

I INTRODUCTION

Can the combination of trade openness and changes in the levels of employment across sectors explain growth in developing countries? In their work, Frankel and Romer (1999) suggest that growth is a function of area, population, and trade. Their findings suggest that a percentage point increase in the ratio of trade to GDP is associated with a 2 percentage point increase in income per capita.¹ Yet, the authors warn that relying on trade as a sole factor of growth can lead to erroneous conclusions. Given that their equations are restricted in the number of variables, their results may overestimate the effects of international trade. It is possible to enhance the nature of this study by controlling for the changes in structural employment.

WHY OPENNESS MATTERS: Evidence from the Developing World

According to Douglas Irwin (2001), in the late-19th century numerous industrialized countries relied on quantitative restrictions to protect their manufacturing sectors from foreign competition. These countries were able to achieve higher rates of growth despite their protectionist policies. The author finds that the share of employment devoted to agriculture decreased significantly over the years. His findings suggest that a one percentage point decrease in the share of employment in the primary sector led to a 0.0391 percentage point increase in growth.² According to the author, Kuznets attributes this phenomenon to lower productivity levels in agriculture. By exploiting their economies of scale, the industrialized countries were able to increase their levels of growth in a significant manner.

¹ Jeffrey Frankel and David Romer (1999). "Does Trade Cause Growth?" *The American Economic Review*, Vol. 89, No. 3, Pg. 387.

I would like to acknowledge Professor Anderson, Smitka, Casey, and Goldsmith for their valuable comments.

I. INTRODUCTION

Can the combination of trade openness and changes in the levels of employment across sectors explain growth in developing countries? In their work, Frankel and Romer (1999) suggest that growth is a function of area, population, and trade. Their findings suggest that a percentage point increase in the ratio of trade to GDP is associated with a 2 percentage point increase in income per capita.¹ Yet, the authors warn that relying on trade as a sole factor of growth can lead to erroneous conclusions. Given that their equations are restricted in the number of variables, their results may overestimate the effects of international trade on economic development. Thus, it is possible to enhance the nature of this study by controlling for the changes in structural employment.

According to Douglas Irwin (2001), in the late 19th century numerous industrialized countries relied on quantitative restrictions to protect their manufacturing sectors from foreign competition. Surprisingly, most countries were able to achieve higher rates of growth despite their protectionist policies. The author finds that the share of employment devoted to agriculture decreased significantly over the years. His findings suggest that a one percentage point decrease in the share of employment in the primary sector led to a 0.0301 percentage point increase in growth.² According to the author, Kuznets attributes this phenomenon to lower productivity levels in agriculture. By exploiting their economies of scale, the industrialized countries were able to increase their levels of growth in a significant manner.

¹ Jeffrey Frankel and David Romer (1999). "Does Trade Cause Growth?" *The American Economic Review*, Vol. 89, No. 3, Pg. 387.

² Douglas Irwin (2001). "Did Import Substitution Promote Growth in the Late Nineteenth Century?" Dartmouth College and NBER. Pg. 16-17.

However, since the end of the Second World War most developed economies have shifted their protectionist targets. Currently, more than one third of the EU budget is devoted to the Common Agricultural Policy. Similarly, the United States grants various forms of agricultural subsidies to secure its domestic industries. Brazil claims that the American government's agricultural support programs have a detrimental effect on its domestic producers, "[t]hese support programs and subsidies not only have a major impact on Brazil's ability to export competitive food products into the United States and third countries, but also undercuts the ability of Brazilian farmers to compete at home."³ One must note that the forms of protection can vary across countries. According to Henson and Loader (2000), "it is now widely acknowledged that technical measures such as food quality and sanitary and phytosanitary (SPS) requirements can impede trade, particularly in the case of developing countries."⁴ Thus, the purpose of this study is to illustrate whether trade openness and changes in sectoral employment drive developing countries to stimulate their economies. John Fei and Gustav Ranis (1961) suggest that there might be a connection. Since the protectionist policies pursued by industrialized countries tend to depress the terms of trade in agriculture vis-à-vis the developing world, farmers are forced to move across sectors. By opening their markets to foreign competitors, low- and middle-income countries can accelerate the transition to industrialization. In this project I will make the claim that the combination of trade openness and changes in sectoral employment help to explain the economic performance

³ Raymond Ahearn (January 2003). "Trade and the Americas," Issue Brief for Congress, Congressional Research Service: The Library of Congress. Pg. 6

⁴ Spencer Henson and Rupert Loader (2000). "Barriers to Agricultural Exports from Developing Countries: The Role of Sanitary and Phytosanitary Requirements," *World Development*, Vol. 29. No. 1, pg. 85.

of developing nations over the last decades. I treat each economy as a “small country” to illustrate that no individual nation can affect world prices. Thus, including a country like China will not distort the results in a significant manner. In the following section, I will discuss the works of various economists to bring into light the theory behind my hypothesis.

II. LITERATURE REVIEW

Frankel and Romer’s seminal work on trade provides a valuable insight in exploring the causes of growth. In their study, the authors investigate the effects of international trade on personal income. Their findings suggest that a percentage point increase in the ratio of trade to GDP is associated with a 2 percentage point increase in income per capita.⁵ Although the authors conclude that their positive results may be biased due to sampling variation, their findings do suggest a significant relationship between the two variables.

By measuring the effects of geographical factors on trade volumes, Frankel and Romer manage to avoid the problem of endogeneity. Since population, area, and distance are hardly correlated with income, the authors are able to capture the true effects of trade on GNI per capita. By decomposing the dependent variable into different factors – i.e. physical capital depth, schooling, and productivity – Frankel and Romer are able to analyze the effect of trade on each component of income. They find that “a one-percentage-point increase in the trade share raises the contribution of ... productivity to output by about two percentage points.”⁶ Despite their consistent results, the authors

⁵ Frankel and Romer (1999). Op cit. Pg. 387

⁶ Ibid. Pg. 390

claim that relying on trade as a sole factor of growth can lead to erroneous conclusions due to the specificity of their model.

Over the last decade, economists have centered their attention on the development of institutions as determinants of growth. According to Dani Rodrik (2004) “igniting economic growth and sustaining it are somewhat different enterprises.”⁷ Whereas the former can arise from minor reforms, the latter must require a long-term planning. In “Growth Strategies,” Rodrik explores the disparity in economic performance between high- and low-growth countries. For the author, maintaining macroeconomic stability and establishing property rights are positive signs of convergence with the advanced nations.

Rodrik’s work deserves special attention due to its strong emphasis on institutional development. Countries like China and Mauritius have been able to grow at a stable pace for several decades due to the strength and effectiveness of their institutions. Their governments managed to implement unorthodox policies to create the necessary incentives for the markets to work. In the case of Mauritius, the government was able to create an export-processing zone in apparel while keeping the domestic economy closed from foreign competitors.⁸ China, on the other hand, adopted a two-track strategy, “[r]ather than privatize land and industrial assets, the ... government implemented novel institutional arrangements such as Household Responsibility System ... and Township and Village Enterprises (TVEs).”⁹ This enabled the Chinese economy to prosper until the mid-1990s. Thus, Rodrik’s work provides a valuable insight in explaining the effect of

⁷ Dani Rodrik (August 2004). “Growth Strategies,” *Handbook of Economic Growth* at <http://ksghome.harvard.edu/~drodrik/GrowthStrategies.pdf> . Pg. 1

⁸ Ibid. Pg. 12

⁹ Ibid. Pg. 10

trade openness on economic development. Whereas Frankel and Romer simply focus on the ratio of trade to GDP, Rodrik suggests that trade liberalization involves more than increasing the value of international transactions. According to the author, governments must seek ways to implement sound fiscal and monetary policies to sustain growth in the long-run.

In their work, Sachs and Warner (1995) further explore the effects of global integration on economic growth in “reforming countries.” Based on cross-country indicators of trade openness, the authors manage to trace the economic performance of developing nations over a period of two decades. Unlike Frankel and Romer, Sachs and Warner design a new index of openness based on nontariff barriers, black market premiums, and average tariff rates. Rather than treating trade liberalization as a simple growth strategy, the authors treat openness as a complex set of policies needed to maintain long-term prospects.

Like Dani Rodrik, Sachs and Warner understand the importance of implementing sound economic policies to foster growth. Based on their results, the authors find that open economies tend to grow “on average, by 2.45 percentage points more than the closed economies, with a highly statistically significant effect.”¹⁰ Furthermore, their findings suggest that through openness developing countries have been slowly converging with the industrialized world. Even though these nations seem to have low levels of income in their initial stage, their growth rates exceed those of the developed economies. Given the implications of their results, the authors advocate the movement towards liberalization.

¹⁰ Jeffrey Sachs and Andrew Warner (1995). “Economic Reform and the Process of Global Integration,” in *Brookings Papers on Economic Activity*, Vol. 1995, No. 1. Pg. 47

Despite the simplistic nature of the variable – 0 for closed economies, 1 for open markets –, the Sachs-Warner index seems to integrate a series of factors that capture the true effects of liberalization. There are reasons to believe that the ratio of trade to GDP conceals important policy variables. Thus, using the standard measure of openness – i.e. trade as a percentage of GDP – could lead us to erroneous conclusions. A country does not become open simply by increasing the volume of transactions with its trading partners, but rather by adopting the necessary policies to ensure full liberalization. As a result, my study will seek to measure the effects of openness on economic growth via trade. In other words, rather than focusing on the standard measure of openness, I will use the Sachs-Warner index to illustrate the combined effect of trade openness and market liberalization on economic performance, thus providing a better explanation for growth.

