 1979). The latter include development of such supporting infrastructures as farming technology, irrigation , transport facilities, and rural institutions, etc. From the viewpoint of demand, the real causes of this emphasis arose from (a) the pressing demand for food, as the central government evacuated to Taiwan in 1949 was accompanied by more than 1.5 million mainlanders[3] which made self-

[3] At that time Taiwan had around 6 million inhabitans.

sufficiency in agriculture a first priority; (b) the recognition that China was lost to the communists partly because of accelerated erosion of the rural economy; and (c) the consideration that, to start with, there was no other branches of the economy which could rival agriculture in both the degree of preparedness and immediate accessability for continued transformation.

In view of the above the role played by agriculture as the *leading sector* is not only imperative but also inevitable. Notwithstanding, to develop this sector and to convert it subsequently into an examplar model *par excellency* among nations of the world strenuous and ingenuous efforts are called for. In historical retrospect, three interrelated factors are considered crucial in contributing to the spectacular performence of Taiwanese agriculture and the economy as a whole: (1) the establishment of the Chinese-American Joint Economic Commission of Rural Reconstruction (JCRR) in 1948, (2) the timely arrival of US foreign aid over the period 1951-65, that were largely directed toward the agricultural sector through JCRR, (3) the forceful implementation of the land reform,1953-68.

Set up initially in mainland China, the JCRR functioned both as a *de facto* supervisory board of various integrated rural development programs and as a division of the US Aid mission (Jacoby,1966). Activities promoted by JCRR include principally crop and livestock improvement, water resource development, soil conservation, formation of agricultural associations, farmers' credit & loan provisions, rural health improvement, agricultrual R & D, and so on. Of the latter, JCRR successfully integrated the Four Year Plans (FYPs) of the ROC Economic Planning Commission (EPC) under the auspice of the US Aid mission which involved bodily local interest and conditions as to match, sometimes even to over-match, the growth target of the EPC[4]. U.S. Aid, on the other hand, arrived in 1951 at a time when Taiwan was in a critical financial and economic position. Till 1965 a total of US$1.465 billion were granted and earmarked for use in infrastructures, agriculture and human resources development. Expenditures in agriculture accounted for about one-third

[4] For example, the growth rates of agricultural output during the first two FYPs, 1953-1960, was substantially higher than the planned targets.

of total aid drawn from JCRR local counterpart funds for import-financing[5]. U.S. Aid also greatly replenished the capital shortage to nearly 59% of net domestic capital formation in agriculture, helped reducing both the savings-investment and import-export gaps, and, in the meantime, laid the institutional as much as technological basis for land reform which was actively set in motion since 1949.

The campaign for land reform consisted, by and large, of three consecutive steps: the rent reduction program, the sale of public land to cultivators and tenants, and the Land-to-the-Tiller Program (LTP)[6]. In 1949, land rent was reduced to a maximum of 37.5% of the annual yield of the main crop - namely rice. The aim of this program was to alleviate the burden of the tenant cultivators, to reduce the land values and accordingly the asset position of the landlords. Spanning over 1948-58, the public land sale scheme was initiated to encourage restrictive private holding of farm land of varying sizes and mixture that reflect land fertility. The third step of land reform was promulgated in 1953 and finalised by 1968. Under LTP the maximum size of land ownership per person was limited to 3 chia (or 2.9 hectares). The landlords whose excess land was confiscated were compensated only on the basis of 2.5 times the annual yields of the major crop, which allegedly was much lower than could be obtained by marketing these crops directly. Compensation took the form of government bonds which carried an annual interest rate of 4%; again this was considerably lower than the prevailing market interest rate of 30-50%. For achieving the redistribution effect the ex-landlords were therefore *doubly* expropriated: *firstly* in parting with the undervalued excess land, and *secondly* in holding, through unequal exchange, the low-yield government bonds[7]. In due course, the wealth and income position of the tenants who became owner-cultivators were substantially raised.

[5] About 91% of the local currency counterpart funds were derived from U.S. capital assistence, see Thorbecke (1979), p.183.

