

ECONOMIC DEVELOPMENT OF TAIWAN

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From a long run historical perspective, economic development of contemporary LDCs (less developed countries) during the Post-War period (1950-1980) represents a transition process from prewar agrarian colonialism (1950-1980) into what was referred to by Prof. Simon Kuznets as the epoch of modern economic growth based on science and technology. From a world-wide perspective, the epoch of modern growth was ushered in by Industrial Revolution in England during the last quarter of the 18th century, and went through a spacially spreading process to Western Europe and U.S. (early 19th century), Germany, Canada and Japan (late 19th century) Eastern Europe and Russia (early 20th century) and later in other parts of the less-developed world (i.e. what are now called the LDCs or less developed countries). Economic development in Taiwan (1950-1980) thus represents a further geographic spreading of modern growth in the Far East beyond Japan.

It is now quite apparent that the Post War spreading of modern growth has been particularly successful and rapid in the Far Eastern region. The success of Taiwan, South Korea, Singapore and Hong Kong have earned these countries the distinguished title of the NICAs (Newly Industrialized Countries in ASIA) or the "Far Eastern Gang of Four." In the short space of 30 years, these countries (especially Taiwan and South Korea) have transformed from pre-war "agrarian colonialism" and joined the family of "industrialized countries".

The characterization of the development of these countries, as "transition" growth, immediately suggests that economic development during the thirty-year period (1950-1980) should be viewed as an evolutionary process involving identifiable subphases. In the case of Taiwan, three phases of transition growth can be clearly identified:

1. the import substitution phase (1950-1963)
2. the external orientation phase (1963-1980)
3. the technology-sensitive external orientation phase (1980-)

Any attempt to analyze the development experience of Taiwan will have to face two tasks. On the one hand, one has to identify the distinct "mode of operation" of the economy during each phase. On the other hand, we have to provide an explanation of the causation of the switch from one phase to the phase that follows - which is a key matter in any evolutionary thesis.

The evolution of Taiwan through these subphases are, to a certain extent, determined by her growth-typological attributes, i.e. certain economic geographic and political characteristics. The economic characteristics are generally recognized to be those of a small labor surplus dualistic economy (i.e. consisting of an agriculture as well as a non-agriculture or industrial sector) that is (fortunately) endowed with relatively good human resources (i.e. educated labor force and commercialized entrepreneurialships). To a certain extent, these economic geographic and cultural related factors are common for Taiwan and South Korea. This accounts for the "family affinity between Taiwan and Korea" as the subphases of evolution of Taiwan and Korea during the last thirty years are indeed strikingly similar - an issue of growth-typology which, however, will not be explored in this paper. The successful experiences of the NICAs suggest that the availability of human resources of good quality - (i.e. educated labor force and market oriented commercial entrepreneurialship) is conducive to modern economic growth.

In respect to the political background factors, we should, first of all, be aware of the fact that in the transition process, as the LDCs were awakened by a new found sense of "nationalism", dedication to "national economic construction". As a result, the form of economic organizations that emerged was a mixed one involving government interventions in the marketing institution that was imperfect and evolving. In the mixed economy of Taiwan, these interventions (e.g. public enterprises, land redistribution and concerns for income distribution equality) were

rationalized by the doctrines of Dr. Sun Yet-sen, the founding father of the Republic of China.

As compared with other non-communist LDCs, Taiwan, perhaps, has had a stronger need for political indoctrination because of her sensitivity to national security. However, actual government economic interventions through the exercises of various policy instruments (e.g. monetary, fiscal, exchange rates) had always been carried out with a spirit of (non-doctrinal) pragmatism. Indeed the teachings of Dr. Sun is broad enough to be consistent with different shades of interpretation that could be explored experimentally. Through time, the organizational arrangement has gradually been transformed in the free market direction as the economy became increasingly complex in the course of the last thirty years.

Due to her (relative) small population size and her biased resources endowment (i.e. labor surplus and natural resources poor), the interaction between Taiwan and the outside world though trade and/or capital movement has been a crucial aspect of her development story. Thus, typological-wise, Taiwan is often labeled as a case of the development of Labor Surplus (natural resource poor) "Open" Dualistic Economy.

As an open economy, economic development of Taiwan was influenced by certain major exogeneous events of an external origin. First of all, the early Post War period (1950-1970) has been a most prosperous period for the industrially advanced countries that were (and still are) the major trading partners of Taiwan. This world-wide prosperity that was unprecedented for the entire 200-year history of capitalism, has been most conducive to the expansion of world trade. The early termination of import substitution growth (for Taiwan, Korea) and the external orientations of NICAs were no doubt facilitated by the "free trade" thinking and practices of this period. The adverse effects of growth slow-down and the oil crisis in the 70's that has blemished the records of practically all countries were

absorbed with relative ease by the NICAs (or the Far Eastern Gang of Four), a label that finally surfaces toward the end of the seventies.

Another exogenous factor that influenced the Post War development of the LDCs has been the emergence of the new institutions of long run capital movements after the war. During this period, a type of profit seeking (commercialized) long run capital movement (especially direct investments by multi-national firms) gradually replaced the humanitarian-politically motivated resources-transfer system of foreign aid, which was, itself, a new (post-war) phenomenon. In the case of Taiwan, foreign aid was one aspect of economic development during the import substitution phase. However, importance of the role of foreign aid has been exaggerated. Foreign (mainly U.S.) aid during this period was not a persistent and steady stream of the inflow of gratuitous (foreign) resources for economic development. Rather this foreign aid should be more appropriately viewed as a political stabilization aid in order to alleviate the pressure on government budget (and price inflation induced thereby) that was traced, on the one hand, to the limitation of the "taxing capacity" and on the other to the pressing demand for national defense expenditures. Given the fact that an unusually large portion of the total resources must be devoted to defense in this period, whether or not foreign aid had fully compensated for the "defense drain" was at least a debatable issue. In any case, as Taiwan entered into the external orientation phase, foreign aid terminated quickly. International resources transferred into Taiwan was replaced by direct investment (foreigners and overseas Chinese). In recent years, Taiwan has even developed an export surplus indicating a persistent pattern of net resources outflows. While one may argue that the net capital export was premature for Taiwan from the economic stand point, the phenomenon is consistent with her defense sensitivity. For it allowed the government to build up a hefty stock of foreign exchange, a reserve for political and economic security.

