First Draft. Comments are welcome.

# Trade Liberalization Sequence for Sustained Economic Growth

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May 2010

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Abstract

This paper delivers a simple model to generalize the successful trade liberalization experiences in some East Asian countries as a strategy for attaining inclusive and sustained economic growth. The generalization provides useful policy implications for most lagged economies to follow for a liberalization strategy to attain dynamic efficiency without creating losers. The sequential approach, based on preserving existing production units while liberalize trade-oriented FDI and production sectors, can be understood as a way to promote learning by practice and international interactions, to extend the limit of market for capturing scale economy and to introduce price mechanism, market incentive and pressure on all related agents for attaining dynamic efficiency.

Key Words: Trade liberalization, Economic Growth

JEL classification:

## 1. Introduction

'Theories should be able to explain and predict phenomena. If not, the theories must have some fundamental flaws.' (Milton Friedman, 1953), *Essays in Positive Economics*, Chicago: University of Chicago Press.

Since early 1980s, the diverse economic performance among developing countries that have undertaken trade liberalization and structural reforms has aroused numerous discussions and investigations on related issues. For instance, Rodrik (2005) observed: 'Countries such as Mexico, Argentina, Brazil, Colombia, Bolivia, and Peru did more liberalization, deregulation and privatization in the course of a few years than East Asian countries have done in four decades…. Latin America's growth rate has remained significantly below its pre-1980 level. A similar puzzle, perhaps of a smaller magnitude, arises with respect to Africa, where economic decline persists despite an overall (if less marked) "improvement" in the policy environment.' Moreover, the experience with development during the last half century reveals another striking fact: the best performing countries are those that liberalized partially and gradually. Similarly, in analyzing a sample of developing countries, Shafaeddin (2005b) concludes that only a minority of these countries, mostly East Asian, experience in rapid export growth accompanied with fast expansion of industrial supply capacity and upgrading. By contrast, the majority of the sample countries, mostly in Africa and Latin America, has not been satisfactory. *About half of the sample, most of them low income countries, have faced de-industrialization.* Even in some cases where manufactured exports grew extremely fast, e.g. Mexico, the upgrading of the industrial base did not take place. Shafaeddin (2005b) further observed that a major difference between the "minority" and the "majority" groups is that in the case of the former, i.e. the East Asian NIEs, at least until recently, trade liberalization has taken place gradually and selectively as part of a long-term industrial policy, after they had reached a certain level of industrialization and development. By contrast, the "majority group" embarked a process of rapid structural reform including uniform and across-the-board liberalization. Shafaeddin (2005b) argues that no doubt trade liberalization is essential for development. Nevertheless, the way recommended under the Washington Consensus is more likely to lead to the destruction of the existing industries without leading to the emergence of new ones, particularly of those sectors that are at their early stages of infancy. Further, any new industry that emerges would be in line with static, rather than dynamic, comparative advantage. The low income countries, in particular, will be locked in production and exports of primary commodities, simple processing and at best assembly operation or other labor intensive ones with little prospect for upgrading.

In recent decades, substantial efforts have been made to derive general strategic lessons about the key to successful liberalization from those diverse experiences among the lagged economies. This paper is an attempt to understand the reason and mechanism for the economic success or failure

among the countries. We deliver a simple model to generalize the successful trade liberalization experiences in some East Asian countries as a strategy for attaining inclusive and sustained economic growth and to provide reason for the failures of their peers. The generalization provides useful policy implications on liberalization strategy for most lagged economies to follow in order to attain dynamic efficiency without creating losers. The sequential approach, based on preserving existing production units and know-how while liberalize trade-oriented FDI and production sectors, can be understood as a way to promote learning by practice and international interactions, to extend the limit of market for capturing scale economy and to introduce price mechanism, market incentives and pressures, on all related agents for attaining dynamic efficiency. The model concludes that the "first-order" economic principles proposed in neoclassical economic analysis — private property rights, market-based competition and free trade etc. — are the effects of successful liberalization policy, rather than the cause of economic growth among lagged economies. Moreover, we find that there is a regular sequence to follow for igniting a sustained economic grow along with the formation of favorable institutional infrastructure. Following the sequence, the miraculous transformation of the East Asian economies can be reproduced by most lagged economies.