[6] see e.g. Koo (1971) for details.

[7] According to estimate made by Ho (1978), the combined wealth redistribution effect, measured at 1952 prices, amounts to NT 2.2 billion or approximately 13% of Taiwan's GNP in that years.

Owing to structural complementarity the respective shares of contribution of the three policy instruments to rises in agriculture productivity cannot therefore be quantified and duly appreciated. But two points are clear in regard to the attempt in evaluating their overall impact. *First,* rises in agricultural outputs are concentrated in the earlier phases of rural development in Taiwan. *Second,* these policies were designed to tackle different problems: land reform on the restructuring of "production relations", in particular those between landlords and owner cultivators; JCRR and US Aid on planning and implementation of financial, technical, as well as organizational development programs with a view to raise "production forces". In accordance with the progression of these and related activities three output changing phases can be demarcated in the evolution of Taiwan's rural economy, namely the periods of recovery (1946-53), expansion (1954-67), and stagnation (1968--), respectively[8].

To conclude, the so-called "green revolution" taking place in Taiwan is one of the few land marks of successful rural development in a global perspective.It is typical of innovative skill- and labour-intensive farming based on small-scale specialised production in an institution in which distribution justice is stressed. In the rural economy, at least initially, the capitalist incentive mechanism is fruitfully combined with some elements of traditional Chinese socialist ethics. Compared with other models - be it of commercialised large scale farming, of putting industry in command with agriculture as the lagging sector, or of radical collectivisation - the merits of the Taiwan model manifest themselves even more strinkingly.

Though it cannot be denied that, with the passage of time, these merits are vanishing and that the negative trends which accompanied the original agrarian reform are intensifying, contributions of Taiwan's agricultural sector to the economy as a whole have far out-weighted the former. These contributions, to mention a few, are as follows: (1) self-sufficiency in food supply inasmuch as greater rural stability and security was guaranteed;

[8] Writting much earlier, Shen (1972) distinguished two phases 1952-64 and 1965-68. Mao (1975) had four phases 1946-51, 1951-60, 1960-68, 1968 and after, which corresponded to recovery and rehabilitation, further development, sustained growth and stagnation, respectively.

(2) export of staples and agricultural processing goods provided the badly need foreign exchange to finance imports of both consumer and industrial goods[9]; (3) surplus drawn from agriculture through state-set "rice-fertilizer" barter deal (Lee, 1971), acted as a "hidden rice tax", to the disadvantage of the farmers but to the industrial sector it was an extra bonus ; (4) increased rural savings transferred through financial institutions raised the level of real investment in the nonagricultural sector; (5) off-farm activities were encouraged through the formation of rural-oriented small and medium sized enterprises which later grew into the main export driving force; and lastly, (6) increased purchasing power resulting from a prosperous rural economy has enlarged the market of industrial goods and of accentuated intersectoral flow of goods.

III. From Protective Industrialisation to Export-led Growth

A sound base for Taiwan's economic development was laid through rural reconstruction at least up to the middle of 1960s. But continued advance of the economy has been facilitated by means of rapid and vigorous industrialisation and expansion of foreign trade. The major vehicle for sustained and cumulative advance of the industrial sector was development of the manufacturing industries, starting with labour-intensive processing of agricultural and consumers' goods. In accordance with the strategies implemented, industrialisation of Taiwan's economy can be roughly divided into several adjacent, and duly overlapping, phases. These are: (1) primary import substitution, (2) primary export promotion, and (3) trade and market deregulation.

Primary Import Substitution, 1951-57

Industrialisation trough production and replacement of otherwise imported nondurable consumer goods was the main idea set forth concomitant with swift rural rehabilitation in the 1950s. This strategy was not only matched by the initial endowment conditions of

[9] Even in 1965 the share of agricultural products and processed agricultural products in total export stood still at 54%, wheras in 1952 it was 92.0%. See Table 3.

