CHAPTER – III

HISTORICAL PERSPECTIVE

3.1 INTRODUCTION

In principle, all of the macroeconomic variables like economic growth need a stable atmosphere and many studies have shown that unstable atmosphere cause damages to the economics system.

In this chapter, we try to review some studies, which explain the effects and the relationship between export instability and economic growth. Most of the studies have found negative relationship between export instability and economic growth but some studies have found that export instability can be the reason of higher economic growth. It is possible that accelerated volatility and export shocks increase motivation for investment in short run but it can change to uncertainty and decrease in investment in the long run. Experience of oil price increases is a clear example of short run success and long run disappointment for the oil exporting countries.

Certainly some of the oil exporting countries like Saudi Arabia and Norway try to lessen the effect of export instability by creating an exchange saving account.

They forecast a long run oil price and if the price goes up, they put extra revenue in the saving account and if the price goes down, they use from that
account for their expenditure. Therefore, they can control directly the effect of oil export instability.

3.2 **REYNOLDS (1963)**

Reynolds (1963) endeavors to show how such a relationship may be analyzed in order to determine the effect of instability in export earnings on the economy. To do so, he traces the following reaction path between the change in the value of export earnings and the change in the level of income: (1) change in the value of export earnings, (2) change in the value of export earnings retained in the economy, (3) change in the value of domestic expenditures for inventory accumulation in the export sector, (4) change in the distributive shares in the export industry, (5) change in the value of local purchases on capital account by the export sector, (6) change in the value of domestic foreign exchange earnings derived from the export sector (arising from 1 to 5 above), (7) change in domestic income, (8) implications of the foregoing for economic growth.

Instability is primarily transferred from export earnings to the export economy in the Chilean case by way of destabilizing tax and expenditure policy of the government. The relative destabilizing effect of government tax and expenditure policy in the export economy is likely to increase as one or more of the following factors gain in importance: (1) the export industry is foreign owned, (2) the share of profits of the export industry which are expatriated rises, (3) the profits share of the export sector grows, (4) the government shifts from indirect to direct taxation of the export industry, (5) the rate and degree of progressiveness of direct taxation rises in the export industry, (6) the elasticity of substitution
between factors employed by the export sector and factors employed by the rest of the economy declines, (7) the natural resource intensity of the export industry rises, (8) government expenditure tends to equal government revenue, (9) government investment expenditure is a fixed share of government revenue from the export industry, (10) the local expenditures share of export industry investment declines, (11) the local investment expenditures of the export industry show a greater lag as a function of profits and/or sales. Whenever the main source of instability is traced to the government sector, international stabilization policy should be directed towards the encouragement of compensatory fiscal policy related to fluctuations in export revenues and designed to ensure not only stability but growth. Here the international agency should be consciously made to bear the responsibility for such policy when it engenders political friction.

3.3 GYIMAH-BREMPONG (1991)

He found a negative relationship between export instability and economic growth in LDCs. He stresses the negative effect export instability has on the supply of output through the generation of uncertainty in long-term planning as well due to shortages of inputs at critical times during the production process. On the other hand, he found a positive relationship between export instability by reducing consumption. This process, if repeated over a period of time, increases saving and hence the rate of investment so he found no significant relationship between export instability and economic growth. Moreover, argues that LDCs are able to anticipate the fluctuations in export earnings and plan for such fluctuations in export earnings. Therefore, export instability has no appreciable
effect on economic growth. Thus, instability in export earnings implies instability in government revenue, this adversely affects the implementation of development plans and completion of development projects.

He used three indices of instability in his paper. The first index of export instability used is the coefficient of variation of export earnings obtained by regressing the log of exports across countries. The second index of export instability used in this article is the mean of the squares of the ratio of actual export earnings to trend earnings. The natural logarithm of this ratio equals zero when actual export earnings be zero. The results of this study have development policy implications for LDCs, especially in developing and implementing liberal policies that can counter the effects of fluctuations in export earnings.

3.4 MASSELL (1970)

Massell (1970) in his paper “Export Instability and Economic Structure” examined the relationship between instability in the value of exports and some economic variables that determine a country's economic structure. He worked on situation of 55 countries about their export instability and economic structure for the period 1950 to 1966. He used regression analysis to explain inter country differences in export instability in terms of nine structural variables. Six of the explanatory variables used in the analysis are subject to manipulation by policy makers: commodity concentration, geographic concentration, specialization on food, specialization on raw materials, export market share and domestic consumption of exported goods. Three additional explanatory variables- size of the export sector, per capita income and a dummy variable to distinguish
between developed and less-developed countries cannot be considered as policy instruments. He had also included developed countries (DCs) in the analysis. The first reason was to provide a wider range of variation in the explanatory variables and the second reason was that including both DCs and LDCs in the sample permits one to test whether there was a difference in instability between the two groups of countries that cannot be explained by the other explanatory variables.