The ideas of the transition to model growth, the exogeneous (external world-wide) influences and the typological characteristics that determined the evolution through the I-S (or import substitution) phase, the E-O (or external orientation) phase and the (expected) T-O (technology oriented) phase are shown in the upper part of Table one. In analyzing the economic development of Taiwan (or any other country) with a historical hindsight, we can identify the cumulation of accomplishments as well as the accumulation of problems shown in the bottom part of the same Table. The former refers to the economic progress or achievements (e.g. the accumulation of capital, the development of human resources, the building up of new institutions) during each phase. The latter refers to the development bottleneck factors that stood in the way of the progress. Usually, these problems constituted the focal point of economic policies. In particular, major policy revisions usually occurred at the junctures when one growth phase gave way to another. (i.e. around 1962 marking of the I-S and the E-S phase and 1980 marking off the E-O and the T-O phase.) An evolutionary thesis stresses the fact that the emergence of a new growth phase can be traced to the cumulation of accomplishments and problems that were overcome by accommodative policy changes.

In this paper, we shall develop an evolutionary thesis - based essentially on the typological characteristics of Taiwan - in order to show why problems and accomplishments of a particular type surfaced. (We shall refer back to the "accomplishments" and the "problems" identified in Table one.) The evolutionary thesis - i.e. the key question of why a particular new growth phase emerged - then follows naturally.

Almost everything we say in this paper is statistically verifiable (i.e. refutable) with the use of aggregative economic data such as

- i) population growth and the allocation of labor between agriculture and non-agriculture sector.

- ii) GNP agriculture and industrial outputs.
- iii) imports and exports.
- iv) savings, investment finance.
- v) government expenditures and revenues.
- vi) prices, wages rate, interest rate, foreign exchange rate.

An evolutionary thesis is essentially a formulation of ideas in these quantifiable terms in a related system. However, in this paper, we can only convey a sense (or a feeling) of this approach typical of the economists. The use of actual data to substantiate or refute the theoretical notions is beyond the scope of this paper.

SECTION ONE: INPORT SUBSTITUTION PHASE

Colonial Agrarian Heritage

In the broadest (most abstract) sense, an agrarian-colonial economy is a primary product export (E_a) economy based on specific natural resources (such a mineral and/or agricultural resources), the foreign exchange earnings of these exports are used to import manufactured consumer goods (M_C , textile being the most important) into the domestic market where the purchasing power is generated mainly by incomes (V_a or values added) generated by primary product production. (See Fig. 1.1.) A sizable manufacture sector was conspicuous by its absence.

Colonialism in its overt or covered form have existed in various parts of the LDC world with different durations. In Taiwan, it lasted for some 50 years (1900-1950). As a result of the operation of colonialism, an LDC had acquired both an export capacity (for "land-based" exports) as well as a domestic market

for products (e.g. textile) the production of which required modern science and technology and the consumption of which implied certain product-familiarity by the consuming (i.e. income receiving) mass. As a starting point for transition to modern growth after the Second World War, most contemporary LDC's share these basic characteristics of colonial-agrarianism.

Import Substitution Growth

I-S is a growth type involving a particular mode of operation of the economy as depicted in Figure 1.2. For this traditional growth type, primary product export earnings (E_a) were diverted from the import of manufacture consumption goods M_C to the import of producers goods (M_i capital equipments and raw materials) to build up the domestic import substituting industries the output of which (D_C) gradually replaced the traditional imports in the domestic market. As a direct result, labor force is gradually being allocated from the agricultural sector to the industrial sector.

It is quite obvious that the I-S growth type was an outgrowth of colonialism agrarianism in at least two senses. First; the growth promotion force was the expansion of primary product. Second, domestic entrepreneurs directed their attention at the domestic market that already existed - so that there is no need for the cultivation of consumers' taste that would have been required in case an entirely new product is introduced. The I.S. growth also represented technological complementarity between the LDCs and the industrially advanced countries that possessed modern science and technology to produce the imported producers' goods (M_i). By this "avenue", modern science and technology were first transmitted to the LDCs. The I-S growth is the most popular growth type for contemporary LDCs because it was the most natural for all these reasons.

The Role of the Agriculture Sector

The agricultural sector (i.e. the primary product producing sector) plays a particularly crucial role in the import substitution process by providing (i) foreign exchange, (ii) labor force (as we have just explained), as well as (iii) savings fund and (iv) the "market". In the case of Taiwan the agricultural sector performed these functions extremely well which is, indeed, what distinguished Taiwan from almost all contemporary LDCs (including South Korea) during the I-S process.

During the Import substituting process, the industrial sector gradually gained the capacity to produce some investments goods (I) financed by two types of savings fund originated from the agricultural sector (S_a) and industrial sector S_i respectively (see Fig. 1.2). Since the investment goods output (I) was destined for capital accumulation mainly for the industrial sector, S_a is an intersectoral finance (i.e. the use of agricultural savings to finance capital accumulation in the industrial sector) while S_i is an intra-sectoral finance (essentially a reinvestment of entrepreneurial profit within the same industrial sector). The inter-sector finance was quantitatively more important (than intrasector finance) for the simple reason that the industrial sector was a newly emerging sector that could only finance its own investment requirement at a later date.

The fact that the agricultural sector provided a market for the products of the import substituting industries offered an opportunity for the farmers to be "exploited" by the industrial sector (i.e. the urban industrial entrepreneurial class). This came about when the domestic import substituting industries were "protected" so that the "farmers" would have to pay higher prices to buy (inferior) domestically produced products of inferior quality.

Several factors accounted for the fact that the agriculture sector did

extremely well in the early import substitution phase in Taiwan. First, as a former Japanese (i.e. a food deficient country) colony, Taiwan received a good foundation of rural social infra-structural investment (e.g. the irrigation system) as well as the institution of the farmer's association. Second, the "bio-chemical modernization of the agricultural sector" in this phase was carried out through the injection of modern inputs (factory-produced fertilizer and new seeds variety). While the government was primarily responsible for the organization of the production of these modern inputs (e.g. fertilizer factories and agricultural experimental stations), the spacial spreading of these inputs to the farmers was channelled with the extension services provided by the farmers associations.