Taiwan's economy; it also received support from what Karl Marx coined as the requirements of "primitive accumulation" for capitalist development[10]. To compound its benefitial effect, the resources transferred from the agricultural sector to the industrial sector - reinforced by low wage rates in the latter because of persistently depressed food prices attributable to rising agricultural productivity - was adequately reciporcabed by increasing supply of manufacturing goods at commeasurate low price (Ranis,1979, p.214). This powerfully justified the grounds for pushing development of light industries to their land and labour intensive margin as could be warranted by the protective measures erected to ward off foreign competition. The gradual upsurge of the consumers goods market was further ensured by the advent of the following favourable factors : (a) a vibrant domestic demand for agricultural and industrial goods; (b) continued improvement of basic infrastructures; (c) moderately well-developed educational institutions and healthy work ethics; and (c) externally, the western nations were not in the least hostile towards protective industrialisation of the backward economies on basis of the so-called "infant-industry" argument. Under the reign of this argument a spectrum of mild protective measures were employed to push for accelerated import substitution during a relatively short period of time, i.e. between 1949 and 1951. Included in the measures were the customary mix of exchange controls, quantitative restriction (QR), import licensing, protective tariffs, and multiple exchange rates (Table 4), combined with some deficit financing, relaxed credit rationing, and an increasingly overvalued currency. The public enterprises, which accounted still for more than 50 per cent of total industrial production in 1952, received on the other hand substantial official help in the form of either direct subsidies and interest rates differentials.

These policy measures were positive from the viewpoint of the recorded expansion of the manufacturing industries such as textiles, apparel, wood, and leather products. But saturation of the home market and excess capability in these product groups soon manifested itself in falling outputs and parallel decline in their imports. By mid 1950s - and most clearly in late 1950s - the adverse effects arising from vigorous import substitution were already evidently seen. Notorious of the latter were such constraints as the small scale of

[10] See Marx (1867), Part VIII of Vol. I for a description of the historical process of "primitive accumulation".

the domestic market, the undue survival of inefficient and high cost manufacturers, the rising business pressure for cartelisation of the more efficient producers, misallocation of resources in general, and so forth. Despite the cogency of protective industrialisation and its extensive applications world - wide strong resistence from both the government and academic circles were expressed with a view to reverting to the opposite strategy (Yin, 1954, 1959; Li 1959; Tsiang, 1984). This did not, however, lead at once to dismanthing of the policy package of import substitution; rather the mood for change, in particular, for embarking progressively upon the export -promotion development path did not materialize untill around 1958.

Primary Export Promotion, 1958 - 1972

The rationale for the pursuit of export - led growth are twofold :(a) the keenly-felt needs to push for "vent - for - surplus" that are available viz earlier and fervent import-substituting industrialisation in Taiwan; and (b) the enhanced awareness in grasping the gains from trade by observing the law of comparative advantage that a gradually-opened economy can put to fruitful use. Following this rationale a chain of structurally-related devices was instituted and applied in the field of money, finance, trade, investment, and other regimes. They may be appropriately grouped under several heads :

(a) Currency devaluation and exchange rate unification ---

Starting from 1958 the value of the NT dollar, already on a downward trend since 1955, was continuously devalued against the US dollar. Concurrently, the multiple exchange rate system - which was designed for restrictive purposes in response to currency overvaluation endemic to a controlled economy still experiencing hyper-inflation was gradually dismantled and replaced by a unified exchange rate system (Table 5).

(b) Tax rebate ---

The Regulations for Rate of Taxes on Export Products saw approval in July 1955 in the Executive Yuan or the cabinet. The aim of the regualation was to refund taxes - namely the commodity tax, the import duty, and the defense tax - to

producers/exporters and to improve the tax rebate system[11].

(c) Tariff reduction and import decontrol ---

Since 1958 the commodity categories containing all the items subjecting to import control and with average norminal tariff rates higher than 30 percent have shown a decreasing tendency. Also the officially approved price differentials between domestically produced goods and imported ones were systematically supressed after 1960 - though the lack of adequate data on prices may have resulted in difficulty of execution. Generally speaking, despite repeative revisions of the tariff system (in 1955, 1959, and 1965) there was no marked change in the structure of the incidence of duties until 1973, when they were appreciably brought down.