Unfortunately, the growth literature fails to account for the interaction effects between trade and the structure of employment of an economy. Liberalization will not translate into higher rates of growth simply by opening a country's markets to foreign competition. Given the productivity differentials between sectors, workers must move away from agriculture and into manufacturing. According to Douglas Irwin (2001), during the late 19th century, numerous industrialized countries relied on quantitative restrictions to protect their domestic industries from foreign competition. This enabled them to develop their manufacturing sectors and hence boost growth. By imposing tariffs on capital imports, they were able to stimulate their industrial production. Given the high level of protectionism in the manufacturing sector, a large fraction of the farmer population found an incentive to join the labor force. Thus, the author finds that "[t]he

development. For an economy to progress, the excess labor must be released from the

¹¹ Irwin (2001). Op cit. Pg. 12

countries registering the most rapid growth between 1870 and 1913 ... were the countries in which the share of employment in agriculture fell the most.”¹¹

Taking the argument one step further, one could argue that in a “free trade” framework, the protectionist policies implemented by the industrialized world have helped developing nations accelerate the transition towards industrialization. Although the author makes the case that import substitution industrialization policies enabled the rich countries to develop their less productive sectors – i.e. manufacturing – there is little evidence to suggest that developing nations have experienced long-run growth by adopting similar policies. In fact, if all nations sought ways to protect their domestic markets, the outcome would be a zero-sum game. Consequently, the weaker parties must refrain from engaging in tariff wars. Instead, these countries must push for liberalization. Over the last decades, the developed economies have sought ways to protect their agricultural producers. By providing their farmers special subsidies to compete in the global markets, the industrialized nations have put pressure on developing countries to become more productive. In order to compete with the industrialized world, developing countries must shift their workers across sectors. Given the underlying relationship between trade openness and structural employment, one cannot talk about one factor without alluding to the other.

Fei and Ranis (1961) provide further evidence that the deterioration in the terms of trade in agriculture leads workers to move across sectors. With the aid of a two-sector model, the authors illustrate that workers tend to be misallocated throughout the economy. The redundancy of labor in agriculture simply retards the process of development. For an economy to progress, the excess labor must be released from the

¹¹ Irwin (2001). Op cit. Pg. 12

primary sector and allocated in more productive industries, where the workers can have a positive marginal revenue product. Although the authors base their theory on a closed economy, it seems that their model can be applied to open economies as well.

Since the postwar period, most industrialized nations have attempted to secure their agricultural sectors by providing special subsidies – like the Common Agricultural Policy (CAP) – or imposing Technical Barriers to Trade to protect their farmers from foreign competition. Interestingly, such policies drive low-income countries to develop new industries. Since not all farmers will be able to match the competitive pressures, numerous workers will have to move across sectors, thus leading to structural transitions in the economy. In this project, I will investigate how the combination of trade openness and changes in sectoral employment affect the growth performance of developing countries.

III. THEORY

For years, developing countries have relied on agricultural production to promote economic growth. Under a closed economy, this would seem a plausible strategy since foreign competitors would be unable to affect world prices. In the presence of trade openness however, such strategy would be difficult to attain. Since the major economic blocs determine the degree of liberalization – that is, they set the terms of trade between commodities – they are likely to impose barriers on their trading partners without fear of retaliation. Contrary to common belief, this may help developing countries stimulate their economies. According to Hasan and Quibria (Hasan and Quibria, 2004), trade openness – in conjunction with macroeconomic stability – has “helped East Asia to exploit their

comparative advantage in labor-intensive manufacturing.”¹² From this, it follows that trade openness drives nations to become more competitive. Given that liberalization exerts a pressure on commodity prices, inefficient farmers are forced to move away from agriculture. Since the manufacturing sector is highly productive, developing countries can take advantage of economies of scale to raise their national income.

Similarly, there are reasons to believe that the reallocation of workers out of agriculture and into manufacturing will drive low- and middle-income countries to stimulate their economies. In the absence of trade liberalization, farmers have no incentives to join the labor force given that food prices remain secure regardless of market fluctuations. By isolating the domestic markets from competitive forces, protectionist policies retard the process of industrialization. In the presence of liberalization, inefficient farmers will be unable to run operating profits. Since the domestic markets will be prey to foreign competition, only the most efficient producers will remain in the market. Thus, workers will move out of agriculture and into manufacturing. Given that the secondary sector is highly productive – that is, it does not face diminishing returns to scale – countries will experience higher rates of growth. Simon Kuznets (1961) finds that “[b]ecause of the large supply of labor in the A-sector, the absolute levels of product per worker in that sector are low.”¹³ Kuznets’ observations seem to provide a theoretical foundation for Fei and Ranis’ work, both of whom claim that the redundancy of labor in agriculture facilitates the transition towards

¹² Rona Hasan and M.G. Quibria (2004). “Industry Matters for Poverty: A Critique of Agricultural Fundamentalism,” *Kyklos*, Vol. 57, Issue 2. Pg. 259

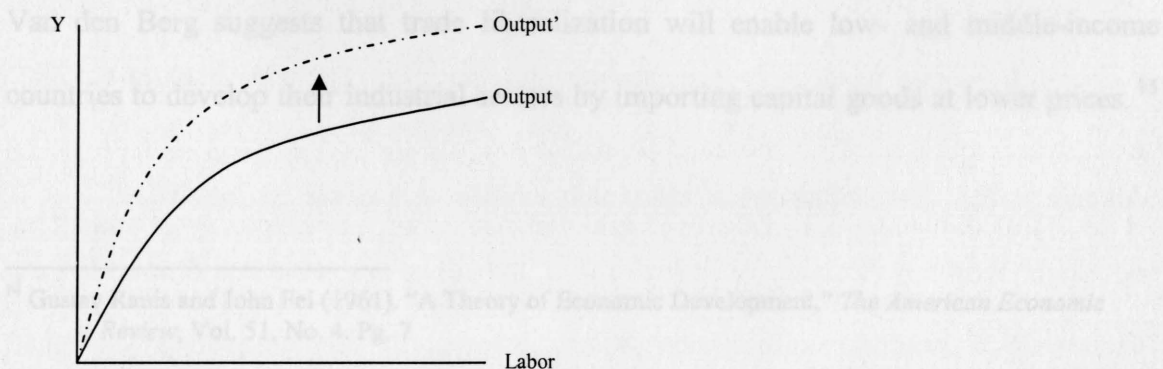
¹³ Simon Kuznets (1957). “Quantitative Aspects of the Economic Growth of Nations: Industrial distribution of national product and labor force,” *Economic Development and Cultural Change*, Vol. 5, No. 4. Pg. 38

industrialization. Hence, any shifts in sectoral employment – from the primary to the secondary sector – will enable low- and middle-income countries to achieve higher rates of growth.

In his work, Douglas Irwin provides an account of how nineteenth-century economies were able to boost their growth rates by placing import restrictions on manufactured goods (Irwin, 2001). Despite the fact that these countries advocated protectionism, they were able to raise income per capita by exploiting their economies of scale in the manufacturing sector. Rather than protecting their primary sectors from foreign competition – a common practice throughout the second part of the 20th century – the world powers were able to secure the future of their manufacturing firms. Thus, the reallocation of workers across sectors can drive nations to move forward.

The standard model of trade suggests that the gains from openness are static. Based on the principle of comparative advantage, countries are able to specialize in the production of particular goods or services. Economists like to illustrate this gain by shifting the production function upward. The rotation of the curve simply reflects the better reallocation of inputs across the economy. Both the capital stock and technology remain unchanged.

Figure 1.



But to say that trade liberalization does not come at the expense of structural adjustments would be to ignore the complexities of the real world. The following growth model illustrates how trade openness results in the reallocation of labor across sectors, and hence resulting in output growth.

As a country becomes more open, it will lose comparative advantage in the primary sector due to the protectionist policies imposed by industrialized nations. To counteract this loss of competitiveness, developing countries must shift workers across sectors. In "A Theory of Economic Development," John Fei and Gustav Ranis claim that "the relative shortage of agricultural commodities seeking exchange for industrial goods in the market" will result in the "disappearance of the redundant labor force in the agricultural sector..."¹⁴ Consequently, we should expect an inward shift of the labor supply curve. As workers move away from agriculture and into manufacturing, the economy will undergo a structural adjustment. In the short-run, the economy will experience a drop in output. However, as the manufacturing sector begins to absorb the inactive workers – that is, the unemployed farmers – output will rise steadily. The economy will move along its production function and recover from the loss in GDP. Given the nature of the production function, the increase in manufactured goods will exceed the drop in commodity production. Building on Mazumdar's hypothesis, Hendrik Van den Berg suggests that trade liberalization will enable low- and middle-income countries to develop their industrial sectors by importing capital goods at lower prices.¹⁵

¹⁴ Gustav Ranis and John Fei (1961). "A Theory of Economic Development," *The American Economic Review*, Vol. 51, No. 4. Pg. 7

¹⁵ Hendrik Van den Berg (2001). *Economic Growth and Development*, Boston: McGraw-Hill. Pg. 332.

Since trade openness will allow developing nations to purchase a wide variety of inputs, this will help them increase the productivity of their workers.

Figure 2.

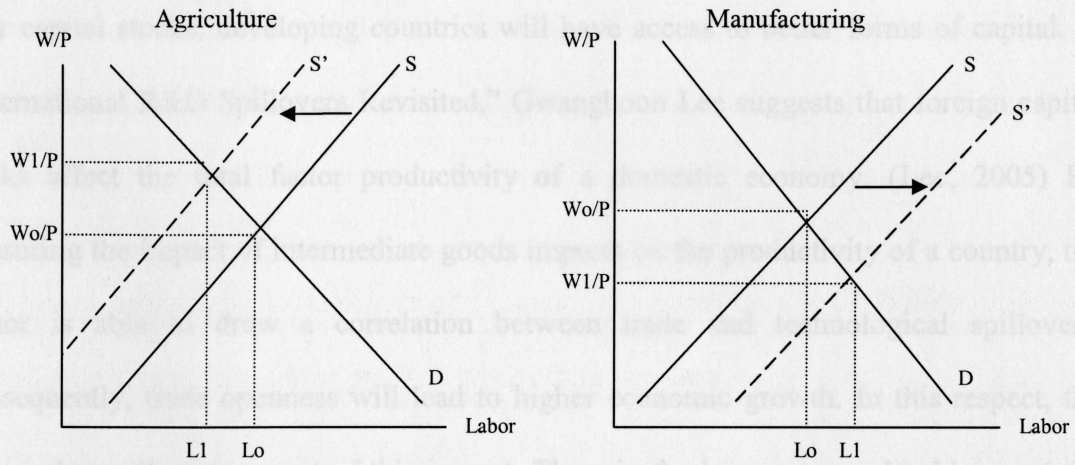
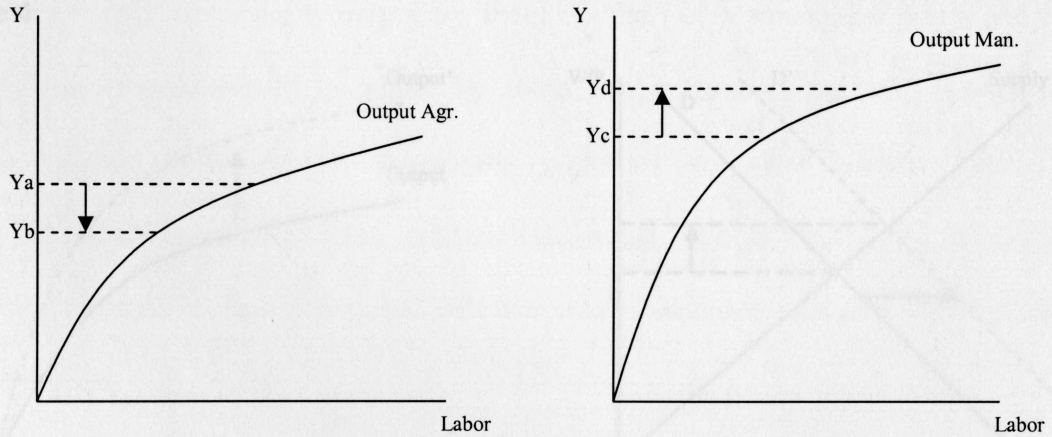


Figure 3.