A third factor that contributed to the early success of agricultural modernization was the high population density of the island supporting a spacially dispersed pattern of the location of small cities where non- agricultural productive activities were carried out. Because of the close daily contacts between the farmers and the "urban" activities (and the urban ways of life), Taiwan farmers readily acquired a commercial (profit seeking) attitude that facilitated the transmission of modern agriculture inputs into the farming "backyard" when their fertilizer was bought. This "attitude transformation" was furthered by the land-reform programs started early in the I-S-phase by the ROC government - that contributed to the remolding of "traditional farmers" to "profit seeking entrepreneurs" with a high propensity to acquire new and modern production methods for self improvements.

Import Substitution Strategy

The transformation from a "colonial system" to import substitution growth was initiated by a self-consciousness of "backwardness" (i.e. "being

underdeveloped") that generated a social attitude favoring government intervention to promote import-substituting industries (i.e. a manifestation of a demand of national economic independence as well as a colonial fear of economic aggression). An import substitution strategy was soon adopted by almost all contemporary LDCs after the Second World War. However, the inexperience of the domestic entrepreneurs and their fear for foreign competition were the true reasons that called for political action. The general principle of an import substitution strategy is an artificial augmentation of the profit of the domestic entrepreneurial class by the political power. This profit augmentation can only be brought about by the transfer of income earned by other classes of producers (i.e. income recipients) that bear the burden of the transfer strategy. The "classes" that were "exploited" were naturally the farmers and the consumers, i.e. the workers that had no choice but to spend their money income in the domestic market. (See Figure 1.2). Typically, a host of policy instruments were employed, in particular ways, to implement the import substitution strategy. Foreign exchange rate, interest rate and tariff protection were the major I-S policy instruments.

1. Low Interest Policy:

The channelization of savings (S : and S_a) to finance investment (I) determines a natural rate of interests that cleared the market (i.e. equating the supply and demand for loanable fund) in an idealized fashion. However, because of market imperfection, the government intervened to assist the (importing substituting) entrepreneurs by an interest rate calculated to be much lower than that which prevailed in the free (or black) market. This can be (and usually was) done by the practices of monetary expansions to the government controlled commercial banks to augment voluntary savings (S_a and S_i). When the government resorted to "printing

press" to solve economic problems, it is quite obvious that price inflation was inevitable as experienced by almost all import substituting countries. It should be emphasized that a low interest policy combined with price inflation provided one of the most "classical" methods of income transfer that can be executed by a political power. For the consequence of price inflation not only lowered the repayment burden on the part of the borrowing entrepreneurs but also amounted to an implicit taxation on the consuming public that had to bear the burden of higher prices for consumer goods.

In the case of Taiwan during the I-S phase, the low interest rate was revised upward intermittently to prevent the price inflation from getting out of control. The arrival of the external-orientation phase around 1962 was preceded by an effort on the part of the government to "bring inflation under control" through a "high" interest rate policy. For an upward revision of the interest rate can attract the flow of the savings fund to the banking system and thus obviate the necessity for monetary expansion to meet the demand for investment finance. The ROC was the first country in the world that experimented with inflation controlled by a high interest policy. (The same policy is only now being experimented by the U.S. at a much later date.) Her success in inflation control during the latter part of the I-S phase was truly a major transferable fund of experience that should be explored carefully by all contemporary LDCs facing serious inflation problems (e.g. countries in Latin America).

2. High Tariff Protection

In order to prevent foreign competition in the domestic market, a high tariff wall was erected to protect the domestic producers. On the one hand, the importation of manufactured consumer goods was discouraged by high tariff rates

(or even prohibited outright). On the other hand, low tariff rates were applied to the importation of producers goods. Thus the domestic entrepreneurial profit was augmented by higher price and the lower cost. However, this artificial "profit creation" via a political force cannot hide the basic fact that the consumers will have to bear the burden of the implied income transfer policy.

One should also be aware of the fact, because of the "point specificity" of the method of tariff collection (i.e. collected at "ports of entry"), taxation by tariff is less demanding of an administrative capacity as compared with other forms of taxation (i.e. income tax or commodity taxes). Thus when the new national government was established, tariff revenue usually yields the lion share of government income. Thus, resorting to a "protection policy" by tariff served two purposes, i.e. to help the pockets of domestic entrepreneurs as well as the coffer of the government. Evolution of the economy in a free market direction necessitated the lowering of tariff production. This can only be achieved when alternative sources of government revenue can be found to replace the "lost tariff revenue". In the case of Taiwan, the institution of the income tax system during the external orientation phase was an essential precondition for market liberalization in the 70s as the tariff revenue, as a share of government income, declined consistently for the later period.

3. Overvalued foreign exchange rate

During the I-S phase, since primary product export provided the basic growth promotion force, an effective method to execute the income transfer strategy is to adopt an official exchange rate under which the domestic currency (e.g. the Taiwan N.T.) was overvalued (e.g. 1\$: 10 NT) as compared with the purchasing powers parity (e.g. 1\$: 20 NT) prevailing in the "black market". The

primary product producers (i.e. the "farmers") as exporters were forced to deliver their foreign exchange earnings at the official rate and acquired fewer units of domestic currency in return. The industrial entrepreneurs were favored by the official rate as importers - another instance of income transfer.

After the Second World War, almost all primary product exporting LDC adopted an over valued official exchange rate. An income transfer policy of this type was politically convenient because the transfer mechanism was "implicit" or "covert". With the exception of the professional economists, very few (least of all, the farmers) can see through the intricacies of the relatedness of "foreign exchange rate and comparative international price levels." The farmers were least likely to be suspicious of a transfer mechanism under which they were the victims.

Under continued price inflation, the official exchange rate would have to be devalued periodically (i.e. from 1:5 to 1:10, to 1:15 ...). However, the pace of devaluation always lagged behind price inflation, leaving the domestic currency ever overvalued. As the shortage of foreign exchange was keenly felt, the overvalued domestic currency was combined with the practice of a multiple exchange rate system to give some encouragement for the expansion of a narrowly selected subset of exportable products. In the I-S process, Taiwan as well as many other contemporary LDCs resorted to the controlled measures to bring about industrialization.

The Operation of a Mixed Economy

The exercises of all the major policy instruments described above imply government interventions in the free market in one form or another. I-S growth is thus a process manipulated, to a large extent, by a centralized political power. The profit created for the entrepreneurs took on "windfall" nature as it was

incommensurate with entrepreneurial task efficiency (i.e. management and risk taking). Indeed the import substitution growth was dedicated to a visible nationalistic "accomplishment" rather than oriented toward production efficiency.