(d) *Formation of "export- processing zones"* (EPZs)

The idea of EPZs combining in one place the advantages of a free trade zone, an industrial eatate, and all the administrative structures of the government was put forward by the Economic Stabilization Board in 1956. It was put into practice first in the setting up of the Kaohsiung EPZ in 1966, followed by three more zones in Nanze and Taichung. The aim of EPZs evidently was to promote export of employment-creating and with high value-added manufacturing goods with minimal bureaucratic interference; it was carried out through attraction of foreign direct investment (FDI) and provision of fully-packed assembling plant facilities at favourable terms such as tax holidays, export loans, simplification of tax rebates and a host of other locational advantages.

Through the above and related supportive means, Taiwan's external trade assumed since early 1960s, an unprecedented expansion path (Table 4). Imports of materials and semi - finished products grew at remarkably high rates mainly in response to rising and accelerated growth rate of export.

[11] There ensued a period that higher import duties and other intervention policies prevailed until the end of 1970s. See Scott (1979), p.324 and Ma (1989) section 3.

Trade and Market Deregulation and others, 1973 -

The beginning of 1970s saw a new dimension for radical restructuring of the Taiwanese economy. The pressures for changes were of several origins : the unabating state intervention accompanied by restrictive practice in both the public and private enterprises; the relaxing but still rigorous trade and internal market regulations, the unbalanced economic structure and attendent unfavourable repurcussions on the external account and prices, the gradual exhaustion of reserve labour, and so forth.

To redress imbalance in the economic structure and over -concentration on export ten public - sector projects involving US$ 6 billion (at 1974 prices) were carried out. The aim of this massive undertaking was to relieve congestions in land, water, and air transport, to increase the production capabilities of steel mill, shipyard and the petrochemical plants. To enhance market competition a sequence of import and foreign change decontrol measures were applied, culminating in the drastic reduction of nominal tariffs numbering more than 1700 items in 1976[12]. Earlier, in 1973, the first oil crisis and subsequent monetary crisis drove the whole world economy out of balance. The ROC government responded by spontaneous and sharp credit tightening. Also the one - time large increase in the controlled prices of petroleum products and other public - sector goods paved the way for immediate cost adjustment to a steady level which successfully contained spiralling price expectations. However, the shortfall of export orders due to world economic recession, the negative growth of industrial output, as well as worsening payment deficit and terms of trade once again forced the government to resume the relaxed credit policy in 1979 - the year when the second energy crisis occured.

Economic stabilization and a modest growth rate were achieved, then, as a result both of the strengthening domestic demand and public investment in the "ten projects" already underway. In the course of continued adjustment a phase of "secondary import substitution" in producers goods began to set in. In such branches as electronics, machine tools, car components, and a wide range of relatively more capital- and technology- intensive intermediate goods, the share of local contents rose appreciably before a surplus outlet was found in the overseas markets much as that realised earlier in "primary import -

[12] The rate of reduction averaged 50%.

substitution". To upgrade the technological basis of the economy, the "science-based industrial park" (SIP) was founded in 1980. The key consideration underlying the project was to promote applied research and market-oriented manufacturing of strategic products ranging from IC, telecommunications systems, to semi-conductors, namely those that could capture the delicate and fiercely competitive market niche not completely dominated by the US and Japan. This vision proved legitimate and handsomely rewarded in the market of high-tech trade. Yet, following industrialization spearheaded by the growth of private enterprises and saturation of the internal market bottlenecks in public utilities recur in due succession and the call for more public investment is in vogue. The most recently announced six - year National Development Plan (NDP) involving US$ 303 billion investment (1992 - 97), again, looms in the air. Fifty times greater than the size of the first project, the new NDP has as its main objective, both to overcome the bottlenecks as to modernize more comprehensively Taiwan's economic structure. Its significance is reflected not only in the scale but also in the extensiveness it is geared to the needs of the society at large (Table 6). Wheras announcement of the new undertaking releases extremely encouraging sign on the future prospect of Taiwan's economy criticism on its realisability abound (Wu, Tsai, Hsu, 1991).