The rest of the paper is organized as follow. Section 2 formulates a Schumpeterian Cobb-Douglas production in the firm's level to understand the source of sustained economic growth. It is follow by a model to illustrate the mechanism and implications of free trade liberalization and sequential liberalization. Section 4 discusses the liberalization experiences of the East Asian economies and China, in particular. The last section is the summary conclusion.

## 2. Tools Variety, Entrepreneurs, Innovations and Average Cost

'the carrying out new combinations can no more be a vocation than the making and execution of strategical decisions…the entrepreneur's essential function must always appear mixed up with other kinds of activity…everyone is an entrepreneur only when he actually "carries out new combinations," …' <Schumpeter, 1934: 77-78>

In this section, we enrich the traditional Cobb-Douglas Production Function (CDOPF) by incorporating the insights of Schumpeter (1934) relating to the role of tools, the nature of innovations and entrepreneurial activities in the firms in order to understand the necessary and sufficient condition of technical progress. Innovations are defined as the activities that can carry any improvement into effects that determine the technical progress of the firms/economies. The most common type to innovations is the introduction of new tools variety that can raise the productivity of the firm. Real-world examples include steam engine, train, and the computer that generate new mix of tools variety for mining, transportation, education and finance etc. that substantially lower the costs for satisfying certain needs and wants. Of course, most innovations need not be as revolutionary as the examples, most innovations are just marginal improvements based on the old production methods. In

the production process, entrepreneurs select an optimal combination of tools to minimize/maximize cost/profit. This innovative activity is a routine job of entrepreneurs. Curious, persevering and/or talented entrepreneurs can find better combination of the existing tools or invent new tools to generate higher level of capital service with the same cost than their competitors. In the competitive environment with imitation lag, entrepreneurs are induced to innovate by the quasi-rent and/or pressed to innovate for survival. In recent decades, a wide variety of variables have been shown to affect growth through technical progress across countries. Introducing the Schumpeter insights on the role of entrepreneurs and the nature of technical progress will allow us to have clear understandings on the sources as well as the possible causes of technical progress among numerous identified and potential factors.

In the model, there are two fundamental inputs, labor and a set of tools that generate capital services.[1] Behind the production scene is entrepreneur who is responsible for decision-making, risk-taking and most importantly, conducting innovative activities. New innovation is defined as introducing a new mix of the existing tools variety in the market or the invention of a new tool which can raise the productivity of capital service.

Output depends on capital service and labor only. A representative firm's output level ($Y_j$) depends on the amount of capital service ($K_j$) and labor ($L_j$) employed by the firm j, such that:

$$Y_j = K_j^{\alpha} L_j^{\beta} ; \quad \text{with} \quad \alpha + \beta = 1 ; \text{ and } 0 < \alpha < 1 ; \qquad \text{(E1)}$$

Following the product/input variety literature, in order to introduce the contribution of innovations into the model, the capital service is aggregated by the CES function that gives a positive value to an increase in tools variety in generating capital service, such that:

$$K_j = \left(\sum_i X_{ij}^{\theta}\right)^{1/\theta} \qquad \text{(E2)}$$

with $0 < \theta < 1$ and, $i = 1$ to $v_j$, where $v_j$ is the exogenous number of tools variety employed in firm j.[2] The parameter $\theta$ governing the elasticity of substitution between the tools is greater than zero and less than one. A higher value of $\theta$ indicates that the tools variety can be more easily substituted for each

[1] Man-made tools for enhancing production include simple tools, machines and new materials. Each variety provides differentiated services in the production process that are complimentary to each other in the production process. They are combined to generate specific 'capital service'.