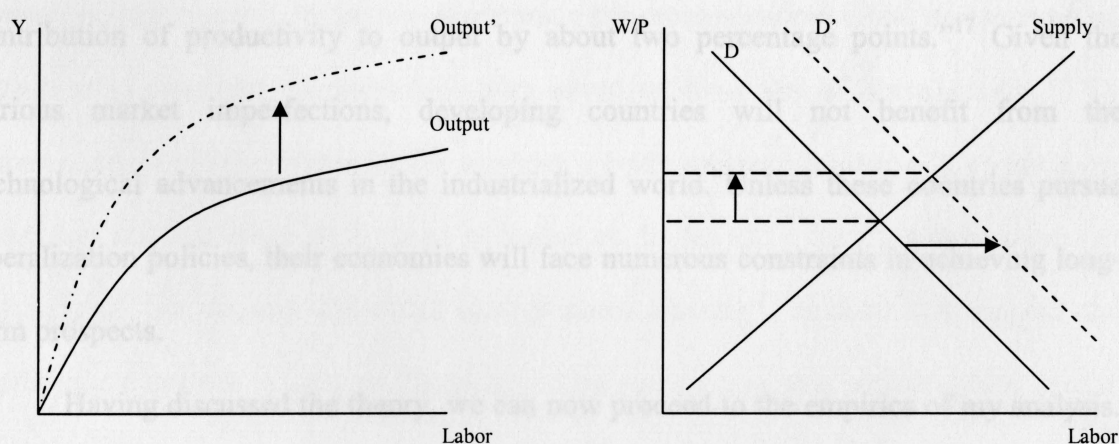


* $Y_a Y_b < Y_c Y_d$

Yet, there are reasons to believe that trade liberalization will further enhance growth through technological spillovers. It is true that as a country becomes more open its level of competitiveness will increase. But the story does not end here. In the wake of

liberalization, developing countries will benefit from the technological spillovers arising in the industrialized world. By opening their markets to foreign competitors, low- and middle-income countries will gain access to capital goods produced abroad. In turn, this would raise the productivity of each industrial worker. If the advanced countries improve their capital stocks, developing countries will have access to better forms of capital. In “International R&D Spillovers Revisited,” Gwanghoon Lee suggests that foreign capital stocks affect the total factor productivity of a domestic economy. (Lee, 2005) By measuring the impact of intermediate goods imports on the productivity of a country, the author is able to draw a correlation between trade and technological spillovers. Consequently, trade openness will lead to higher economic growth. In this respect, the trade index will capture part of this impact. Thus, in the long-run we should expect the production function to rotate up (as illustrated in figure 4).

Figure 4.



Based on economic intuition, it is unlikely that the technological advancements will happen exogenously. Unlike industrialized countries, developing nations tend to allocate fewer resources on research and development; hence, the technological spillovers must travel through the investment channel. According to Wacziarg and Welch (2003),

“the investment channel accounts for 21% of the effect of liberalization on growth.”¹⁶

Their findings seem to suggest that by implementing liberalization policies, developing nations can achieve good economic prospects. It may be true that technological advancements in the home country could drive workers to move across sectors. According to Yair Mundlak (2005), technological advancements in the United States – arising from mechanization – released a significant number of farmers from agriculture in the early part of the 20th century. However, there are little reasons to believe that information moves freely between countries. The only way for country A to benefit from the technological spillovers in country B is to engage in trade with that nation. Frankel and Romer (1999) claim that trade tends to have a positive effect on physical capital depth and productivity. By using OLS and IV regressions, the authors find that “a one-percentage-point increase in the trade share raises the contributions of both physical capital depth and schooling to output by about one-half of a percentage point, and the contribution of productivity to output by about two percentage points.”¹⁷ Given the various market imperfections, developing countries will not benefit from the technological advancements in the industrialized world. Unless these countries pursue liberalization policies, their economies will face numerous constraints in achieving long-term prospects.

Having discussed the theory, we can now proceed to the empirics of my analysis. Based on the economic rationale presented in this essay, the mathematical model will take the following form:

¹⁶ Romain Wacziarg and Karen Horn Welch (December 2003). “Trade Liberalization and Growth: New Evidence,” National Bureau of Economic Research, Working Paper 10152. Pg. 16

¹⁷ Frankel and Romer (1999). Op cit. Pg. 390

$$GDP_growth_per_capita = \alpha + \beta_1_Capital + \beta_2_Open + \beta_3_ \%Man + \beta_5_Countryi + \epsilon$$

In "A Contribution to the Empirics of Economic Growth," Gregory Mankiw, David Romer, and David Weil (1996) test the validity of the Solow model using econometric equations. The authors rely on investment data to measure the stock of physical capital. Similarly, they use school attainment as a proxy for human capital accumulation. Given that my equation analyzes changes in sectoral employment, estimating the annual growth of gross capital formation could simplify the nature of my regression. There is no need to use natural logarithms to estimate point elasticities since the variables may take positive or negative values. Furthermore, unlike Frankel and Romer's work, this study does not employ the standard measure of openness. Instead, I rely on the Sachs-Warner index, which takes a value of unity if the country has reached full liberalization or zero if otherwise. According to Wacziarg and Welch (2003), "[a]n alternative and arguably better way to estimate the cross-sectional effect of openness on growth is to construct openness indicators based on the dates of liberalization."¹⁸ To some extent, the Sachs-Warner index provides a better estimate for the level of openness given that it integrates a wide range of variables. Rather than focusing exclusively on international transactions, the index clearly states whether a country has adopted the appropriate measures to achieve liberalization by placing a ceiling on both black market premiums (20 percent) and average tariff rates (40 percent). In addition, the government must have no influence over the exports market.

Unfortunately, measuring technological changes may prove to be a difficult task. Based on Gwanghoon Lee's hypothesis, the trade index should capture the effect of

¹⁸ Wacziarg and Welch (December 2003). Op cit. Pg. 12

technological spillovers on growth. Jeong and Townsend (2005) further suggest that in the absence of trade openness and financial deepening, the structural transition of workers across sectors may seem implausible. Such adjustments seem to occur primarily in open economies. Since the sample simply focuses on a selected group of developing countries, the technological shocks will occur through the trade of capital imports. It is unlikely that an exogenous shock arising from domestic information advancements will drive workers to move across sectors. In fact, it is questionable whether such advancements could take place in a closed-economy framework, otherwise countries like Cuba and North Korea would enjoy high rates of growth at the present moment.

Subsequently, the structural variable – %*Man.* – will measure the effect of changes in sectoral employment (in percentage terms) on output growth. Since an increase in the level of employment in the manufacturing sector is paralleled by a decrease in employment in agriculture, focusing on one variable will avoid any redundancy. The last variable simply controls for country-specific factors. To elaborate on my hypothesis, I expect a positive correlation between capital accumulation and economic growth. Similarly, I anticipate a positive relationship between trade openness and long-run prospects. Regarding the structural variable, I predict that increasing the level of employment devoted to manufacturing will provide an explanation for positive GDP growth.

IV. DATA

Given the limited availability of data, my study focuses on a selected group of developing countries. Based on the information published by the World Bank, I constructed a time-series dataset for the period 1981-2000. The countries included in this

paper are Brazil, Chile, China, Costa Rica, Egypt, India, Indonesia, Malaysia, Mexico, the Philippines, and Thailand. Most of the information compiled in this work can be found in the *World Development Indicators* report. In this section, I will provide a brief description of the nature of the data.

Given that population growth is highly correlated with output, relying on pure measures of GDP growth may lead to erroneous interpretations. As a result, my dependent variable analyzes the yearly changes in real GDP per capita. This will enable me to control for both population size and changes in the price level. Subsequently, to estimate the rate of capital accumulation, I focus on the annual percent growth in gross capital formation. This consists of “outlays on additions to the fixed assets of the economy, net changes in the level of inventories, and net acquisitions of valuables.”¹⁹ Unlike Frankel and Romer, I adopt a different measure of openness. I rely on the Sachs-Warner index to determine whether a country meets all the necessary criteria to achieve full liberalization, including a low black market premium, low tariff and nontariff barriers, and no extreme controls on exports. Unfortunately, the Sachs-Warner variable does not cover the second half of the 1990s; thus, I rely on Wacziarg and Welch’s (2003) updated index to extend the period of analysis. Despite their different techniques in calculating the tariff barriers, the authors find that their updated index does not misrepresent the Sachs-Warner variable. Nevertheless, the study seems to assign a different date of liberalization to India. According to Wacziarg and Welch, India could not have achieved full liberalization in 1994 given that the country did not satisfy the tariff criteria. Thus, the authors assign a different value to this country. With respect to

¹⁹ World Bank (2005). *World Development Indicators*, Washington D.C. Pg. 237

²⁰ Wacziarg and Welch (December 2003) Op cit. Pg. 33

the share of employment devoted to the primary and secondary sectors, most values are taken from the World Bank's annual report. To complement my observations, I reproduced the structural data published by the State Statistical Bureau of the People's Republic of China.