Reserved optimism on the project nothwithstanding, economically the position of Taiwan as newly - industrializing country is strengthened on account of acquired financial wealth and of undiminishing vitality and inventiveness of the business - industrial community as a whole. Since early 1980s, recurrent waves of institutional *deregulation* in the sphere of money, finance, foreign exchange, and foreign trade are carried out. Jointly in force are such events as legislating privatization of public enterprises and growing market diversification internationally, including notably the approval of indirect bilateral trade with Mainland China and of unilateral private investment. To upgrade islandwide technological level draft on a six-year "industrial development plan" (IDP) was passed in recent paliamentary meeting. It is hoped that, following implementation of the plan, the more technology- and skill-intensive products will replace products of high labour content in the overseas markets. To avert, however, excessive reliance on foreign trade, the internally - generated economic growth would presumably overtake that sustained traditionally by export trade in the years to come.

IV. Concluding Remarks

Throughout, the government of ROC has chosen a more cautious and gradualist approach in development - phasing than, say, that of South Korea. It has, namely, refrained from embarking upon a persistently "capital-deeping" path of industrialization and consequently avoided growing external indebtness because of excessively long "questation - period" of fixed investment in heavy industry as that manifested in the case of Korea. The path of "capital-widening" investment emphasising quick returns to scale was the recourse taken in Taiwan. Insofar as expansion of the manufacturing industry is periodically constrained by the supportive capacity of the basic industries both the NDP and the IDP will play a vital part in shaping the future course of Taiwan's economic development. Needless to say, the institutional set - up that is also undergoing radical restructuring at present will duly modify the quality of that prospect.

Having said the above it may be questioned as what significance one can attach to the Taiwan model and the implications it may have for the contemporary LDCs which strive to industrialize. Theoretically, much as advocated by the "diffusionist paradigm" of the modernization approach to development, the Taiwan model shows how capitalism works when private property is honoured together with maintenance of minimal law and order in a market economy. This doctrine also asserts that, through the operation of market mechanism, all developing countries would gradually mature in the image of the developed industrial economies and of the NICs. As the eminent trade theorist Linder once suggested: "The Asian NICs are delivering a second shock to Marxism. Not only does it remain clear that contrary to what Marx claimed, new comers can rise by means of capitalism". (1986, p.54) This is, admittedly, in fundamental agreement with the contention of Rostow. Yet according to the radical development economists such as Frank, Wallerstein, Amin, the success stories of the NICs, Taiwan included, remain isloated, and by definition do not truely conform with the requirements of fully-fledged development. Specifically, as Amin proposed, lack of indigeneous R & D propelled growth is fatal. They choose instead to frame the argument within the "dependency paradigm".

It is not the purpose of the paper to address the issue to any extent. To do so it is necessary to write a separate paper. Suffice it in noting that disregard the

external factors or the "core - peripheral" dependence relationship the necessary prerequisite to the exertion of minimal effort for "taking - off" economically lies in the policy primacy. Equally the autonomous market forces cannot be ignored any more than other growth-conducive causes unaccounted for presently. The latter as they are formed of such esoteric factors as ethical, sociological and institutional in origin are supposed to be part and parcel of the cultural heritage of individual economies. Confucianism, for example, is regarded as having positively aided the modernisation aspiration of not only the four Asian NICs but also that of Japan during and after the Meiji Restoration (Morishima, 1983). This grand concensus is surely not impeccable or faultless. But it shows at least that matters of extraeconomic category are just as important as the economic ones in facilitating the complex process of modernisation and growth. From either the one or the other perspective the majority of nations in the third World do have to look for models that suit the ethical and cultural foundations of their own economies.