[2] We adopt an identical structure as in Dixit and Stiglitz (1977) that are followed closely by the others, such as Krugmen (1979). They apply the structure related to product diversity in utility function. The functional form is then adopted in the works of Ethier (1982), among others, for introducing the gains caused by raising input variety. In the capital service function, we assume additive separability across tools that implies marginal product independence among tools and the introduction of new variety of tool does not make any existing tools obsolete. The function also ignores any aspect of closeness of two particular goods and focusing only on the substitutability of one tool with respect to all others as a group. Obviously, the labor service (L) can be treated in an identical manner such that labor service depends on a combination of workers with different skills and human capital. However, the sacrificed technical detail allows us to simply and compactly formalize important ideas about the role of tools variety in the production function.

other in the production of capital services while a lower values of θ correspond to greater differentiation among the set of tools. The set up is similar to Either (1982) for analyzing the implications on international trade and analogous to the ways in which Dixit-Stiglitz (1977), Krugman (1979) in their measure of utility obtained from a bundle of differentiated consumer goods.[3]

The measurement of each tool is normalized so that the unit price of each tool variety equals to r. For all output level, a profit-maximizing entrepreneur in firm j choose an optimal level of each tool, $X_{ij}^*$, i = 1…n,…$v_j$, to maximize the value of capital service $K_j = (\sum_i X_{ij}^{\theta})^{1/\theta}$ subject to a given $C^k_j$ allocated for capital service with $C^k_j = \sum_i rX_{ij}$ .

The first-order conditions for $X_{nj}$ and $X_{ij}$ , for all i≠n, are:

$$[.]^{(1/\theta)-1} X_{nj}^{\theta-1} = \lambda r$$

$$[.]^{(1/\theta)-1} X_{ij}^{\theta-1} = \lambda r$$

$$C^k_j = \sum_i rX_{ij}$$

Where $[.] = (\sum_i X_{ij}^{\theta})$ The symmetry implies that $X_{ij}^* = X_{nj}^* = X^*_j$ (r, $C^k_j$ , $V_j$), where $V_j$ is the number of tools variety exogenously given to firm j. Therefore, for all output level,

$$K_j^* = [\sum_i X_{ij}^{*\theta}]^{1/\theta} = V_j^{1/\theta} X_j^* \quad , \qquad \text{(E3)}$$

where $X^*_j$ is the average level of the cost minimizing set of tools. $V_j$ defines the productivity of capital services employed by the firm for all output level.[4] (E3) indicates that the Dixit-Stiglitz capital service function is decomposed into the technology component, $V_j$ and the tools component $X_j$. Moreover, the higher the $V_j$, the more productive the capital service given the cost allocated for purchasing the capital service, $C^k_j$ and therefore the lower the average cost of production for all output level.

Substituting the cost-minimizing/value-maximizing of capital service $K_j^*$ into the production function with the given tools variety, we have:[5]

$$Y_j = V_j^{\alpha/\theta} X_j^{\alpha} L_j^{\beta} = A_j X_j^{\alpha} L_j^{\beta} \text{; where } A_j \text{ equals } V_j^{\alpha/\theta}. \qquad \text{(E4)}$$

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[3] The conventional Cobb-Douglas production function treats all man-made tools for enhancing production are perfect substitutes that is equivalent to considering θ equals one. In Romer (1990), the model considers capital service is the outcome of the aggregation of tools that have additively separable effects on output. The model therefore does not consider the possibility of different level of complementarity or substitutability among different tools.

[4] The capital service now has an exact definition. It is an aggregation of the varieties of man-made tools and its market value is aggregated by their rental prices. The average cost of production ($C^k_j$ /$K_j^*$) is lowered as the tools variety increases.

[5] For simplicity, we drop the star in denoting $X_j^*$ though in each production function, the entrepreneur keeps adjusting the firm's tools variety to maximize the value of capital service/minimize the cost of productioin according to market conditions.

The formulation results in the standard CDOPF with $A_j$ equals $V_j^{\alpha/\theta}$. The technology level of a firm is directly proportional to the tools variety employed in the production process and becomes readily observable. Now, the '$A_j$' in the traditional CDOPF has observable and transparent definition and technical progress is defined by the increase in tools variety employed in the production process. The liberalization for sustained growth should therefore target at raising the growth rate of tools and its variety by building up the domestic industrial capacity and maximizing the benefits generated from international interactions and innovations.