In addition to its role as an economic director, the government also took part in production directly. In the case of Taiwan, government incurred heavy expenditures for three main reasons: (i) government infra-structure expenditure (ii) public enterprises and (iii) national defense. As the tax basis was quite limited in the I-S phase, the insufficiency of government (tariff) revenue was relieved by "monetary expansion" adding much to the inflation fuel. Thus inflation was a common phenomenon for LDCs under I-S-growth. This was so because the government found it irresistibly convenient to solve real social economic problems for itself and/or the domestic entrepreneurial class by the manufacturing of purchasing power. The coincidence between the interests between the government and the entrepreneurial class in this regard is quite similar to "tariff". Foreign (U.S.) aid that went into Taiwan in this period was primarily directed to stabilize the government in her fight against price inflation. It was done successfully in Taiwan (but failed elsewhere) because there was a strong will to resist inflation in the first place.

As a direct result of the import-substitution growth for some 12-14 years, Taiwan achieved certain economic accomplishments (See Table 1). For the industrial sector, the building up of the visible import substituting industries implied the formation of both a new urban labor force (suitable for factory production and a city way of life) and the industrial entrepreneurial class, the development of these human resources was largely a learning-doing practice. Land reform and the modernization of the agricultural sector based on the infusion of biochemical (modern) inputs led to the emergence of the commercialized (profit seeking) farming sector. These human resources developments progressed concurrently with the

institutional development progressed concurrently with the institutional development (e.g. the new government machinery and the new financial market) that paved the foundation for the emergence of the next (external orientation) phase.

Retrospectively, certain social economic problems surfaced conspicuously during the I-S phase on which the attention of the government centered. Among the most important policy related issues was unemployment, foreign exchange shortage, government budget deficit, price inflation and the underlying "infancy" of the domestic entrepreneurship.

To a certain extent, all contemporary LDCs faced the same set of problems - and Taiwan was clearly no exception. However, the problem of unemployment calls for a further elaboration.

Unemployment in a Labor Surplus Economy

One of the basic demographic phenomenon in the process of transition to modern growth is the acceleration of the population growth rate to a magnitude much higher than the historical level of a traditional society. The population explosion that perpetrated the labor surplus condition, manifested itself as an unemployment problem keenly felt by all LDCs in the early I-S phase. There were two dimensions to this problem. On the one hand there was the migration of rural population to the urban centers (i.e. the so-called urbanization of the population) due to the incapacity of land to "hold the booming rural population." In many contemporary LDCs this has led to the emergence of "urban slums" (i.e. the congregation of rural population attracted by "city lights" so to speak). On the other hand, the urban centers were handicapped by their incapacity to provide employment opportunities for the newly arrived "immigrants". This resulted in the emergence of the opening of a disguisedly unemployed urban labor force.

When we examine the unemployment experience in the I-S-phase in a "world-wide" perspective, the urban (open or disguised) unemployment was really not quite as serious in Taiwan as in other parts of the world. Such "urban slums" were not to be found in Taiwan on a scale comparable to other LDCs. This was due primarily to the fact that Taiwan has inherited a good agricultural sector from the colonial past such that the "land capacity" could absorb additional rural population with relative ease. Furthermore, because of her specially dispersed pattern of city location, there was much room for the agricultural households to find-by-employment in the small city centers nearby. A distinguishing characteristic of the "agricultural sector" in Taiwan was seen from the fact that the agriculture household could earn a substantial portion of their (family) income from non-agriculture origin. For example soon after the I-S-phase expired, the Taiwan rural families received nearly 40% of their income from the non-agricultural sources (e.g. around 1970).

Nevertheless, consciousness of the existence of unemployment was a dominant social concern during the I-S phase even in Taiwan. The problem persisted as long as the industrial sector (i.e. the import substituting industries) was not developing fast enough to match the pace of population expansion. Since the rapidity of capital accumulation (i.e. investment) was limited by her savings capacity, the pace of labor absorption and employment in the industrial sector barely matched the rate of population expansion. As a result in Taiwan, the population structure (i.e. the percentage of population allocated between the agricultural and non-agricultural sector) remained largely unchanged during the import substitution phase.

In this regard we should add the remark that the level of per capita GNP (or per capita national income) is generally thought to be the most important index of economic performance (i.e. economic growth). However, for an LDC under

transition growth, an even more reliable performance index is the "population structure". (For example, the percentage of population employed in the non-agricultural sector currently accounted for a mere 3-5% in some of the industrializing advanced countries e.g. the U.S.) Thus the consistent increase of "this" index indicates the extent to which the economy was becoming modernized - or transformed. There has been no significant change of the population structure on the China Mainland during the last thirty years, indicating a basic lack of substantial economic progress. In the case of Taiwan, a stagnant population structure during the import substituting period was replaced by a persistent decline of the agriculture labor force after the external orientation phase had arrived (1962-1980). The drop of the percentage of agricultural population from 65% to 28% in the short span of less than 20 years (1962-1980) was a clear-cut indication that something quite new and dramatic had happened in the Taiwan economy after the arrival of the external orientation phase.

SECTION II. THE EXTERNAL ORIENTATION PHASE (1963-1980)

External Orientation Growth

The central phenomenon in the external orientation phase was the emergence of the export of manufactured goods to the world market that became the dominant growth promotion force of this period (1963-1980). While the export content of the I-S phase was "land based" primary product, the commodity content during the E-O phase switched to manufactured goods. Thus external orientation growth can be described alternatively as "export substitution growth" (i.e. the substitution of primary products by manufactured goods in the export commodity structure). The success of Taiwan and the NICAs was explainable primarily by this

single phenomenon.

During the E-O phase, the export was based on labor intensive manufactured exports. From a static viewpoint, it was often said that the comparative advantage of Taiwan had, by now, shifted to the abundance of her labor force at a low wage rate. However, more significantly from a dynamic (development) perspective, it should be emphasized that with the emergence of labor intensive manufactured export, Taiwan has, for first the first time in her life cycle discovered a way to fully employ her (hitherto) surplus labor i.e. to "congeal them" in manufactured goods and exports. The market in foreign countries provided a "vent" for her redundant labor. This labor force can now earn quite valuable and much needed imported goods (embodying modern science and technology) on a much larger scale than was possible during the import substituting era. The fair bargain for the exchange of "redundant labor service" for products based on modern science and technology was the secret of success for all the four Far Eastern NICAs during the last 20 years. It should be noted that the NICAs traded overwhelmingly with the industrially advanced countries and relatively little with each other or with the other LDCs.