For measurement of instability, at first he decided to fit a trend and for the time period used, he decided that an exponential trend provides a better fit to the data than linear trend for most countries in the sample. This instability index, defined as the standard deviation of the residuals from the trend.

3.5 HANSON (1980)

Hanson (1980) believed today’s less developed countries maintain that high instability in export prices is a serious obstacle to their economic development. However, history shows that some of today’s developed countries also experienced high price instability in the international markets they served when they were in the comparable phase in the development process. In light of this evidence, current recommendations to institute a network of international commodity agreements for the most important primary products exported by the LDCs seem beside the point.

We have shown elsewhere that the export receipts of several Non-European currently Developed Countries (NEDCs) fluctuated as violently during
the nineteenth century as those of the LDCs during the post-WWII. In this article, he demonstrated that the same is true of the prices that some of today's advanced nations received for their main primary-product exports before becoming industrialized. In other words, Nurkse's distinction between nineteenth and twentieth-century conditions for economic development is not valid when tested against historical data on fluctuations in export revenue and prices. The countries to which attention is directed are the following: Argentina, Australia, Canada, Cape of Good Hope, New Zealand, the United States, and Uruguay. Argentina and Uruguay, considered part of the Third World today, are included because they were success stories during the nineteenth century. The similarities between the NEDCs during the earlier phases of their economic development and today's LDCs are sufficient to make international and inter-temporal comparisons between the two groups of countries useful. The periods covered are 1850-1899 and 1953-1972. The United Nations Conference on Trade and Development (UNCTAD) chose 1953-1972 for illustrative purposes when it proposed the Integrated Program for Commodities, a comprehensive price stabilization scheme in 1974. Several methods of measuring instability were used in this investigation, but only the results using a standard method that we call the EXP index are reported here. EXP represents average annual absolute percentage deviations from an exponential trend; however, no substantive inconsistencies appeared in the results obtained using other commonly accepted methods. More intensive research on the issues discussed above was carried out using United States data covering most of the nineteenth century. Part of this work is worth mentioning here. It is possible to compare the degree of instability in the commodity terms of trade for four Midwestern states (Illinois, Indiana, Iowa,
and Wisconsin) during the period 1870-1899. The terms of trade of these states were found to be extremely variable compared to most of the world, although the differences between them and the LDCs were negligible. Yet these states are among the states that are called the bread-basket of the world and that European farmers saw as their stiffest competition. Per capita income, the number of farms, and the farm populations in these states also were rising dramatically late in the nineteenth century. In the American Mid-West, highly variable terms of trade were not incompatible with remarkable economic progress, Populist complaints about wildly fluctuating commodity prices notwithstanding.

3.6  OZLER AND HARRIGAN (1988)

Ozler and Harrigan (1988) survey and use from an instability index varying over time and across countries. It is estimated by employing a model of autoregressive conditional heteroscedasticity. The data were annual data for twenty-six developing countries over the 1963-1982 periods. Instability is found to be more detrimental after the first oil shock in comparison to the previous period. They analyzed the response of capital stock growth and GNP growth to instability. Their primary result is that there is a negative effect of real export instability on the growth of developing countries. This impact appears to be through reduced ex-post efficiency of investment, rather than through the level of investment. Furthermore, they demonstrated that country differences are important. Specifically, openness and the export composition of countries affect the magnitude of the negative impact. Overall, although measurement error and ambiguity in the choice of econometric specification make a precise estimate of
the magnitude impossible, our results suggest that the negative effect of instability on growth is large enough to be a source of concern for policymakers.

There are two possible policy responses to the conclusion that export instability negatively affects growth. The first approach is to improve financing for the developing countries. The development of such schemes, perhaps in the context of existing international institutions, is therefore an important policy issue. The second is to try to reduce the magnitude of instability. This approach would require a thorough understanding of the cause of instability by focusing on export structure of developing countries. Other sources, such as the exchange rate policies of governments, could also be investigated. Although important, this latter issue is beyond the scope of the present study.

3.7 MULLOR-SEBASTIAN (1990)

Mullor-Sebastian (1990) proposed the hypothesis that export instability depends upon the level of industrialization of the exporting country and the position of exports in the product cycle (growth or mature products). This research provides further empirical evidence in support of the hypothesis. They discuss the significance of the empirical findings, explain why diversification has increased export instability in many developing countries, and discuss the policy implications of their findings. Their research also analyzes the effects of data aggregation on empirical results and suggests topics for future research. The hypothesis that export instability is related to the degree of industrial development of the exporting country and to the position that individual exports occupy in the product cycle (growth or mature products) was addressed in an
earlier study by the same author and he found empirical support. This paper extends the empirical work in the earlier study to a different group of products and finds further support for the hypothesis. It also discusses the significance of the empirical findings, their relevance in explaining why diversification policies have increased export instability in many developing countries, and their policy implications. Finally, this research analyzes the effects of data aggregation on the empirical results of studies of export instability and suggests topics for future research. There appears to be an inverse relationship between export instability and the level of industrialization for growth products. The instability of growth products is much higher for the developing than for the industrial countries. Developing countries are likely to be residual suppliers of growth products, and therefore to absorb a large share of demand fluctuations during the business cycle. As a result, if developing countries diversify by exporting more growth products, they are likely to add to their export baskets products for which instability is high and related to the business cycle. Total export instability may increase because of this diversification because the fluctuations of the additional exports would be high and would not tend to cancel each other out. In contrast, the instability of exports of mature products is not similarly related to economic development, and exports of mature products are less subject to cyclical fluctuations than exports of growth products in developing countries. Consequently, diversification into mature products is more likely to reduce total export instability for developing countries. Diversification in industrial countries, however, is likely to reduce export instability regardless of whether the additional exports are growth or mature products.
3.8 KOSE AND RIEZMAN (1999)