### 3. Creative Destruction in the Sticky Price-taking Competitive Market Structure

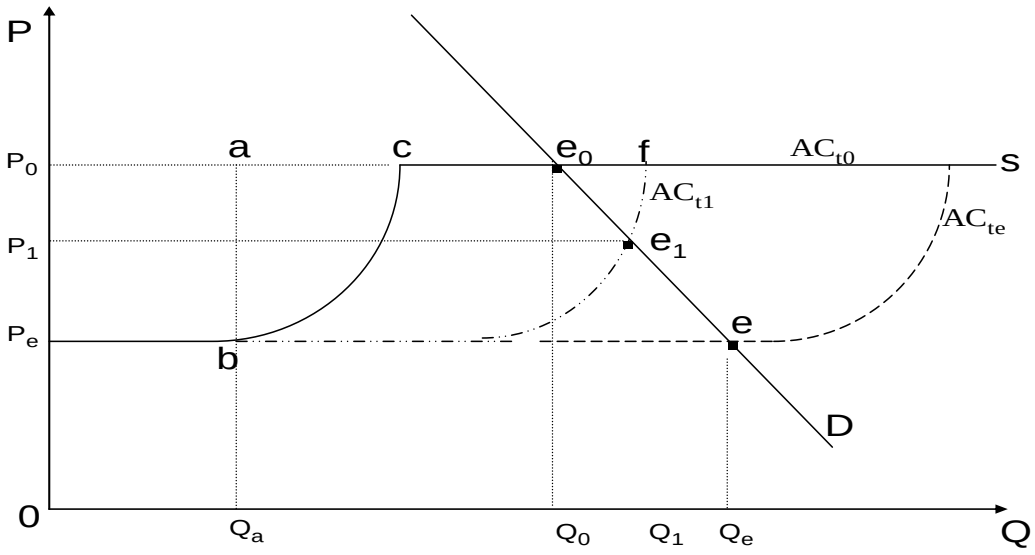
"Development in our sense is then defined by the carrying out of new combinations….new good…new quality of a good…new method of production…new way of handling a commodity…new market…new sources of supply of raw materials…new organization of any industry…new combinations should be carried out by the same people who control the productive or commercial process which is to be displaced by the new…*new combinations are, as a rule, embodied, as it were, in new firms which generally do not arise out of the old ones but start producing beside them.* <Schumpeter, 1934, pp. P66. Italics mine>

In this section, following the framework set up in Shell (1973), we sketch the mechanism of the catch-up process, change in profitability among firms and the industry supply curve under a sticky price-taking market structure. Under a perfect competitive market structure, entrepreneur-innovators will have no incentive to innovate since innovation requires extra effort and the innovative firms cannot capture the quasi-rent under the frictionless assumption. In order to make our model having the least divergences from the benchmark model of perfect competitive market that have generate numerous insightful and useful conclusions, we only release the frictionless assumption to allow positive adjustment costs in the production process that is commonly observed in the real world.[6] The positive adjustment costs suggest that advanced firms cannot expand their production immediately to fully capture the whole market demand as predicted in the existing competitive market assumption. Therefore, the advanced firms are still price-taker while capturing the innovative quasi-rent. At the same time, the lagged firms take time to imitate and adopt the innovations of the advanced firm. Under this sticky market structure, advanced firms gradually expand its production by setting up small new production units, continues to be a price taker while enjoying the quasi-rent from their innovations before competitors finally catch-up. Innovative activities are therefore motivated and supported by the expected innovative quasi-rent generated from successful innovative ventures and/or for the survival of the firms. Schumpeter (1934) attributes the unmatched production and growth performance of free