During the E-O-phase, the domestic entrepreneurs, instead of being domestic market oriented, became externally oriented in outlook. They developed a world-wide perspective and became sensitive to the external demand and technological potential in the industrially advanced countries. Moreover, since all the four NICAs countries were selling in the same "common market" provided by the industrially advanced countries (i.e. one that does not recognize national product labels), they became competitive sellers and producers. Disciplined by the rigour of competitive pressure the entrepreneurs became efficiency conscious. The entrepreneurs were liberalized in spirit from government controls of the imports substitution days and developed a sense of self-reliance and individual initiative.

Through a learning by doing process, the development of a key human factor (i.e. the entrepreneurialship) was elevated to a much higher level.

The Switch from I-S-Phase to E-O-Phase

While most contemporary LDCs initiated modern epoch with import substitution growth, Taiwan and South Korea, as a "family," was unique in that the I-S phase was terminated quickly (i.e. in 10 to 15 years) while other LDCs (e.g. countries in Latin America) still linger in the I-S-phase even at the present time. The emergence of the E-O phase in Taiwan and Korea contrasted sharply with the protracted import substitution in other LDCs. The question is why? Why was the successful experience of Taiwan and Korea not duplicated elsewhere?

The answer is basically a "typological one". For Taiwan and South Korea are characterized by the abundance of educated (surplus) labor force and the shortage of natural resources. For countries of this type, there is the logical necessity for a quick termination of the I-S phase. The basic growth promotion force of I-S growth has been the continuous expansion of primary product exports - a possibility that is denied to the natural resources poor countries.

The termination of the I-S phase can be examined statistically by the long-run output trend for the production and export of primary products that earned the foreign exchange. When nearly all the foreign exchange earnings were allocated for producers' goods imports and when the domestic market for manufactured consumers' goods were supplied nearly completely by domestic outputs, the inability for the expansion of primary products implies that the import substitution process is completed. A continuation of the import-substitution strategy (as we have discussed) basically cannot solve the problems of the shortage of foreign exchange, increasing urban unemployment and growth slowdown. It was

the worsening of these social economic problems that forced the government to abandon the import substitution strategy and experiment with policy alternatives.

Ironically, countries with a shortage of natural resources (e.g. the NICAs) did considerably better in the transition growth process than those with an abundance of natural resources (e.g. the natural resources abundant Latin America countries and the oil rich Arabian countries). Nominally, this contrast suggests a "desperation thesis" according to which countries that were "desperate" (in the sense of a deprivation of natural resources) did better. In fact, "the desperation thesis" only implies that these labor abundant countries (NICAs) can only develop through a more systematic exploration of their human resources - i.e. labor force and entrepreneurs - because they could not have depended upon something (i.e. the natural resources) that they didn't have. The NICAs have been more successful because modern growth is based on the development of technologically competent human resources after all.

The External-Orientation Strategy

As we have mentioned earlier, the heart of the I-S strategy was a politically enforced income transfer mechanism to artificially augment the profit of the domestic market (or internally) oriented entrepreneurs. This has all changed in the E-O-phase. The heart of the E-O strategy is a liberalization movement, i.e. lessening of government controls to allow the foreign market (or externally) oriented entrepreneurs to fully explore her absolute advantage of export based on the availability of labor at a low wage rate. Major policy innovations in the EO-phase in Taiwan consist of A) export processing zone, B) tariff rebate system, C) tax concession schemes and D) price stabilization policy.

A) Export processing zone

The establishment of an export processing zone (located near a major harbor) enabled the entrepreneurs (foreign or domestic) to produce export product (e.g. textiles) inside the zone allowing them to import whatever productive inputs required (e.g. cottons, textile machineries) entirely duty free and inspection free. Two properties of such zones should be noted: (i) in addition to entrepreneurship the major domestic input contribution was the labor force that (i.e. allowed to commute in and out of the zone daily) and (ii) the product (e.g. textile) of the zone must be exported (i.e. selling in the domestic market was prohibited).

The primary purpose (or philosophy) of the export processing zone was to enhance the competitive position of a country in the world market based on her low wage advantage. Since the producers in Hong Kong (a free port) can search all over the world for the most suitable inputs and import them duty free, without the ZONE (i.e. if the Taiwan producers had to pay import duties), they obviously could not compete with the producers in Hong Kong in the world market.

Since the foreigners were encouraged to build factories in the ZONE, it is seen that their help was enlisted in this scheme. What the foreigners supplied were savings, technological know-how and marketing ability that were indispensable for the production of a product (involving modern science and technology) directed at the world market. The ZONE came into existence because, Taiwan could contribute the labor force while her entrepreneurship was still somewhat deficient.

The fact that the products of the ZONE were not allowed to be sold in the domestic market was due basically to the fact that the domestic consumers (that still had to bear the burden of all import duties on the imported producer's goods) are still being "exploited". (A Chinese housewife buying the same product would have to pay a much higher price than her counterpart in New York). Thus

the emergence of a "free island" (i.e. the Zone) in the otherwise "protected sea" implies that the practice really amounted to a partial liberalization movement in an overall protective environment - a heritage of the import substitution era.

B) Tariff Rebate System

A factory that was established outside the ZONE had the option to sell her product either in the domestic market at higher prices (because of the burden of import duties) or export them to the world market at lower prices. In the latter case, the producers would not be able to compete with the Hong Kong producers (or the producers inside the ZONE) because of the burden of import duties. Thus a tariff rebate system that came into being was a device under which the tariff payments were rebated to the extent that the commodities were exported. The slogan that emerged under such an arrangement was "the fostering of export by domestic selling" - meaning that the domestic consumers were still saddled with the burden of import duties. Thus, as far as the promotion of the labor intensive export is concerned, the tariff rebate system and the export process zone are basically the same. Both practices implied a lessening of government interference with the market mechanism.