The following table illustrates the mean values for each explanatory variable along with the standard deviation. As we can observe from the chart, China seems to be the fastest growing economy with an average growth rate of 8.4 per cent. At this pace, the economy will double in size in less than 10 years. Part of this phenomenon can be attributed to capital accumulation. Compared to the other economies, China experienced the highest rate in gross capital formation. Despite the fact that Sachs and Warner categorize China as a closed economy, the authors note that "the economy was essentially liberalized for nonstate firms, especially those operating in the Special Economic Zones."²⁰ Whereas the state-controlled industries faced numerous regulations, private firms could import their products free of tariffs. It may be hard to categorize China as either a closed or open economy given its two-track system. Despite the fact that China's average tariff rate fell below 40 percent during the period 1990-1999, the average black market premium exceeded the 20 percent limit.²¹ Thus, China seems to differ from the rest of the sample.

There are reasons to believe that the timing of liberalization plays an important role in determining a country's rate of economic growth. Having achieved full liberalization in 1963, Malaysia was able to grow at an annual rate of 3.9 percent between 1981 and the year 2000. The same seems to be true for Thailand, which has had an open

²⁰ Sachs and Warner (1995). Op cit. Pg. 46

²¹ Wacziarg and Welch (December 2003). Op cit. Pg. 35

economy since its establishment as a nation. Yet, the positive correlation between economic growth and trade openness is not exclusive to Southeast Asia. By pursuing the right set of policies, Chile was able to achieve full liberalization in the 1970s. Like Malaysia, Chile experienced annual growth rates above 3.5 percent during the period. Thus, the evidence seems to suggest that growth is a function of trade openness.

From the chart, we can observe that Malaysia only devoted 25 percent of its work force to the production of agricultural goods during the period. Compared to India or the Philippines, the number seems to be rather small. Similarly, Malaysia benefited from the second largest manufacturing sector in the group. Furthermore, we can observe that Malaysia experienced a significant rise in secondary-sector employment during the period, preceded by Thailand and Indonesia, both having average growth rates above 3.6 per cent. In this respect, the drop in agricultural employment seems to have contributed to the economic development of Southeast Asia. It is worth noting that, on average, all the countries in the sample experienced a drop in the level of employment devoted to agriculture. This does not seem to be the case for the changes in employment vis-à-vis the industrial sector. Whereas Chile, Egypt, Mexico, and the Southeast Asian economies experienced an increase in secondary-sector employment, Brazil, China, Costa Rica and India experienced a drop in the level of employment devoted to manufacturing.

Table 1. Mean Values of the Independent Variables Across Countries

	Brazil	Chile	China	Costa Rica	Egypt	India	Indonesia	Malaysia	Mexico	Philippines	Thailand
Mean GDP Growth per capita	.481 (3.63)	3.626 (5.08)	8.365 (3.19)	1.25 (3.98)	2.59 (1.84)	.614 (1.91)	3.688 (4.84)	3.869 (4.30)	.811 (3.85)	.075 (3.86)	4.871 (4.88)
Gross Capital Formation (annual growth)	2.436 (12.7)	8.621 (21.6)	9.869 (7.9)	4.627 (17.4)	2.407 (10.8)	6.862 (7.6)	4.892 (14.0)	8.663 (18.4)	3.258 (16.8)	2.724 (15.4)	6.081 (18.2)
Share of Lab. Agriculture	25.88 (2.4)	17.14 (2.3)	55.85 (7.6)	24.80 (3.5)	35.54 (4.6)	67.42 (1.0)	50.31 (5.6)	25.64 (6.8)	22.88 (2.7)	45.6 (4.5)	59.22 (6.8)
Share of Lab. Industry	21.82 (1.9)	23.98 (3.0)	19.96 (1.5)	23.67 (2.0)	21.77 (1.04)	13.167 (0.3)	14.712 (3.6)	28.195 (4.0)	24.335 (2.2)	15.235 (1.0)	15.325 (3.3)
% Change in Employment Agr.	-1.22 (6.21)	-0.41 (6.99)	-1.86 (2.54)	-1.36 (4.65)	-2.29 (8.88)	-0.70 (0.85)	-1.08 (5.89)	-3.06 (8.77)	-2.08 (8.55)	-1.60 (2.01)	-1.76 (4.08)
% Change in Employment Ind.	-1.06 (5.23)	0.22 (7.50)	-0.11 (4.70)	-0.24 (5.23)	0.42 (7.79)	-1.05 (0.84)	3.53 (20.3)	1.58 (5.01)	0.32 (6.41)	0.29 (4.67)	3.51 (9.32)
Year of Open.	1991	1976	Never	1986	1995	1996*	1970	1963	1986	1988	Always

Note: Numbers in parentheses indicate standard deviations away from the mean.

* Based on Sachs and Warner, India achieved liberalization in 1994; however, Wacziarg and Welch find that India did not satisfy the tariff openness criteria until 1996.

By dividing the countries into two groups – those that achieved liberalization prior to the year 1980 and those that satisfied the criteria post 1985 – we can observe that the former group experienced higher growth rates between 1981 and the year 2000. Based on the growth differential, it seems that the early liberalizers will manage to double the size of their economies in the next 17 years. This could reduce the income disparity between the industrialized world and the developing countries. Despite the roughness of the values, it is clear that the early liberalizers have outperformed the other economies in the sample.

Table 2. Early-liberalizers vs. Late-liberalizers

	Early-Liberalizing Countries	Late-Liberalizing Countries
GDP growth	4.06%	2.03%
% Change in Ind. Employ.	2.21%	-.20%

Early-Liberalizers: Chile, Indonesia, Malaysia, Thailand

Late-Liberalizers: Brazil, China, Costa Rica, Egypt, India, Mexico, Thailand

Even though the numbers are based on the mean values for each country – as presented in Table 1 – we can infer that the early-liberalizers seem to enjoy better growth prospects than the late-liberalizers. Whereas Chile, Indonesia, Malaysia, and Thailand experienced an average growth rate of 4.06% between 1981 and the year 2000, the late-liberalizers grew half as fast. Furthermore, the changes in industrial employment were more significant in the former group than in the latter. Thus, given the estimates presented above, it may be safe to conclude that the relationship between trade openness and the changes in sectoral employment provide some explanation for the different growth patterns among developing nations.

With the aid of Ordinary Least Squares regressions, I will test the validity of my hypothesis and thus uncover the true relationship between the variables. In the following section, I present the empirical results of my study. I make some adaptations to the model in order to control for other important factors. Based on my findings, I will assess whether countries should pursue liberalization in the wake of a globalizing movement. Since the only way to reduce the gap between the industrialized world and the

developing countries is through long-term prospects, the results will provide a valuable insight about the effects of implementing a liberal agenda.

V. RESULTS:

To simplify the method of analysis, I use Ordinary Least Squares regressions to estimate the magnitude of the coefficients. After running my first model, most variables seem to pass the test of significance. Based on my initial results, a percentage point increase in gross capital formation is associated with a 0.21 percent increase in GDP growth. Similarly, from Table 2 we can observe that open economies tend to experience higher levels of growth by a factor of 1.13 percent. The estimates further suggest that positive changes in sectoral employment are highly correlated with good economic performance: a percentage point increase in the level of employment devoted to manufacturing is associated with a 0.05 percent increase in growth. Given the standard deviation of the variable (8.19), it seems to be the case that by moving workers away from agriculture and into manufacturing, developing countries can increase their levels of growth. Based on the VIF scores, we can claim that there are no major signs of collinearity between the explanatory variables. Despite the simplicity of the model, the R-square adjusted captures almost 80% of the variance in GDP growth per capita. Similarly, from the Durbin-Watson statistic (1.76) we can infer that the model shows no major sign of positive or negative autocorrelation. Thus, the results seem to be consistent with the theory.

However, there are reasons to believe that economic growth can be severely affected by the exports of raw materials. When a country depends heavily on a natural good – e.g. copper, oil, or any mineral – the exchange rate tends to appreciate with

respect to foreign currencies, thus lowering the competitiveness level of domestic firms. To put it in different terms, when a country's exports are heavily dependent on natural goods, foreign nations tend to demand the domestic currency in order to purchase those products. In turn, this causes the exchange rate to appreciate. As we know from International Economics, countries with strong currencies tend to lose competitiveness in their export markets. In order to control for this phenomenon, I included two additional variables: exports in fuels as a percentage of total merchandised exports and the share of ores and minerals with respect to total exports. Based on the new results, the exportation of ores and minerals seems to depreciate the growth performance of a nation by a factor of 0.17 percent. Interestingly, fuel exports do not affect the growth rate of a nation, since the p-value fails to pass the test of significance. However, the VIF score of the former variable seems to exceed the 10 point threshold by more than 12 units. There are reasons to believe that part of this collinearity is attributed to the fact that Chile is a major exporter of copper since its VIF score also surpasses the limit. Despite the loss in the number of degrees of freedom, the new equation captures 79.3% of the variance in real GDP growth per capita. Based on the Durbin-Watson statistic (1.90), the residuals do not seem to be serially correlated. Once again, the results prove to be consistent with the theory.

Yet, based on the results presented above it is difficult to infer that the combination of trade openness and the changes in sectoral employment provide an accurate explanation for the economic performance of developing nations. So far, we have identified that the employment patterns of a nation – regardless of its trading regime – affect its growth rates in a significant manner. In an attempt to analyze the interaction

between the two terms, I decided to include an additional variable in my equation. The interaction term is nothing more than the Sachs-Warner index multiplied by the annual changes in sectoral employment. Surprisingly, the new results seem to raise important questions regarding the growth performance of developing countries. Although the interaction term seems to affect growth in a significant manner, the Sachs-Warner index ceases to adopt a positive value. The results seem to indicate that trade openness hinders growth by a factor of 0.43 percent. However, we should note that the Sachs-Warner index fails to pass the test of significance; hence, regardless of the negative coefficient, it seems that liberalization per se has no effect on economic growth. Rather, it is the combination of trade liberalization and changes in sectoral employment which proves to be significant. Based on the estimates, a percentage point change in sectoral employment – under an “open” regime – is associated with a 0.10 percent increase in growth. Despite the loss of significance in the Sachs-Warner index, the regression equation explains a larger percentage of the variance in GDP growth. Interestingly, fuel exports seem to be correlated with positive growth at the 10 percent level of significance. Conversely, exporting ores and minerals affect growth by a factor of 0.14 percent. To some extent, the results should not surprise us, since fuel exports tend to be valued in dollars; hence, the domestic currency will not appreciate from selling a large volume of oil in the world market. In general, the regression equation seems to be consistent with my initial hypothesis. Although the Sachs-Warner index failed to pass the test of significance, the interaction term captured a stronger effect than the simple employment variable. Only two variables – Ores and Minerals as well as Chile – have high VIF scores, exceeding 22 points in both cases. The rest of the explanatory variables fall within the limit.