[6] Alexander Gerschenkron (1968) describes the possible sources of stickiness: "But, as everyone who has ever worked inside a modern enterprise knows, the distinction between the innovator and imitator is a very uncertain one. Every imitation requires a great deal of energy to overcome inertia, to abandon the accustomed way of doing things. It raised a million technical and economic problems that must be solved. And they will not be solved unless there are alert minds to welcome the new and to see the solutions and strong wills to carry the tasks to successful termination." (p. 131)

enterprise economies is mainly due to the competition for the innovative quasi-rent that constantly reduces the cost of production for satisfying the needs and wants of the public. Shell (1973) formulates a model that describes the process under the sticky price-taking market structure. Under the framework, the level of technology may differ over firms. The reasons can be due to the high transmission costs of technology among firms. Firms with advanced technologies have incentives for not revealing their technologies, and employ secrecy to achieve this end. Patents can also give some limited legal protection to the 'advanced' firm and therefore an increase in the stickiness of the market system. A firm/factory enjoys higher productivity if it employed more tools variety than the others in the production process as demonstrated in (E3).[7] Shell (1973) demonstrates that purposive innovative activities are possible in a sticky price-taking competitive market structure. In the framework, the Schumpeterian creative destruction are understood as the process that advanced firms will finally drive out stagnant lagged firms in the long-run equilibrium. The key ideas are captured in Figure 1 which we will use to analysis the effect of sequential liberalization and the 'big bang' liberalization.

**Figure 1:**
**Sticky Price-taking Competitive Market and Competition through Innovation**




Note: $AC_{t0}$ has three sections: $P_e b$ is the AC of the advanced firms, bc belongs to the catching-up firms and cs is the lagged firms. $AC_{t1}$ of $P_e de_1 s$ shows the effects on the AC curves when more firms caught-up while $AC_{te}$ of $P_e es$ corresponds to the long-run equilibrium where all firms produce with the same technique in the market.

Initially at $t_0$, the lagged economy has three types of firm and respective average cost of production (AC): the advanced firms with technical level in par with the international level and the AC equals $P_e$ ;

[7] More tools variety can also be interpreted as the set of tools are more complicated as complicated tools/machines embody a larger number of individual tools.

the intermediate firms with AC ranging from b to c while the lagged firms with AC of $P_0$. Since the firms can always used the well- known lagged technology, there is unlimited supply at $P_0$. The $AC_{t0}$ is the supply curve of the product at $t_0$. Given the market demand curve D, in a closed economy or with the import tariff level equals to or higher than ($P_0$ - $P_e$), the market price equals $P_0$ and the output produced $Q_0$. The advanced and intermediate firms are earning the total innovative quasi-rent amounting to $P_0acbP_e$ . The real income of local resources equals $Q_0$ and the total income is therefore able to purchase all the output produced.

We will analysis the evolution process and effects on output, aggregate demand and consumer surplus under three liberalization strategies. The first is the economy closed to imported consumer goods, the next is free trade and finally the sequential liberalization that is typically adopted by most East Asian economies and more recently, China.

The existence of innovative quasi-rent implies that $e_0$ will not be in equilibrium. Besides the advanced firms will expand their production, all other firms will try to capture the innovative rent by imitating the production method of the advanced firms such that the supply curve moves to $AC_{t1}$ with equilibrium $e_1$ and finally $AC_{te}$ with the long-run equilibrium e given the demand curve. In all equilibriums, total income earned by domestic resources always equal to total output and the problems of aggregate demand deficiency does not exist. In the transition towards the long-run equilibrium, real income, output, employment level and consumer surplus expands while innovative quasi-rent diminishes. These phenomena are commonly observed in the East Asian liberalization process.

Now, suppose the economy adopts free trade at $t_0$ such that the domestic price equals to the international price $P_e$. Theoretically, the total purchase will be equal to $Q_e$. However, at the international market price, only $Q_a$ are produced by the domestic firms in the long-run while the local intermediate and lagged firms will become bankrupt and exit. The ‘de-industrialization’ process results in the decline in the sunken rent of fixed inputs in the lagged firms and the innovative rent enjoyed by the intermediate firms over time. In the long-run equilibrium, the real income in the economy shrinks to $Q_a$ and the domestic purchasing power shrinks accordingly. Another terrible thing is that the catching-up process under the scenario of closed economy or with tariff protection stop as the innovative quasi-rent disappears. Domestic entrepreneurs have no opportunities, no incentive and no resources to upgrade their technical level while at the same time, the tax-based of fiscal revenue declines. As a result, rapid and indiscriminate opening up the domestic market to foreign economies may result in drastic destructions of domestic firms and employment opportunities along with the innovative rents. The catching-up capacity of domestic entrepreneurs is destroyed.