C) Tax Concessions

After the establishment of the income tax system in the E-O-phase, the tax concession scheme emerged to exempt corporate income tax payments (i.e. tax holidays) for new firms (or new investment projects). From the viewpoint of the evolving of a free market economy, the scheme was a mixed blessing. On the positive side, the very reduction of tax payments (i.e. the exemption provisions) implied a lessening of the overall "magnitude" of controls (as can be measured by

the reduction of government revenue under the Scheme). On the negative side, the tax concession scheme involved government discretionary decisions (e.g. the selection of which types of industries and/or products that would be qualified for exemption).

The tax concession scheme was a cumbersome arrangement because the government had to establish broad preference "criterion" applicable to a multitude of firms. These preference criterion (e.g. "promotion of export", "enhance technology", "increasing values added") that varied through time were more easily "philosophied" than translated into operational regulations. More over, all such tax holidays were based on the principle of stimulating entrepreneurial risk-taking (i.e. by increasing the anticipated rate of return to capital projected in the future. Since all rational calculations for "risk aversion" are vague, the tax concession scheme reflected government arbitrariness. It is next to impossible to assess the investment stimulating effect of the discretionary aspect of the scheme. As the economy becomes more complicated, the workability of a tax concession scheme came increasingly in doubt.

D) Price Stabilization Policy

The initiation of external orientation growth (1962-1970) coincide with a period of worldwide prosperity with considerable price stability in the industrially advanced countries (See Table 1). Given this favorable external environment, Taiwan also enjoyed rapid (external oriented) growth with remarkable price stability, which is a most essential condition conducive to rational calculation for the functioning of a free market economy.

Two basic factors underlined price stability of Taiwan in this period. First, there was no transmission of externally originated price inflation into the

domestic economy. Second, since the external demand for Taiwan's export production was booming, there was no need to stimulate investment by a low interest policy through monetary expansions. However, entering into the later phase of external orientation (1970-1980), the slowing-down of the growth and the rampaging price inflation in the industrially advanced countries have reversed these favorable external conditions. Taiwan, as well as many other LDCs, experienced inflation problems that were more serious than the early period (1962-1970).

In addition to the much heralded "oil crisis" and the international transmission of price inflation, the higher inflation rate in Taiwan (1970-1980) was accounted for by two additional factors. First of all, with growth slow down (induced by external causes), the government attempted to stimulate recovery by expansionary monetary policies. In this regard, we might say that the Taiwan experience has duplicated the same sad U.S. experience, namely, resorting to "printing press" (i.e. to create money) could not be depended upon to avert growth slowing down and had only led to price inflation. Second, with the expansion of her export capacity, Taiwan developed export surpluses, in the later period accompanied, again, by domestic monetary expansions. The export surplus was, at least partly, encouraged by the government (through maintaining an undervalued currency) to allow the government to build up her foreign exchange reserve stock for national (political) security reasons. Inflation in the seventies must be explained by these factors.

Operation of the Partially Freed Economy

The operation of an externally oriented economy (1962-1980) brought about the much heralded success story of Taiwan. Some of the major accomplishments are summarized in Table 1. In the industrial sector, the new industries that were built

up were run by outward looking, competitive and efficiency conscious entrepreneurs and manned by a more and more skill-demanding labor force. For the first time, the problem of unemployment gave way to full employment. The full utilization of the "surplus labor" - her most important human asset - has led to high GNP growth rates. Labor shortage manifested itself in sustained increase of real wage which, in the final analysis, is the surest way to bring about family income distribution equality that occurred in Taiwan in this period. The higher per capita income achieved has led not only to higher consumption standards but also to a consciousness of quality of life that can be (and had been) measured by a host of "social welfare indicators" (e.g. on literacy, longevity, education, telephones per household, and even water and air pollution legislations). The experiences of Taiwan have shown not only that full and productive employment of labor force was the sure cure of almost all major social maladies but more importantly, had also demonstrated one avenue through which full employment can be achieved - i.e. through externally oriented growth.

The expansion of the export capacity has contributed not only to an early termination of the Foreign Aid Program of the I-S-phase but has led to its replacement by the inflow of foreign capital (i.e. investments by multi-national firms). It should be added that the inflow of foreign capital into Taiwan was attracted mainly by the very externally oriented growth process - as most foreign firms were engaging in the production of (labor intensive manufactured) products (e.g. electronics) directed primarily at the external market. Since these foreign investments were "foreign exchange earners", the problems of capital and/or profit repatriation - that involved the use of foreign exchange - were minimized.

When the increasing real wage and labor shortage hit the rural sector, the focus of agricultural modernization changed from innovation of the bio-chemical variety in import substitution phase to mechanical innovations. The mechanization

of farms has, in turn, led to a demand for a second round of "land reform" that somewhat negated the "land to the tiller" spirit of the land reform in the I-S phase. Since small land holdings of the family farms stand in the way for the adoption of large scale farm equipment (e.g. tractors) on an efficient basis, the focal point of land reform is now oriented toward "combined operation by family farms" that represents organizational innovation of the agricultural sector.

During the external orientation phase, the Taiwan government managed a balanced budget as a result of the enlargement of the tax base and the initiation of the income tax system. A substantial part of the government revenues raised was used for social infrastructure expenditures (e.g. harbor, roads, railways, electricity) and investment by public enterprises (ship-building, iron and steel). However, toward the end of the external orientation , there was a movement for a reexamination of the whole issue of public enterprises on a cost-conscious and efficiency basis and away from an "doctrinal approach".

These accomplishments were achieved as the accumulated problems that surfaced in this period were dealt with by policy measures (See Table 1). In addition to all the basic external oriented strategies mentioned above, labor policy received further attention. First, with labor shortage there was an increasing awareness of the importance of labor skill and quality. Professional education and training became major policy issues. Moreover, as the real wage began to increase, the country sensed the gradual disappearance of her competitive advantage based on labor intensive manufactured exports. This set the stage for the evolution to the next phase.