Table 2. Econometric Results (Estimated Coefficients)

Consequently, it would be safe to conclude that the third equation provides an accurate explanation of how developing countries achieve optimal growth prospects. Openness, per se, will simply lead to the deterioration in the terms of trade in agriculture. However, in order for a nation to achieve long-term growth, openness must come in conjunction with changes in sectoral employment, that is, workers moving away from the primary sector and into manufacturing. In such context, it may seem that developing countries can foster long-run prospects by implementing policies that encourage the transition of workers across the economy.

	Model 1	Model 2	Model 3
Constant	0.22 (0.01)	1.54 (0.01)	0.90 (0.01)
Scale Variable	1.13** (0.02)	1.07** (0.02)	0.43 (0.02)
Openness	NA	-0.17*** (0.05)	-0.15*** (0.05)
Industrial Effect	NA	NA	2.10** (0.98)
Country:			
Ghana	1.00 (0.72)	8.35*** (2.33)	6.53*** (2.48)
China	6.62*** (0.74)	5.17*** (0.91)	5.67*** (0.93)
Costa Rica	-0.29 (0.88)	-1.90** (0.84)	-2.04** (0.83)
GDP	1.36** (0.74)	-1.12 (1.39)	-0.24 (1.42)
India	1.68** (0.73)	1.02 (0.14)	0.96 (1.13)
Indonesia	1.65** (0.77)	-0.60 (1.18)	-0.72 (1.17)
Malaysia	1.15 (0.72)	-0.73 (0.91)	-1.57 (0.87)
Mexico	-0.38 (0.82)	-2.24** (0.96)	-2.69*** (0.99)
Philippines	-0.98 (0.68)	-1.57** (0.69)	-1.22* (0.70)
Thailand	2.59*** (0.72)	1.22 (0.82)	1.73** (0.84)
R-sq (adj)	78.1%	78.2%	79.9%
Total Obs.	181	180	180

* Significant at the 10% level, ** Significant at the 5% level, *** Significant at the 1% level
 Dependent Variable = real GDP growth per capita

Table 2. Econometric Results (Estimated Coefficients)

	Model 1	Model 2	Model 3
Constant	-0.28 (0.56)	1.53* (0.81)	0.94 (0.84)
Gross Capital Formation	0.21*** (0.01)	0.20*** (0.01)	0.20*** (0.01)
Sachs-Warner	1.13** (0.51)	1.05** (0.52)	-0.43 (0.83)
% Change Industrial Employ.	0.05*** (0.02)	0.06** (0.02)	0.05** (0.02)
Fuel Exports	NA	0.04 (0.03)	0.04* (0.03)
Ores and Minerals	NA	-0.17*** (0.05)	-0.15*** (0.05)
Interaction Effect	NA	NA	0.10** (0.04)
Country:			
Chile	1.00 (0.72)	8.35*** (2.33)	6.55*** (2.44)
China	6.62*** (0.74)	5.17*** (0.91)	5.67*** (0.93)
Costa Rica	-0.29 (0.68)	-1.90** (0.84)	-2.04** (0.83)
Egypt	1.86** (0.74)	-1.12 (1.39)	-0.24 (1.42)
India	1.68** (0.73)	1.02 (1.14)	0.96 (1.13)
Indonesia	1.65** (0.77)	-0.60 (1.18)	-0.22 (1.17)
Malaysia	1.15 (0.72)	-0.73 (0.91)	-1.57 (0.97)
Mexico	-0.38 (0.82)	-2.24** (0.98)	-2.69*** (0.99)
Philippines	-0.96 (0.68)	-1.55** (0.69)	-1.22* (0.70)
Thailand	2.59*** (0.72)	1.22 (0.82)	1.73** (0.84)
R-sq (adj)	78.8%	79.3%	79.9%
Total Obs.	185	180	180

* Significant at the 10% level, ** Significant at the 5% level, *** Significant at the 1% level
Dependent Variable = real GDP growth per capita

VI. CONCLUSION

There are reasons to believe that the combination of trade openness and the changes in sectoral employment provides an explanation for the economic performance of developing countries. It is true that trade openness often leads to a deterioration in the terms of trade in agriculture, forcing numerous farmers to leave the fields behind in search for new opportunities. Since developed economies often subsidize their less productive sectors – i.e. agriculture – developing countries find it hard to undercut their prices. Hence, only a selected group of producers remain in the industry. Consequently, the inefficient farmers must move away from agriculture and into manufacturing. At first glance, trade liberalization may seem a harmful – even cruel – policy to adopt; however, the story does not end here.

There are reasons to believe that promoting liberalization can help developing countries to stimulate their economies. Unlike agriculture, the manufacturing sector tends to face increasing returns to scale, at least up to a certain point of production. By forcing farmers to move away from agriculture and into manufacturing, countries can increase their growth rates, thus reducing the disparity between the developing and the industrialized world. Based on the results presented in this study, countries that experience positive changes in the levels of employment devoted to industrial production seem to benefit from better economic prospects. Moreover, advancements in physical capital have translated into higher levels of growth. After controlling for the exports of natural resources, a percentage point increase in gross capital formation is associated with a 0.20 percent increase in growth. By far, this variable seems to have the strongest effect on growth. Regarding trade openness, Models 1 and 2 do suggest a positive correlation

between the variables. Although the Sachs-Warner index fails to pass the test of significance in Model 3, the interaction term is still highly significant. Thus, it may be safe to conclude that the changes in employment across sectors – in conjunction with trade liberalization – drive developing countries to prosper.

So, what lessons can we learn from trade openness? Based on the results, it seems that trade liberalization does influence a country's economic performance. In the wake of a counter-liberal movement in Latin America, statesmen must assess whether their protective policies will hurt their domestic economies in the long-run. Since stepping into power, Evo Morales has claimed that he is a prisoner of neoliberalism; thus, he wants to strengthen the power of his administration in order to break away – at least partly – from an unfair system.²² Hugo Chavez and Manuel Lopez Obrador, presidential candidate in the upcoming elections in Mexico, have followed a similar line of action. It may be true that adopting a liberal agenda will benefit some groups more than others. In the short-run, the unemployment rate could go up; yet in the long-run – given the better opportunities in urban areas – farmers will be able to raise their living standards. Relying on import quotas or tariff barriers will eventually lead to a zero-sum game. Developing countries must take advantage of the unfair practices implemented by industrialized nations. Although policies like the CAP may jeopardize the future of numerous farmers in the developing world, there could be numerous advantages from competing under such rules. Regardless of the negative effects these policies might create on food producers, the deterioration in the terms of trade in agriculture may benefit the domestic economy in the long-run. The policy would encourage inefficient workers to move away from the

²² Paul Mason (April 05, 2006). "Evo Morales 'padlocked' in palace," BBC Newsnight, Bolivia at <http://news.bbc.co.uk/2/hi/americas/4878466.stm>

primary sector and into manufacturing. Since the secondary sector does not face diminishing returns to scale, eliminating the redundancy of workers in agriculture would automatically lead to higher levels of output. This may be of useful importance given that liberalization – despite the restrictions imposed by industrialized nations – presents a solution to the growing inequality between the rich and the developing world. For instance, Sachs and Warner find evidence that the liberalizing countries are slowly converging with the rich nations.

Given the implications of these findings, statesmen should reconsider pursuing new economic reforms. As the world becomes more globalized, developing countries will forgo the opportunity to enhance their levels of productivity. In the short-run they may prevent the agricultural sector from experiencing economic hardships, but in the long-run their protective policies could backfire on the economy. Trade openness presents a great opportunity to achieve higher growth rates by enabling countries to import cheap capital goods and moving their workers across sectors. However, if they choose to implement Import Substitution Industrialization (ISI) policies, they would halt the process of development in a significant manner, thus widening the gap between the developing and industrialized world.

In this paper I present a realistic scenario about the open-economy framework. I acknowledge the unfair practices imposed by the industrialized nations lead to structural adjustments in the domestic economy. However, I argue that these practices help developing countries to become more productive in the long-run. By forcing inefficient farmers to move away from agriculture and into manufacturing, these nations can stimulate their economies and thus achieve higher rates of growth. The literature on the

subject is vast; however, this paper provides a different approach. More studies must be conducted in order to understand the real factors behind economic growth. Departing from the standard measure of openness is just the first step in getting more accurate results. As economists continue to update their databases, the results might shed some light about the importance of trade openness and the transition to industrialization.