An important characteristic of the East Asian economies is their export-oriented strategy by setting up Export Processing Zone and inviting FDI targeted for the purpose. At the same time, the

domestic market is under strict protection in their initial stage of liberalization. The liberalization of export-oriented sectors can facilitate learning by watching, imitation and interaction opportunities to domestic firms while at the same time, the existence of innovative quasi-rent and the competitive pressure generate strong motivations to upgrade their technical level among all entrepreneurs. Technical progress will be facilitated and the time required to approach the long-run equilibrium will therefore be shortened. Also, the export-oriented sectors raise the demand and therefore the income of domestic non-tradable resources and create more job opportunities for surplus resources in the lagged economies. Aggregate demand increase raises domestic demand and generates further incentive to domestic entrepreneurs to expand through creative destruction. As a result, home economy with surplus resources will gain in the short-run as the utilization rate of domestic resources increase as well as in the long-run through the improvements in technical capacity. This explains the successful experiences in most economies adopting the sequential liberalization strategy by establishing export-processing zone and inviting foreign direct investments while imposing strong import restrictions. The policies not only avoid the destructions to the domestic lagged firms and catching-up incentives, they also raise the utilization rate of domestic resources, the income level and therefore aggregate demand in the economies. More importantly, they provide learning chances to entrepreneurs and domestic workers for advance tools, organization method and international networks that will raise the rate of technical progress to domestic firms. Under the process, the economies will experience rapid economic growth as the aggregate demand and supply expands rapidly over time.

Neoclassical economics assumes that all firms existing in the market are the same. The reform advice like eliminating the distortions and interventions directly can attain static and dynamic efficiency under the framework of the neoclassical economics as exemplified in the Washington Consensus. However, without appropriately addressing the problems of lagged firms, unemployment, fiscal bases and therefore the social and macro-stability problems in the developing countries under transition, eliminating or liberalizing those necessary ‘distortions’ or regulations may result in deteriorating economic performance after liberalization. This is because if the desirable regulations are removed, both domestic firms and the lagged firms may be eliminated and widespread unemployment can result. Even those intermediate and advanced firms under substantial financial burden will bankrupt immediately if they do not receive any subsidy or protection. The catching-up process will stop immediately. Domestic markets totally captured by foreign firms while local firms stop growing. The shrinking of government revenue, social and political instability generated by the competition pressures may destroy any hopes for sustained economic growth and the economy is trapped in the static comparative advantage in international competition. Therefore, from the perspectives developed in our framework, many apparent distortions and undesirable government regulations in the

developing countries, which are considered unfavorable to economic performance from the viewpoint of neoclassical economics, are in fact the necessary policies to acquire the dynamism for attaining sustained economic growth.

## 4. Implications and Liberalization Experiences

Most developing and transition economies inherit a large number of lagged firms in a protected environment before they start economic reforms. The direct implementation of many policy reforms based on the existing neoclassical economics therefore may not be appropriate. The analysis in Section 3 can provide a systemic structure in explaining the reasons for the divergent economic performance among the lagged economies in their liberalization and economic reforms as posted by Rodrik (2005) and Shafaeddin (2005b) mentioned in Section 1. It explains the common observations on the success of the sequential liberalization in promoting sustained growth in most developing and transition countries. They gradually liberalize their current and capital markets so that their firms can gain from the benefits of learning by practice, foreign direct investments, advance tools and management skills while minimize the shocks generated by the potential drastic displacement effects on domestic employment and firms. More recently, it helps us to understand the success of the China incremental reforms in comparison to the big band reform in Russia. Incremental reform allows the continuous operation of the existing production units and tools combination in the old system while allowing rapid proliferation of existing and modern tools variety by encouraging export-oriented sectors like FDI, assembly industry and export processing zones.[8] The new tools and organization varieties result in rapid increase in productivity that induce higher investments in physical capital as well as in human capital for gaining the advantages brought by new tools and organization varieties. Under the liberalization sequence, China has been able to develop her own industrial and technical capacities, promote exports and build up the domestic capacity to manufacture a range of essential intermediate goods while at the same time, to allow the lagged sectors evolve under the direction of the international and domestic market mechanism. Another nice thing is that under the export-oriented liberalization sequence (EXOLS), the potential innovative quasi-rent induces and support new investors and lagged firms in different industries and sectors to make necessary investments for the upgrade of industry/technology with minimal requirement of government financial supports while the fiscal strength of the governments becomes stronger as the tax-bases expand. With these real-world