To conclude, this paper is written in the interest of showing the policy factors in transforming a predominantly agrarian economy into one of dynamic industrial might in East Asia. Undeniably it is always debatable as how significant they are in the process of Taiwan's economic development, and whether analogous recourse taken by other countries would lead to the same result - what proponents of the "diffusionist paradigm" strongly endorse. Insofar as Taiwan is concerned, there are indeed cases in which policy failed and not powerful enough to withstand the negative trends. Even more ostansible is the recognition that the most laudably acclaimed merits of Taiwan's success tend often to be most vulnerable economically. The intense preoccupation with pursuit of maximal growth, the ill-conceived deregulation of market and trade system in recent years, the inappropriate intervention of the state into private business, and paradoxically the underdeveloped institutional framework in which government policies are carried out etc., all proved to be obstacles to sustained and healthy development of the economy. In both ends, that is both for what it *has and has not* achieved, Taiwan will remain as a living fossil for continued research and major source of inspirations.

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Tables :

Table 1 Selected Indicators of Taiwan's Economic Growth, 1952-1989

Year	Population	Per Capita GNP	Agricultural Production	Industrial Production	Wholesale Prices
	Annual Growth Rate(%)				
1953-56	3.7	4.4	5.9	11.9	9.5
1957-60	3.6	3.7	4.4	11.8	8.3
1961-64	3.2	5.9	5.4	13.5	3.8
1965-68	2.7	7.1	6.3	17.7	0.6
1969-72	2.9	9.4	3.3	21.2	1.7
1973-76	1.9	6.0	4.5	11.1	15.3
1977-80	1.9	7.9	3.7	12.3	10.4
1981-84	1.7	5.7	1.9	6.8	1.7
1985-88	1.2	8.2	3.1	7.9	-2.7
1989	1.0	6.0	-0.4	3.7	-0.4

Notes: 1. growth rates computed according to simple statistical average.

Source: Taiwan Statistical Data Book, 1990.

Table 2. Industrial Origin Share of Net Domestic Product, 1952-1989

			Industry					
Year	Total	Agri-culture	Subtotal	Manu-facturing	Public utilities	Construc-tion	Others	Services
1952	100.0	36.0	18.0	10.8	0.6	4.4	2.2	46.0
1956	100.0	31.6	22.4	14.5	0.8	4.9	2.2	46.0
1960	100.0	32.9	24.9	16.8	1.3	4.5	2.3	42.2
1964	100.0	28.3	28.9	20.9	1.8	4.4	1.8	42.8
1968	100.0	22.1	32.5	24.0	1.7	5.1	1.7	45.4
1972	100.0	14.2	40.3	32.3	2.1	4.6	1.3	45.5
1976	100.0	13.4	42.7	32.5	2.1	6.7	1.4	43.9
1980	100.0	9.2	44.7	34.0	2.3	7.3	1.1	46.1
1981	100.0	8.7	44.4	33.7	3.1	6.6	1.0	46.9
1985	100.0	6.8	45.3	36.6	3.4	4.7	0.6	47.9
1986	100.0	6.4	47.1	39.5	2.8	4.4	0.4	46.5
1987	100.0	6.2	47.1	39.4	2.9	4.4	0.4	46.7
1988	100.0	6.0	45.5	37.8	2.5	4.8	0.4	48.5
1989	100.0	5.9	43.5	35.6	2.3	5.2	0.4	50.6

Source: Taiwan Statistical Data Book, 1990, p.41.

Note: Column "Others" was added by author to mach subtotal figures.