Country	Year	GDP Growth	Grains Capital Form. (annual growth)	Fixed Exports	Crude and Minerals	Share of Labor Agriculture	% Change Services	Share of Labor Industry
Brazil	1985	4.562	5.498	5.025	1.265	28.215		24.710
Brazil	1986	1.055	8.382	7.159	10.455	25.538	5.061	23.450
Brazil	1987	-0.436	22.211	0.291	0.822	27.110	6.528	26.470
Brazil	1988	3.122	-0.672	0.745	4.043	26.630	0.982	21.660
Brazil	1989	6.815	01.975	0.265	13.352	26.600	-0.527	22.110
Brazil	1990	0.627	7.363	0.128	10.942	24.070	-0.441	24.200
Brazil	1991	1.053	21.028	3.605	10.224	24.000	6.079	22.650
Brazil	1992	-1.067	1.797	2.672	11.287	24.200	1.020	22.320
Brazil	1993	1.250	12.325	2.485	11.262	23.270	-4.162	23.710
Brazil	1994	-0.090	1.048	0.160	12.628	22.600	-1.724	25.710
Brazil	1995	0.328	1.158	1.265	14.468	24.000	12.051	21.660
Brazil	1996	-2.020	0.265	3.061	11.541	20.000	15.763	23.400
Brazil	1997	3.210	4.262	1.052	10.585	22.460	5.180	23.110
Brazil	1998	4.288	8.765	1.265	8.818	20.750	2.372	26.150
Brazil	1999	1.768	1.248	0.673	10.241	20.110	-2.489	19.010
Brazil	2000	1.082	-0.192	1.385	10.078	24.410	6.075	19.000
Brazil	2001	1.965	7.125	0.268	9.265	24.200	2.307	20.000
Brazil	2002	-1.112	0.275	0.720	9.827	23.400	3.563	20.710
Brazil	2003	0.415	7.746	0.327	9.918	24.200	5.478	19.000
Brazil	2004	2.117	9.448	1.647	9.505	22.110	-0.528	19.800
China	2005	2.144	24.225	1.891	62.040	15.000	4.205	20.710
China	1985	11.869	67.145	1.694	67.872	16.300	4.148	19.200
China	1986	1.246	48.294	1.363	63.295	15.800	-2.415	19.200
China	1987	8.272	12.582	1.283	50.210	15.000	1.289	18.200
China	1988	8.104	19.227	0.473	55.205	20.100	20.250	19.200
China	1989	3.068	7.487	0.265	51.357	20.000	1.600	21.010
China	1990	4.001	20.244	0.160	52.345	20.000	1.648	19.000
China	1991	8.529	17.082	0.177	56.995	20.500	-0.871	24.000
China	1992	3.487	28.228	0.265	57.294	19.000	4.452	25.010
China	1993	1.024	0.267	0.265	54.076	19.000	6.275	22.200
China	1994	8.191	0.095	0.202	49.228	18.100	-1.208	20.200

Country	Year	GDP Growth/Cap	Gross Capital Form. (annual growth)	Fuel Exports	Ores and Minerals	SW	Share of Labor Agriculture	% Change Employ. Agr.	Share of Labor Industry	% Change Employ. Ind.	SW_X_Emp. IND
Brazil	1981	-6.503	-5.468	5.056	9.351	0	29.300	...	24.700	...	0.000
Brazil	1982	-1.588	-8.092	7.156	10.499	0	29.500	0.683	23.400	-5.263	0.000
Brazil	1983	-5.438	-23.611	5.291	9.672	0	27.100	-8.136	25.400	8.547	0.000
Brazil	1984	3.122	-0.672	6.768	8.903	0	29.800	9.963	21.800	-14.173	0.000
Brazil	1985	5.812	31.675	6.356	9.393	0	28.600	-4.027	22.100	1.376	0.000
Brazil	1986	5.922	7.383	3.125	10.902	0	25.900	-9.441	24.200	9.502	0.000
Brazil	1987	1.683	21.026	3.608	10.234	0	24.600	-5.019	23.800	-1.653	0.000
Brazil	1988	-1.887	1.751	2.672	11.287	0	24.200	-1.626	23.300	-2.101	0.000
Brazil	1989	1.500	12.552	2.466	11.993	0	23.200	-4.132	23.700	1.717	0.000
Brazil	1990	-5.890	-22.049	2.160	13.558	0	22.800	-1.724	22.700	-4.219	0.000
Brazil	1991	-0.325	5.103	1.365	14.348	1	25.550	12.061	21.550	-5.066	21.550
Brazil	1992	-2.039	-0.983	1.597	11.891	1	28.300	10.763	20.400	-5.336	20.400
Brazil	1993	3.338	4.312	1.653	10.585	1	27.400	-3.180	20.700	1.471	20.700
Brazil	1994	4.384	8.545	1.810	9.610	1	26.750	-2.372	20.150	-2.657	20.150
Brazil	1995	2.768	9.434	0.875	10.281	1	26.100	-2.430	19.600	-2.730	19.600
Brazil	1996	1.321	-0.165	0.891	10.019	1	24.400	-6.513	19.900	1.531	19.900
Brazil	1997	1.945	6.203	0.610	9.363	1	24.200	-0.820	20.000	0.503	20.000
Brazil	1998	-1.182	-0.620	0.720	9.807	1	23.400	-3.306	20.100	0.500	20.100
Brazil	1999	-0.460	-7.580	0.837	9.914	1	24.200	3.419	19.300	-3.980	19.300
Brazil	2000	3.127	9.980	1.641	9.808	1	22.400	-7.438	19.650	1.813	19.650
Chile	1981	3.164	15.537	1.801	62.950	1	15.500	-4.908	23.700	0.000	23.700
Chile	1982	-11.685	-51.169	1.994	61.572	1	16.200	4.516	18.200	-23.207	18.200
Chile	1983	-5.266	-20.574	1.583	63.883	1	15.800	-2.469	18.100	-0.549	18.100
Chile	1984	6.288	43.645	1.263	58.310	1	16.000	1.266	20.200	11.602	20.200
Chile	1985	5.421	16.071	0.473	59.208	1	20.200	26.250	20.200	0.000	20.200
Chile	1986	3.896	6.881	0.062	53.357	1	20.600	1.980	21.200	4.950	21.200
Chile	1987	4.851	26.843	0.140	52.385	1	20.900	1.456	23.000	8.491	23.000
Chile	1988	5.529	11.606	0.177	56.898	1	20.300	-2.871	24.900	8.261	24.900
Chile	1989	8.697	26.623	0.315	57.894	1	19.400	-4.433	26.500	6.426	26.500
Chile	1990	1.924	5.367	0.524	54.615	1	19.300	-0.515	25.200	-4.906	25.200
Chile	1991	6.181	0.690	0.530	49.226	1	19.100	-1.036	26.300	4.365	26.300

Chile	1992	10.411	21.783	0.346	46.787	1	18.000	-5.759	26.500	0.760	26.500
Chile	1993	5.228	21.107	0.183	43.141	1	16.600	-7.778	27.200	2.642	27.200
Chile	1994	4.022	0.774	0.215	43.403	1	16.200	-2.410	26.100	-4.044	26.100
Chile	1995	8.946	34.208	0.257	48.247	1	15.700	-3.086	26.100	0.000	26.100
Chile	1996	5.861	6.907	0.192	46.262	1	15.400	-1.911	26.600	1.916	26.600
Chile	1997	5.897	10.705	0.308	48.090	1	14.400	-6.494	27.300	2.632	27.300
Chile	1998	2.527	3.151	0.399	42.926	1	14.400	0.000	25.500	-6.593	25.500
Chile	1999	-2.435	-25.538	0.443	43.239	1	14.400	0.000	23.400	-8.235	23.400
Chile	2000	3.072	17.797	1.137	45.348	1	14.400	0.000	23.400	0.000	23.400
China	1981	3.861	-3.200			0	68.100	-0.873	18.400	0.546	0.000
China	1982	7.505	8.800			0	68.100	0.000	18.500	0.543	0.000
China	1983	9.309	11.100			0	67.100	-1.468	18.700	1.081	0.000
China	1984	13.698	18.900	23.021	2.204	0	64.000	-4.620	20.000	6.952	0.000
China	1985	11.965	28.500			0	62.400	-2.500	20.900	4.500	0.000
China	1986	7.194	7.100			0	60.900	-2.404	21.900	4.785	0.000
China	1987	9.825	5.900	11.455	3.087	0	60.000	-1.478	22.200	1.370	0.000
China	1988	9.522	11.700	8.246	3.464	0	59.400	-1.000	22.400	0.901	0.000
China	1989	2.516	1.200	8.151	2.539	0	60.000	1.010	21.600	-3.571	0.000
China	1990	2.288	-0.200	8.308	2.081	0	53.500	-10.833	19.000	-12.037	0.000
China	1991	7.720	8.200	6.508	1.666	0	53.900	0.748	19.200	1.053	0.000
China	1992	12.809	12.900	5.477	1.693	0	53.100	-1.484	19.600	2.083	0.000
China	1993	12.203	24.900	4.454	1.654	0	51.200	-3.578	20.400	4.082	0.000
China	1994	11.334	15.600	3.351	1.887	0	49.700	-2.930	20.800	1.961	0.000
China	1995	9.306	15.500	3.575	2.096	0	48.600	-2.213	21.100	1.442	0.000
China	1996	8.457	7.935	3.908	1.817	0	47.800	-1.646	20.800	-1.422	0.000
China	1997	7.692	5.060	3.808	2.111	0	47.400	-0.837	20.400	-1.923	0.000
China	1998	6.771	6.376	2.802	2.051	0	47.500	0.211	18.100	-11.275	0.000
China	1999	6.092	6.242	2.382	2.015	0	47.400	-0.211	17.700	-2.210	0.000
China	2000	7.238	4.869	3.144	1.905	0	46.900	-1.055	17.500	-1.130	0.000
Costa Rica	1981	-5.108	-17.580	1.241	0.113	0	27.600	0.730	22.100	-7.917	0.000
Costa Rica	1982	-9.939	-28.827	0.914	0.236	0	30.000	8.696	20.900	-5.430	0.000
Costa Rica	1983	-0.055	-2.933	1.743	0.599	0	28.200	-6.000	21.700	3.828	0.000