SECTION III. TECHNOLOGY ORIENTED PHASE

In a futuristic outlook, Taiwan and Korea are expected to move into an (externally oriented) technology sensitive phase through the rest of this century - representing, perhaps, the termination of the "Transition character" in the path to modern economic growth. Crucial for this phase will be issues related to R and D (i.e. research and development of technology) and technological transmission (i.e. the transmission of foreign technology into the domestic economy). As these new problems appear, the government is expected to take policy actions in at least three major areas:

A) Roles of Foreigners in Technology Transmission

Direct investment by foreigners into an LDC provides a package of (or a triplet of) services: technology, savings and management. It is expected that in a technology sensitive phase, the foreigners will have to play a much larger role in Taiwan than in the past. At the present time, there is a basic resistance to internal (i.e. domestic market) oriented foreign investment - a policy that needed to be reexamined. Taiwan also needed to have a serious study of her patent regulations as well as regulation on royalty payments on patents. Initial government reaction to foreign investments centered in "joint ownership company" (e.g. the impending large automobile factory jointly owned by Japan and a combination of private and government capital in Taiwan) that will have to direct its products (i.e. the passenger cars) partly to the domestic market. These joint ventures are new innovations expected to descend to industries (and factories) on a smaller scale.

B) Domestic R and D

At the present time, the Taiwan producers collectively spend a very small fraction of the GNP on R and D. To induce the domestic expenditures on R and D by private entrepreneurs is certainly going to be a major issue in the near future. In this regard we can distinguish "direct intervention approach" on the one hand and a "free market approach" on the other. In the former, government is expected to take specified discretionary decisions, through tax concessions and/or lending policy, to aid R and D activities to selected "strategic" industries. In the latter approach, the government may center its tasks on tearing down the various control measures (e.g. tariff protection and restrictions on foreign investment that have fulfilled their historical missions) in order to build a free market economy. The growth of the R and D activities is expected to be the direct result of increasingly vigorous competition. For R and D activities are known to be a necessary condition for the very survival of the individual firms and industries.

C) Financial Institutions

In an idealized free market economy, the private commercial banks and entrepreneurs are primarily responsible for the allocation of investment fund for industries that undertake R and D activities. At the present time, the non-competitive commercial banking system is controlled by the government authority (i.e. the Central Bank) - serving the financial need of a narrow spectrum of large scale industries. The technology sensitive development is expected to be undertaken by a multitude of a new generation of medium and small scale entrepreneurs; their financial needs must be taken care of by a new system of financial intermediation - that goes beyond the capacity of "large bank" on the one hand and the "informal free markets" on the other. A reform of the financial institution to meet the

needs of new medium-sized firms should be on top of the priority list for the technology oriented growth phase in the years ahead.

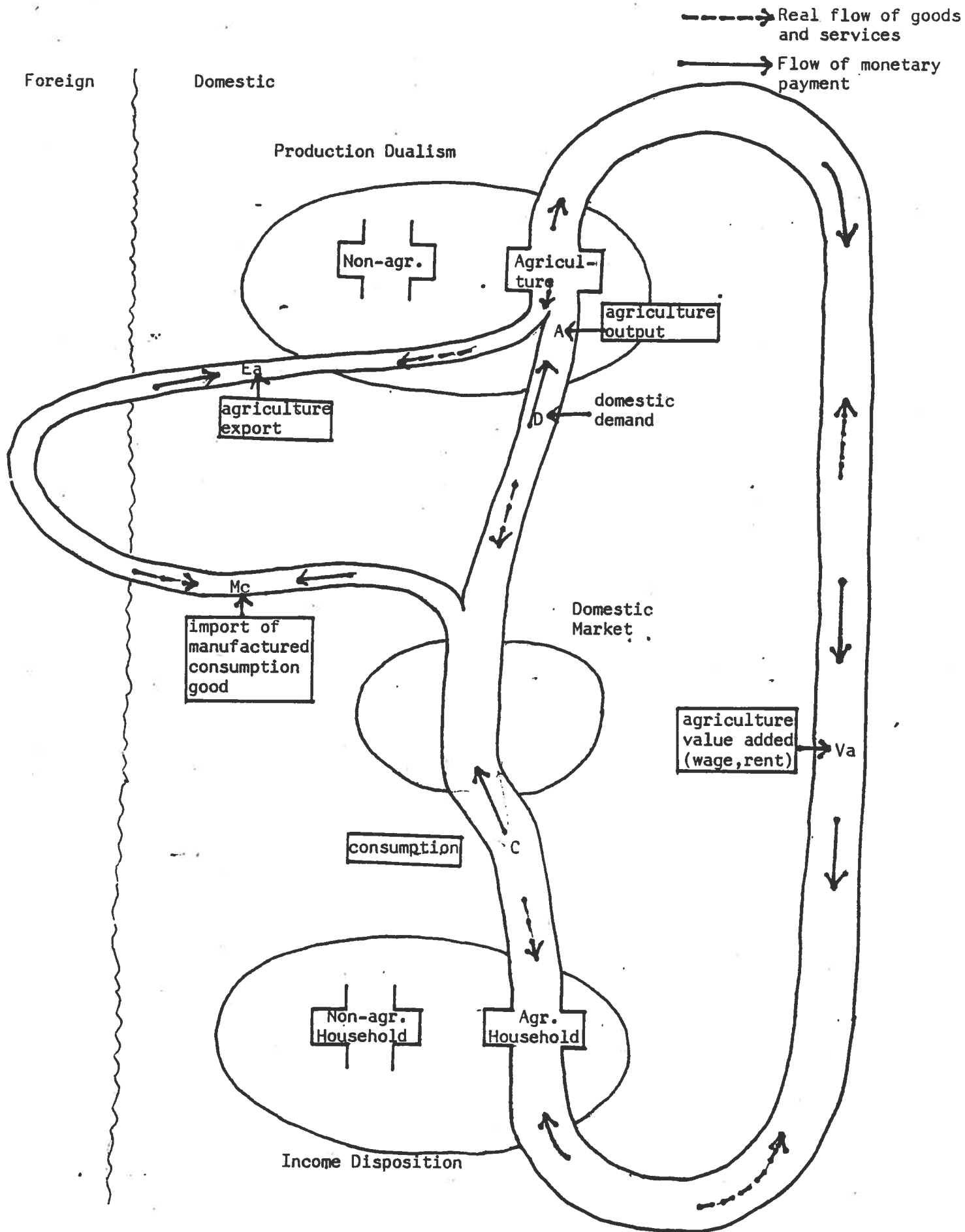


Figure 1.1 Colonial Period(before 1950)