Table 3 Composition of Import and Export, 1952-89

	Exports Percentage Distribution				Imports Percentage Distribution			
Year	Total	Agricultural Products	Processed Agricultural Products	Industrial products	Total	Capital Goods	Agricultural & Industrial Raw Materials	Consumption Goods
1952	100.0	22.1	69.8	8.1	100.0	14.2	65.9	19.9
1956	100.0	18.5	64.5	17.0	100.0	18.7	73.9	7.4
1960	100.0	12.0	55.7	32.3	100.0	27.9	64.0	8.1
1964	100.0	15.0	42.5	42.5	100.0	22.1	71.8	6.1
1968	100.0	11.1	20.5	68.4	100.0	32.5	62.9	4.6
1972	100.0	6.8	9.9	83.3	100.0	31.1	63.2	5.7
1976	100.0	5.0	7.4	87.6	100.0	29.1	64.7	6.2
1980	100.0	3.6	5.6	90.8	100.0	23.4	70.8	5.8
1984	100.0	1.7	4.3	94.0	100.0	13.6	78.6	7.8
1988	100.0	1.4	4.1	94.5	100.0	14.9	73.7	11.4
1989	100.0	0.7	3.9	95.4	100.0	16.4	72.1	11.5

Source: Taiwan Statistical Data Book, 1990.

Table 4 Export and Import Indices (Base: 1952=100)

Year	Total Trade	Exports	Imports
1952	100.0	100.0	100.0
1956	193.2	199.7	189.5
1960	419.0	406.4	426.3
1964	862.9	1182.7	677.5
1968	1694.3	2150.4	1430.0
1972	5506.5	8142.0	3979.1
1976	14972.6	21111.2	11414.9
1980	35581.8	48514.6	28086.6
1984	51876.0	82063.8	34380.6
1988	78782.3	117811.0	56163.2
1989	78239.9	118876.4	54689.0

Source: Taiwan Statistical Data Book, 1990.

Table 5 Exchange Rates, 1952-1990 (N.T.$ per U.S.$)

Year	Exports 'Average'	Imports 'Average'	Year	Average
1952	14.93	12.98	1977	38.00
1953	15.55	15.65	1978	36.00
1954	15.55	17.35	1979	36.03
1955	23.18	23.78	1980	36.01
1956	24.71	24.78	1981	37.84
1957	25.53	24.78	1982	39.91
1958	34.14	33.90	1983	40.27
1959	39.38	39.53	1984	39.47
1960	39.73	39.73	1985	39.85
1961	39.83	39.83	1986	35.50
1962	39.83	39.83	1987	28.55
1963	39.87	39.89	1988	28.17
1964	40.00	40.10	1989	26.17
1965-72	40.00	40.10	1990	27.11
1973	38.16	38.35		
1974	37.90	38.10		
1975	37.95	38.05		
1976	37.95	38.05		

Notes: a) The figures given there were averaged simply in proportion to the periods for which the different rates were in force. Where the rates fluctated over a period, the mean of the range given was taken.

b) The rate for exports for the period up to April 14, 1958, is that applicable to exports by private enterprises. Thereafter, until September 30, 1963, it is the rate applicable to all exports other than a few commodities (for example, sugar, rice, salt, bananas) for which lower rates applied. After September 30, 1963, the same rate applied to all exports.

c) The rate for imports up to April 14, 1958, is that applicable to ordinary commercial procurements of U.S. aid-financed imports (prior to July 1952 it is the only rate given for U.S. aid imports). The same rate usually applied to the bulk of imports. From April 14, 1958, until the unification of all import rates on September 30, 1963, the rate is that applicable to other imports.

Sources: 1. Scott (1979), p.326.
2. Taiwan Statistical Data Book, 1990.

Table 6 Planned Budget Allocation on Major Public Construction Projects, 1992-97

Projects	in NT$ (billion)	in percentage
1. Transport and Communications	2771.3	33.7
2. Energy	999.8	12.1
3. Urban Housing	931.3	11.3
4. Social Welfare and Security	794.8	9.6
5. Culture and Education	790.7	9.5
6. Water Conservation and Flood Control	444.4	5.4
7. Industry	334.1	4.1
8. Environmental Protection	289.6	3.5
9. Agriculture, Fishery and Forestry	267.2	3.3
10. Science and Technology	233.5	2.8
11. Tourism and Recreation	126.5	1.6
12. Medicine and Health	107.8	1.3
13. Services	40.8	0.5
Total	8131.8	100.0

Note : The percentage points may not add up to 100.0 because of rounding.

Source : Council for Economic Planning & Development, 1991 (Taipei).

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