Costa Rica	1984	4.937	35.556	1.907	0.600	0	30.000	6.383	20.100	-7.373	0.000
Costa Rica	1985	-2.181	4.177	1.809	0.474	0	27.300	-9.000	21.000	4.478	0.000
Costa Rica	1986	2.483	1.880	1.354	0.452	1	26.900	-1.465	22.900	9.048	22.900
Costa Rica	1987	1.746	14.358	1.060	0.875	1	28.100	4.461	24.700	7.860	24.700
Costa Rica	1988	0.495	-1.077	0.822	0.619	1	28.100	0.000	24.000	-2.834	24.000
Costa Rica	1989	2.716	18.471	1.063	0.867	1	26.200	-6.762	26.200	9.167	26.200
Costa Rica	1990	0.742	20.288	1.016	0.917	1	25.900	-1.145	25.900	-1.145	25.900
Costa Rica	1991	-0.383	-12.955	0.504	0.728	1	25.500	-1.544	26.300	1.544	26.300
Costa Rica	1992	6.469	27.844	0.544	0.920	1	24.100	-5.490	26.200	-0.380	26.200
Costa Rica	1993	4.914	13.462	0.394	1.010	1	22.600	-6.224	25.700	-1.908	25.700
Costa Rica	1994	2.429	1.541	0.581	0.951	1	21.400	-5.310	26.100	1.556	26.100
Costa Rica	1995	1.774	-5.425	0.776	1.062	1	21.600	0.935	24.100	-7.663	24.100
Costa Rica	1996	-1.202	-10.406	0.869	1.187	1	21.600	0.000	23.300	-3.320	23.300
Costa Rica	1997	3.388	24.909	0.544	0.951	1	20.600	-4.630	23.600	1.288	23.600
Costa Rica	1998	6.144	26.284	0.390	0.786	1	20.100	-2.427	23.000	-2.542	23.000
Costa Rica	1999	5.967	-15.551	0.367	0.537	1	19.700		23.200	0.870	23.200
Costa Rica	2000	-0.327	-1.472	0.618	0.761	1	20.400	3.553	22.300	-3.879	22.300
Egypt	1981	1.131	8.186	64.555	5.562	0	40.300	-4.953	21.900	8.955	0.000
Egypt	1982	7.099	12.627	66.293	5.610	0	39.100	-2.978	21.900	0.000	0.000
Egypt	1983	4.646	3.799	62.368	5.383	0	41.000	4.859	21.200	-3.196	0.000
Egypt	1984	3.375	10.215	57.574	5.534	0	40.600	-0.976	20.100	-5.189	0.000
Egypt	1985	3.894	7.580	68.143	7.567	0	..	..	..	..	0.000
Egypt	1986	0.097	-12.540	51.235	5.921	0	..	..	..	..	0.000
Egypt	1987	0.030	-17.826	35.734	5.114	0	..	..	..	..	0.000
Egypt	1988	2.803	8.178	33.169	5.495	0	..	..	..	..	0.000
Egypt	1989	2.542	-6.804	30.468	5.585	0	42.400	..	20.700	..	0.000

Egypt	1990	3.314	2.360	29.415	5.159	0	39.000	-8.019	20.700	0.000	0.000
Egypt	1991	-1.136	-20.317	53.933	5.323	0	31.300	-19.744	24.800	19.807	0.000
Egypt	1992	2.216	-3.888	43.734	4.267	0	38.400	22.684	21.500	-13.306	0.000
Egypt	1993	0.767	-5.138	49.798	3.701	0	35.300	-8.073	21.700	0.930	0.000
Egypt	1994	1.882	10.417	39.033	3.480	0	35.200	-0.283	21.500	-0.922	0.000
Egypt	1995	2.657	10.943	37.168	3.287	1	34.000	-3.409	21.900	1.860	21.900
Egypt	1996	3.075	9.660	47.572	3.277	0	32.650	-3.971	22.050	0.685	0.000
Egypt	1997	3.494	10.360	43.253	2.902	0	31.300	-4.135	22.200	0.680	0.000
Egypt	1998	2.573	19.914	29.511	2.366	0	29.800	-4.792	22.300	0.450	0.000
Egypt	1999	4.270	5.000	36.912	2.462	0	28.700	-3.691	22.600	1.345	0.000
Egypt	2000	3.127	-4.592	41.907	2.774	0	29.600	3.136	21.300	-5.752	0.000
India	1981	4.017	22.266	0.428	3.613	0	44.000	-13.043	18.400	17.100	0.000
India	1982	1.405	-1.041	14.814	3.068	0	48.100	4.773	18.700	-1.020	0.000
India	1983	4.796	-1.644	16.328	3.503	0	44.000	-4.555	18.100	-3.228	0.000
India	1984	1.957	10.931	15.574	3.571	0	40.700	-7.580	18.100	3.525	0.000
India	1985	3.494	10.889	6.038	4.252	0	45.000	10.308	18.300	-14.980	0.000
India	1986	2.591	1.798	3.363	4.558	0	43.200	-4.028	17.800	8.205	0.000
India	1987	2.077	2.263	4.210	4.437	0	45.300	4.261	17.800	-2.697	0.000
India	1988	7.582	14.684	2.574	6.416	0	42.300	17.782	28.200	-3.294	0.000
India	1989	4.276	3.588	2.643	6.512	0	31.200	18.707	24.200	-3.227	0.000
India	1990	3.694	7.901	2.924	4.380	0	69.100		13.600	5.200	0.000
India	1991	-1.075	-6.818	2.363	4.217	0	68.200	-1.302	13.400	-1.471	0.000
India	1992	3.329	13.176	2.813	4.247	0	66.900	-1.906	13.100	-2.239	0.000
India	1993	2.945	-3.301	2.233	3.543	0	66.800	-0.149	13.000	-0.763	0.000
India	1994	5.543	12.834	1.945	4.162	1	66.800	0.000	13.000	0.000	13.000
India	1995	5.742	19.272	1.660	5.982	1	66.700	-0.150	12.900	-0.769	12.900
India	1996	5.518	1.578	1.553	5.701	1	66.700	-0.150	12.900	-0.769	12.900
India	1997	2.674	2.196	1.148	4.757	1	66.700	-0.150	12.900	-0.769	12.900
India	1998	4.179	8.637	0.433	4.412	1	66.700	-0.150	12.900	-0.769	12.900
India	1999	5.324	8.603	0.238	4.701	1	66.700	-0.150	12.900	-0.769	12.900
India	2000	2.212	9.431	4.347	4.930	1	66.700	-0.150	12.900	-0.769	12.900
Indon.	1981	6.002	12.398	79.803	9.018	1	95.000	2.807	32.100	0.489	32.100
Indon.	1982	-0.823	5.648	82.414	6.248	1	54.700	2.078	14.900	0.467	14.900

Indon.	1983	6.440	4.298	76.356	6.347	1					
Indon.	1984	5.218	-4.754	71.652	3.995	1					
Indon.	1985	1.599	6.801	66.597	5.318	1	54.700		13.400		13.400
Indon.	1986	4.063	8.867	54.759	2.968	1	55.100	0.731	8.200	-38.806	8.200
Indon.	1987	3.447	5.479	48.983	3.055	1	55.000	-0.181	8.300	1.220	8.300
Indon.	1988	4.498	24.690	39.504	2.997	1	55.900	1.636	8.300	0.000	8.300
Indon.	1989	7.172	12.306	40.230	3.003	1	56.200	0.537	13.300	60.241	13.300
Indon.	1990	7.064	10.883	43.984	2.077	1	55.900	-0.534	13.700	3.008	13.700
Indon.	1991	7.072	9.571	38.519	1.534	1	53.900	-3.578	14.500	5.839	14.500
Indon.	1992	5.474	10.246	33.338	1.536	1	54.900	1.855	14.100	-2.759	14.100
Indon.	1993	5.587	-0.220	28.357	1.237	1	50.600	-7.832	15.700	11.348	15.700
Indon.	1994	5.949	16.677	26.370	1.270	1	44.000	-13.043	18.400	17.197	18.400
Indon.	1995	6.874	13.061	25.364	1.347	1	46.100	4.773	18.700	1.630	18.700
Indon.	1996	6.152	4.938	25.832	1.226	1	44.000	-4.555	18.100	-3.209	18.100
Indon.	1997	3.270	6.313	24.641	1.215	1	40.700	-7.500	19.100	5.525	19.100
Indon.	1998	-14.296	-39.037	19.065	1.200	1	45.000	10.565	16.300	-14.660	16.300
Indon.	1999	-0.546	-23.237	22.971	1.152	1	43.200	-4.000	17.800	9.202	17.800
Indon.	2000	3.548	12.911	25.371	1.044	1	45.300	4.861	17.300	-2.809	17.300
Malay.	1981	4.348	17.191	26.623	7.034	1	43.800	17.742	25.400	5.394	25.400
Malay.	1982	3.299	14.374	28.669	4.110	1	31.200	-28.767	24.400	-3.937	24.400
Malay.	1983	3.522	7.635	28.706	4.458	1	30.600	-1.923	25.900	6.148	25.900
Malay.	1984	4.912	5.474	29.929	4.029	1	30.400	-0.654	24.500	-5.405	24.500
Malay.	1985	-3.814	-19.732	31.538	3.849	1	30.400	0.000	23.800	-2.857	23.800
Malay.	1986	-1.768	-13.449	22.851	5.131	1	30.600	0.658	22.900	-3.782	22.900
Malay.	1987	2.280	-2.599	19.946	5.793	1	30.900	0.980	22.300	-2.620	22.300
Malay.	1988	6.662	25.946	15.795	7.131	1	30.600	-0.971	22.600	1.345	22.600
Malay.	1989	5.817	22.976	16.250	6.854	1	28.700	-6.209	25.400	12.389	25.400
Malay.	1990	5.822	21.392	18.302	5.696	1	26.000	-9.408	27.500	8.268	27.500
Malay.	1991	6.874	29.498	15.471	4.769	1	23.900	-8.077	29.550	7.455	29.550
Malay.	1992	6.209	3.417	12.905	2.843	1	21.800	-8.787	31.600	6.937	31.600
Malay.	1993	7.194	22.775	10.294	2.548	1	21.100	-3.211	32.000	1.266	32.000
Malay.	1994	6.528	12.657	7.371	2.355	1	20.550	-2.607	32.150	0.469	32.150
Malay.	1995	7.129	25.779	6.996	2.884	1	20.000	-2.676	32.300	0.467	32.300