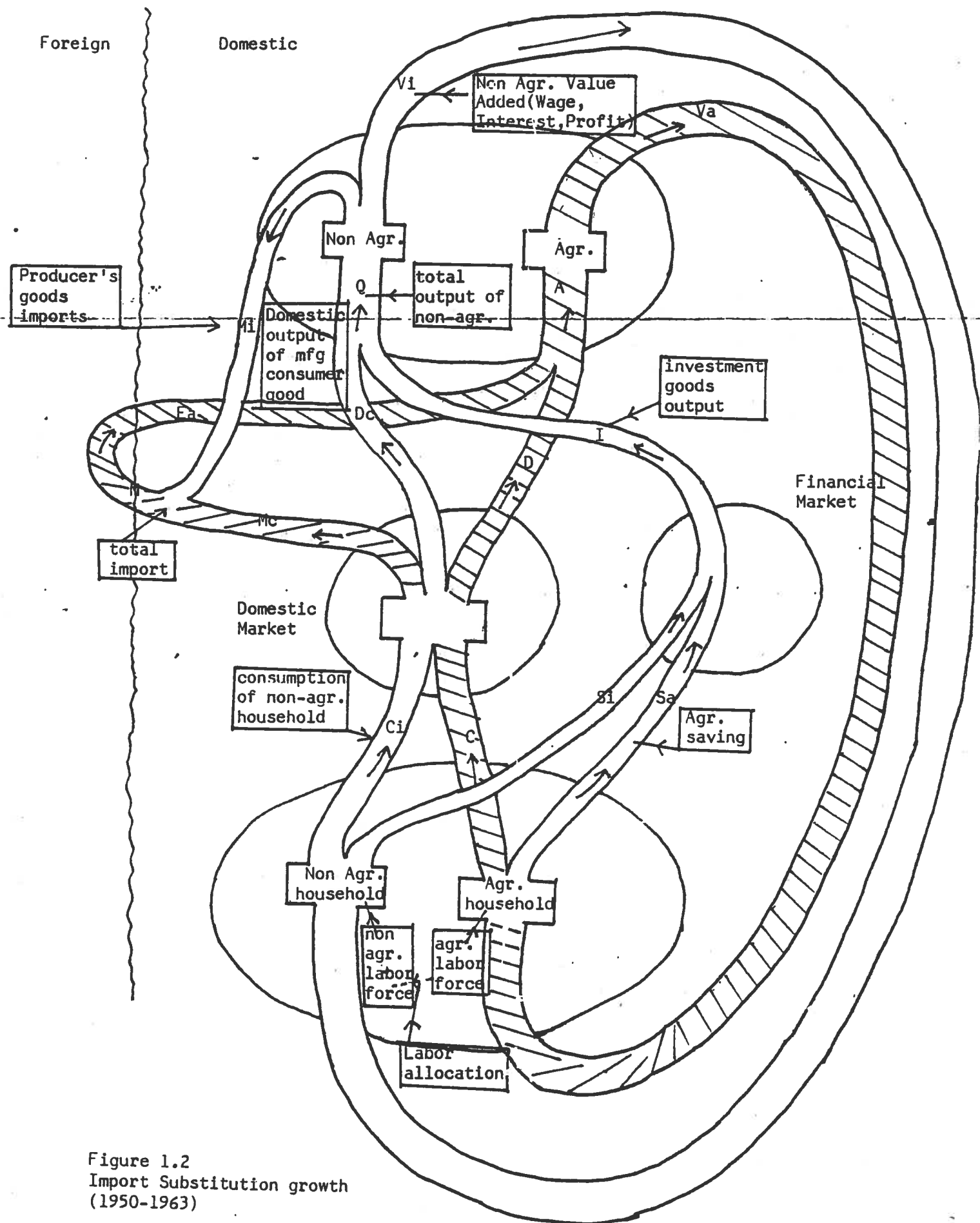


Figure 1.2
Import Substitution growth
(1950-1963)

Transition to Modern Growth (Science and Technology)

Time

1980

1970

1962

1950

Exogenous
Worldwide
Influence

TYPOLOGY OF TAIWAN

- Economic:**
- i) Labor Surplus
 - ii) Natural Resource Poor
 - iii) Educational Tradition
 - iv) Commercialized Entrepreneurship
- Political:**
- i) Security Sensitivity
 - ii) Doctrine of Dr. Sun
 - iii) Pragmatism

ACCOMPLISHMENTS

CUMULATION OF PROBLEMS

Unprecedented Worldwide Prosperity

Growth Slowdown
(Oil crisis)

Import Substitution Phase

External Orientation Phase

Technology Orientation Phase

Accomplishments:

- i) Industry Sector:
- ii) INEW Import Substitution Industry
- iii) Using Modern Technology.
- iv) Formation of Urbanized Labor Force
- v) Development of Industrial Entrepreneur

Agriculture Sector:

- i) Adoption of Modern Biochemical Input
- ii) Land Reform

Institutional Development:

- i) Emergency of Modern Government Machinery
- ii) Financial Market and Banking System

Major Policy Switch Period

Accomplishments:

- i) Whole Country:
- ii) Fast GNP Growth Rate
- iii) Full-employment Labor Force
- iv) Income Distribution Equity
- v) Sensitive of Quality of Life

Industry:

- i) Dominance of Labor Intensive Manufacture Export
- ii) Entrepreneur Outward Looking, competitive and efficiency conscious
- iii) Labor Skill Orientation

International Economic Relation:

- i) Termination of Foreign Aid
- ii) Foreign Capital Inflow
- iii) Payment Balance and Export Surplus
- iv) Agriculture:
- v) Farm Mechanization
- vi) Declining Role of Agriculture Government
- vii) Balanced budget
- viii) Social Infrastructure Investment

Major Policy Switch Period

Major Policy Switch Period

Cumulation of Problems:

- i) Unemployment and Population Pressure
- ii) Foreign Exchange Shortage
- iii) Government Budget Deficit
- iv) Price Inflation—brought under control
- v) Infancy of Entrepreneur

Cumulation of Problems:

- i) Labor Shortage and Increasing Real Wage
- ii) Labor Skill Deficiency Education and Training
- iii) Farm Mechanization and Second Land Reform
- iv) Inefficiency of Public Enterprise
- v) Deficiency of Government Revenue
- vi) Growth Slowdown and Inflation in 70s

Cumulation of Problems:

- i) Technology Deficiency
- ii) Liberalization of Finance Institution
- iii) Reducing Gov. Cost

Table 1 Economic Development of Taiwan (1950 - 1980)