[8] Suppose a successful FDI brings in a new variety of tool with the market value of r so that the average quantity of each tools variety remains unchanged, the marginal effect of the FDI on the output level equals: $\frac{\partial Y_j}{\partial v_j} = \frac{\alpha}{\theta} v_j^{(\alpha/\theta)-1} X_j^{\alpha} L_j^{\beta} = \frac{\alpha}{\theta}\frac{1}{v_j} v_j^{(\alpha/\theta)} X_j^{\alpha} L_j^{\beta} = \frac{\alpha}{\theta}\frac{1}{v_j} Y_j$ . The marginal benefit of bring in new tools to domestic firms is greater than zero, inversely related to the stock of tools variety and proportional to the output level.

experiments and the theoretical model, the commonly observed trade policy adopted in developing countries which include tariffs, infant industry protection policy, setting up of export processing zones are therefore dynamically efficient to the lagged economies in their initial stage of liberalization.

## 5. Summary Conclusion

"Britain was protectionist when it was trying to catch up with Holland. Germany was protectionist when it was trying to catch up with Britain. The US was protectionist when trying to catch up with Britain and Germany. Japan was protectionist for most of the twentieth century right up to the 1970s, Korea and Taiwan to the 1990s. And none of them came close to matching our criteria for 'democracy' till the late stages of their catch ups." <Wade, 1990, p. 631>

There is increasing consensus that some kind of government interventions is necessary for the lagged economies to catch-up. The question is what kind of interventions. Our model suggests that all various interventions should be targeted at reducing the displacement effects on domestic lagged firms by imported goods initially while maximizing the growth rate of tools and its variety available and adopted by domestic entrepreneurs in order to build up the industrial and technical capacity for sustained growth. Since most lagged economies are facing similar initial conditions, based on the theoretical implications and the liberalization experiences of the developing and transition economies, we conclude that they should adopt the EXOLS strategy as follows:

1. in the initial stage, impose an optimal structure of tariffs targeted at protecting the domestic production units, employment opportunities and tools variety against unconstrained international competitions;
2. set up export-oriented sectors including FDI and export-processing zones and assembly industry targeted at the international market;
3. support and motivate proliferation of tools and its varieties among all production units in order to upgrade the industrial capacity and technical level up to the international level;
4. reduce tariff protection over time and finally eliminate it totally when the economy has attained the technical level and industrial capacity comparable to the international level.

The EXOLS strategy has some desirable effects to most lagged economies including:

1. Initially, most lagged economies face many constraints including foreign exchange, fiscal revenue and human capital. The tariff stage with export-oriented liberalization can relieve these constraints for the modernization process.
2. Under the EXOLS, blocking the importation of consumption and some capital goods in the initial stage will eliminate the possible displacement effects to indigenous physical and human capital that are sunken in nature. The policy maintains domestic aggregate demand, the utilization rate of

domestic resources, and the chance to learn and innovate by practice while provides motivation and rooms for lagged firms and sectors to upgrade for international competitions.