Malay.	1996	7.299	5.780	8.068	2.036	1	19.400	-3.000	32.200	-0.310	32.200
Malay.	1997	4.659	11.236	8.142	1.890	1	17.300	-10.825	33.700	4.658	33.700
Malay.	1998	-9.502	-43.044	6.172	1.760	1	18.800	8.671	31.800	-5.638	31.800
Malay.	1999	3.661	-3.862	6.806	1.472	1	18.400	-2.128	31.700	-0.314	31.700
Malay.	2000	6.239	29.825	9.623	1.336	1	18.400	0.000	32.200	1.577	32.200
Mexico	1981	6.221	14.824	72.102	15.248	0					0.000
Mexico	1982	-2.863	-24.534	77.238	11.884	0					0.000
Mexico	1983	-6.273	-27.528	64.370	10.816	0					0.000
Mexico	1984	1.428	6.060	61.756	7.755	0					0.000
Mexico	1985	0.480	11.481	60.087	10.679	0					0.000
Mexico	1986	-5.693	-19.441	32.475	10.016	1					0.000
Mexico	1987	-0.153	5.709	41.667	7.200	1					0.000
Mexico	1988	-0.713	11.722	32.087	10.000	1	23.500		26.500		26.500
Mexico	1989	2.217	1.575	33.882	9.944	1	23.050	-1.915	27.150	2.453	27.150
Mexico	1990	3.102	11.551	37.584	8.180	1	22.600	-1.952	27.800	2.394	27.800
Mexico	1991	2.296	9.944	30.022	7.214	1	25.800	14.159	23.300	-16.187	23.300
Mexico	1992	1.738	13.315	17.589	5.814	1	25.700	-0.388	22.900	-1.717	22.900
Mexico	1993	0.114	-0.829	14.046	4.461	1	25.700	0.000	22.500	-1.747	22.500
Mexico	1994	2.559	10.324	11.864	4.109	1	25.800	0.389	22.200	-1.333	22.200
Mexico	1995	-7.813	-34.778	10.270	4.390	1	23.500	-8.915	21.700	-2.252	21.700
Mexico	1996	3.524	25.667	11.988	3.179	1	21.600	-8.085	22.800	5.069	22.800
Mexico	1997	5.217	24.837	10.039	2.754	1	23.200	7.407	22.500	-1.316	22.500
Mexico	1998	3.447	10.510	5.951	1.563	1	19.400	-16.379	24.700	9.778	24.700
Mexico	1999	2.307	3.437	7.143	1.700	1	20.100	3.608	25.400	2.834	25.400
Mexico	2000	5.072	11.314	9.659	1.625	1	17.5	-12.935	26.900	5.906	26.900
Philipp	1981	0.939	2.849	0.739	8.200	0	51.500	-0.579	14.100	-8.442	0.000
Philipp	1982	1.126	8.400	0.322	6.846	0	52.100	1.165	14.200	0.709	0.000
Philipp	1983	-0.574	5.941	2.202	5.616	0	52.000	-0.192	13.800	-2.817	0.000
Philipp	1984	-9.543	-32.947	1.565	4.521	0	50.100	-3.654	14.300	3.623	0.000
Philipp	1985	-9.512	-31.253	0.751	4.436	0	49.600	-0.998	13.800	-3.497	0.000
Philipp	1986	0.969	11.283	1.300	2.178	0	49.800	0.403	13.400	-2.899	0.000
Philipp	1987	1.852	14.341	1.690	1.582	0	47.800	-4.016	14.600	8.955	0.000
Philipp	1988	4.252	11.575	2.063	1.778	1	46.100	-3.556	15.600	6.849	15.600

Philipp	1989	3.738	22.858	1.510	1.415	1	45.100	-2.169	15.800	1.282	15.800
Philipp	1990	0.669	15.331	2.234	1.039	1	45.200	0.222	15.000	-5.063	15.000
Philipp	1991	-2.800	-18.601	2.628	0.686	1	45.300	0.221	16.000	6.667	16.000
Philipp	1992	-1.904	7.418	2.431	0.595	1	45.400	0.221	16.000	0.000	16.000
Philipp	1993	-0.165	7.873	2.041	0.528	1	45.800	0.881	15.500	-3.125	15.500
Philipp	1994	2.055	8.654	1.646	0.535	1	44.700	-2.402	15.800	1.935	15.800
Philipp	1995	2.340	3.503	1.545	0.640	1	44.100	-1.342	15.600	-1.266	15.600
Philipp	1996	3.471	12.456	1.880	0.698	1	41.700	-5.442	16.600	6.410	16.600
Philipp	1997	2.815	11.696	1.398	0.962	1	40.400	-3.118	16.700	0.602	16.700
Philipp	1998	-2.826	-16.276	0.540	1.050	1	39.900	-1.238	15.700	-5.988	15.700
Philipp	1999	1.047	-1.982	0.735	1.013	1	37.800	-5.263	16.200	3.185	16.200
Philipp	2000	3.551	11.363	1.334	1.299	1	37.400	-1.058	16.000	-1.235	16.000
Thai.	1981	3.751	8.517	0.025	8.200	1	64.200	-9.322	12.800	24.272	12.800
Thai.	1982	3.306	-6.800	0.026	6.846	1	61.500	-4.206	13.800	7.812	13.800
Thai.	1983	3.662	22.074	0.021	5.616	1	63.100	2.602	13.000	-5.797	13.000
Thai.	1984	3.983	5.194	0.239	4.521	1	64.400	2.060	13.100	0.769	13.100
Thai.	1985	3.076	-3.539	1.278	4.436	1	68.400	6.211	12.100	-7.634	12.100
Thai.	1986	3.896	-4.157	0.789	2.178	1	66.700	-2.485	10.600	-12.397	10.600
Thai.	1987	7.763	18.911	0.702	1.582	1	64.400	-3.448	11.800	11.321	11.800
Thai.	1988	11.414	28.964	0.766	1.778	1	66.400	3.106	11.300	-4.237	11.300
Thai.	1989	10.277	16.995	0.730	1.415	1	66.600	0.301	11.900	5.310	11.900
Thai.	1990	9.215	31.235	0.834	1.039	1	64.000	-3.904	14.000	17.647	14.000
Thai.	1991	6.906	13.344	0.999	0.686	1	60.300	-5.781	15.400	10.000	15.400
Thai.	1992	6.693	5.220	0.987	0.595	1	60.800	0.829	15.800	2.597	15.800
Thai.	1993	7.114	8.670	1.064	0.528	1	56.700	-6.743	17.500	10.759	17.500
Thai.	1994	8.100	10.663	0.778	0.535	1	56.000	-1.235	18.000	2.857	18.000
Thai.	1995	8.607	14.255	0.717	0.640	1	52.000	-7.143	19.800	10.000	19.800
Thai.	1996	5.244	5.202	1.607	0.698	1	50.000	-3.846	20.800	5.051	20.800
Thai.	1997	-2.026	-21.926	2.301	0.962	1	50.300	0.600	19.700	-5.288	19.700
Thai.	1998	-11.143	-50.881	1.487	1.050	1	51.300	1.988	17.700	-10.152	17.700
Thai.	1999	3.663	8.473	1.769	1.013	1	48.500	-5.458	18.400	3.955	18.400
Thai.	2000	3.918	11.201	3.002	1.299	1	48.800	0.619	19.000	3.261	19.000

BIBLIOGRAPHY

- Ahearn, Raymond (January 2003). "Trade and the Americas," Issue Brief for Congress, Congressional Research Service: The Library of Congress.
- Fei, John and Gustav Ranis (1997). *Growth and Development from an Evolutionary Perspective*, Massachusetts: Blackwell Publishers.
- Frankel, Jeffrey and Romer, David (1999). "Does Trade Cause Growth?" *The American Economic Review*, Vol. 89, No. 3
- Hari, K.S. (2003). "Structural Transformation in an Agrarian Economy: A Study of India, 1970-2000," *The Indian Journal of Labour Economics*, Vol. 46, No. 4.
- Hasan, Rona and Quibria, M.G. (2004). "Industry Matters for Poverty: A Critique of Agricultural Fundamentalism," *Kyklos*, Vol. 57, Issue 2. Pg. 259
- Henson, Spencer and Rupert Loader (2000). "Barriers to Agricultural Exports from Developing Countries: The Role of Sanitary and Phytosanitary Requirements," *World Development*, Vol. 29. No. 1, pg. 85-102.
- Irwin, Douglas (2001). "Did Import Substitution Promote Growth in the Late Nineteenth Century?" Dartmouth College and NBER.
- Jeong, Hyeok and Robert Townsend (May 2005). "Sources of TFP Growth: Occupational Choice and Financial Deepening," IEPR Working Paper 05.28. Institute of Economic Policy Research: University of Southern California.
- Krueger, Anne (1978). *Liberalization Attempts and Consequences: Foreign Trade Regimes and Economic Development*, New York: National Bureau of Economic Research.
- Kuznets, Simon (1957). "Quantitative Aspects of the Economic Growth of Nations: Industrial distribution of national product and labor force," *Economic Development and Cultural Change*, Vol. 5, No. 4.
- Lee, Gwanghoon (2005). "International R&D Spillovers Revisited," *Open Economies Review*, Vol. 16, Issue 3.
- Lewer, Joshua and Van den Berg, Hendrik (2003). "Does Trade Composition Influence Economic Growth? Time Series Evidence for 28 OECD and Developing Countries," *Journal of International Trade and Economic Development*, Vol. 12, No. 1.
- Mason, Paul (April 05, 2006). "Evo Morales 'padlocked' in palace," BBC Newsnight, Bolivia at <http://news.bbc.co.uk/2/hi/americas/4878466.stm>

- Mundlak, Yair (Dec. 2005). "Economic Growth: Lessons from Two Centuries of American Agriculture," *Journal of Economic Literature*, Vol. XLIII.
- Nunnenkamp, Peter (2004). "FDI and Economic Growth in Developing Economies: How Relevant Are Host-Economy and Industry Characteristics?" *Transnational Corporations*, Vol. 13, Issue 3.
- Ranis, Gustav and John Fei (1961). "A Theory of Economic Development," *The American Economic Review*, Vol. 51, No. 4.
- Rodrik, Dani (August 2004). "Growth Strategies," *Handbook of Economic Growth* at <http://ksghome.harvard.edu/~drodrik/GrowthStrategies.pdf>.
- Sachs, Jeffrey and Andrew Warner (1995). "Economic Reform and the Process of Global Integration," in *Brookings Papers on Economic Activity*, Vol. 1995, No. 1.
- Studenmund, A. (2001). *Using Econometrics: A Practical Guide*, Addison Wesley Longman: Boston, 4th ed.
- Van den Berg, Hendrik (2001). *Economic Growth and Development*, McGraw-Hill: Boston.
- Wacziarg, Romain and Karen Horn Welch (December 2003). "Trade Liberalization and Growth: New Evidence," National Bureau of Economic Research, Working Paper 10152.
- Wooldridge, Jeffrey (2006). *Introductory Econometrics: A modern Approach*, Australia: Thomson-South-Western. 3rd ed.
- World Bank (2005). *World Development Indicators*, Washington D.C.
- Xinggen, Liu (1992). *China: Statistical Yearbook 1992*; State Statistical Bureau of the People's Republic of China.

SPECIAL ACKNOWLEDGEMENTS:

Writing Consultants: Washington and Lee University.