3. A good distribution of political and economic powers in the sense that the interests of the powers are coincided with sustained economic growth is essential for the success of economic reform. The EXOLS strategy allows Adam Smith's "invisible hand" to be directed by the international market in a nation-wide scale in the sense that at each stage of development, each party that include the governments, domestic and foreign investors, workers and consumers, in pursuing their own self-interest, is also maximizing the common goods. The tariff and export-oriented stage allows the international market in picking winners, creating job opportunities, raising aggregate demand, generating new sources of fiscal revenue and trade surplus. At the same time, the public sector is forced by the international competitive pressure to adopt efficient measures, infrastructure and supply quality human capital. As a result, at the initial stage, it is a reform without loser as in the case suggested in Lau, Qian and Roland (2000). In the growth process, it creates winners who are contributive under the export-oriented policy and losers who fail to adjust according to the international market forces. The result is the economic and political powers of export-oriented groups become stronger while the opposite groups become weaker over time even though everyone is improving in comparing to the initial situation. The dynamics of the changing powers distribution under the EXOLS is just the opposite of that in the import substitution strategy. (for instance, Lin, 2003)
4. The EXOLS closes the international productivity gap between the advanced and lagged economies along two dimensions. The first is raising the employment rate of domestic resources, particularly the surplus labor resides in rural area and the other is closing the international technical gap in the industrial and other sectors over time. The process generates rapid economic growth of inclusive and sustainable in nature.
5. The EXOLS will upgrade the structure of exports and accelerate the exports of country-specific manufactures with increasing value-added over time.
6. The gradual and inclusive reform sequence does not require strong pre-conditions for the reform to take place. The reform is natural, automatic and dynamic once it is initiated. It can be applied to most lagged economies without any requirements of political and social reforms.
7. Under the EXOLS strategy, the keen competition in the international market constraints the rent seeking behavior of regulators as well as directing the private sectors toward efficiency. The EXOLS thus creates an environment under which the interventions by government do not generate sustainable rent seeking activities.
8. The EXOLS strategy can strengthen the macroeconomic fundamentals of the lagged economies

such as low inflation, fiscal and exchange rate stability.

In general, the model provides concrete policy prescriptions and sequence of trade liberalization for sustained economic growth to most lagged economies. There are no good institutions that apply to all countries with different initial conditions and stages of development, there are only 'appropriate institutions' that are defined as the institutions that promote and support entrepreneurial activities and promoting the growth of tools and its variety given various country-specific constraints. Free trade is a good institution only when domestic economy has similar industrial capacity and technical level in par with the advanced economies. It suggests that there is no exact relationship between policy-induced trade barriers to economic growth across countries. The key is whether the trade barriers can promote innovations and entrepreneurial activities in the countries. The 'open trade policies' in the sense of lower tariff and non-tariff barriers to trade do not necessary induce higher economic growth. Moreover, to the economies with substantial traditional and lagged sectors, free trade will result in de-industrialization and stagnation in the long-run due the destruction of dynamics in building up industrial capacity. The mechanism suggests that there is no substantial difference between early or late economic liberalization. All lagged economies can initiate the EXOLS mechanism at any time. Moreover, the larger the technical gap between the lagged economy and the advanced economies, the larger the potential growth rate under the EXOLS strategy will be. The sequence aligns the short-term interests of the powers with sustained growth at each stage such that governments and market agents work cooperatively for mutual gain and prosperity instead of being predators and rent-seekers for production surplus as assumed in public choice theory. Our paper shows that when appropriate liberalization sequence is adopted, efficiency, poverty reduction, technical progress and favorable powers distribution can grow at the same time which results in sustained economic growth.

Apparently, the suggestions are anti-trade and against the law of comparative advantage. However, the East Asian experience shows that trade policy restrictions on some imports need not stop the fast growth of other imports – and hence raise the total demand for imports when their GDP, standard of living and technical level improve. As Wade (2003) suggests, trade protection need not be 'anti trade'. Moreover, almost all trade intensive countries went through stages of protectionist policy before the capabilities of their firms reached the point where a policy of free trade was declared to be in the national interest. The general adoption of EXOLS policies in the lagged economies will initiate a widespread emergence global-wide newly industrialized nations following the steps of the East Asian economies that will contribute to a surge in global economic performance by introducing innovation, enhancing rivalry and creating competition. As stated in *The Economist, September 16, 2006: "Emerging economies are driving global growth and having a big impact on developed*

*countries...As these newcomers become more integrated into the global economy and their incomes catch up with the rich countries, they will provide the biggest boost to the world economy since the industrial revolution."*

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