Kose and Riezman (1999) examine the role of external shocks in explaining macroeconomic fluctuations in African countries. They have constructed a quantitative, stochastic, dynamic, multi-sector equilibrium model of a small open economy calibrated to represent a typical African economy. In their framework, external shocks consist of trade shocks, modeled as fluctuations in the prices of exported primary commodities, imported capital goods and intermediate inputs, and a financial shock, modeled as fluctuations in the world real interest rate. Their results indicate that while trade shocks account for roughly 45 per cent of economic fluctuations in aggregate output, financial shocks play only a minor role. They also find that adverse trade shocks induce prolonged recession. They analyzed some of the salient features related to economic structure of several African countries. Following this, they analyze the main regularities of macroeconomic fluctuations observed in these economies. Next, they examine the cyclical behavior of trade shocks and their movement with aggregate output and the trade balance. Their analysis is based on the annual data of twenty-two non-oil exporting African countries for the period 1970-1990.

They provided substantial empirical evidence suggesting that the economies of African countries exhibit a number of common structural features. In this section, they construct a multi-sector dynamic stochastic small open economy model that reflects the main structural features of a typical African economy. Main structural features given by them are:
1. **Preferences:** The economy is inhabited by a large number of infinitely lived, identical households who do not have any control over the prices of its exports and imports, and the world real interest rate.

2. **Technology:** The economy produces non-trade final goods and primary goods.

3. **Financial Markets:** Each household has free access to world financial markets. However, these markets are incomplete in the sense that the household can trade a single financial asset. Model calibration amounts to selecting a combination of parameter values that are roughly consistent with the long-run features of the economic environment of a representative African economy.

They evaluate their model’s ability in terms of capturing main regularities associated with macroeconomic fluctuations in a typical African economy. Then, they examine the importance of different types of shocks in generating macroeconomic fluctuations employing variance decomposition. Next, the propagation mechanisms of exogenous shocks in the model economy are analyzed using impulse responses. Following this, we provide a brief discussion about the sensitivity of our results to changes in the deep parameters of the model.

### 3.9 SINHA (1999)

Sinha (1999) look at the relationship between export stability, investment and economic growth in nine Asian countries using time series data. The few previous time series studies in this area have not paid any attention to stationarity
and co integration issues. They find that in most cases, the variables are non-stationary in their levels and not co integrated. The results are not uniform across countries casting doubts about the validity of the numerous cross-section studies. For Japan, Malaysia, Philippines and Sri Lanka, he found a negative relationship between export instability and economic growth. For (South) Korea, Myanmar, Pakistan and Thailand, he found a positive relationship between the two variables. For India, he got mixed results. In most cases, economic growth found to be positively associated with domestic investment. He has studied export instability with neoclassical production function in the tradition of Feder. A number of studies have since followed Feder in studying the relationship between exports and economic growth in which GDP of a country made a function of the growth rates of different inputs such as labor, capital and exports. He augments this production function by adding a measure of export instability. He following Love, he has used the absolute value of the deviations of actual exports from a five-year moving average of exports. The estimation of this production function is preceded by extensive stationarity tests so that he does not estimate spurious regressions. Data used for this study come from the *International Financial Statistics* of the International Monetary Fund. All data are expressed in real terms. Annual data are used as follows: India (1950-94), Japan (1955-96), (South) Korea (1953-97), Malaysia (1955-97), Myanmar (1950-97), Pakistan (1960-97), Philippines (1948-97), Sri Lanka (1950-97) and Thailand (1951-97). The values of GDP, exports and investment are in the national currency of the countries.
3.10 AKPOKODJE (2000)

Akpokodje (2000) explored the association between fluctuations in export earnings and capital formation in Nigeria. Using a reduced form equation built around the flexible accelerator model and adopting a co integration technique, it found that fluctuations in the current level of export earnings adversely impinges on investment (that is, the change in capital stock) in the short run. The purpose of the study is to explore the association between export earnings fluctuations and capital formation in Nigeria. In doing so, the study presents three novelties. First, the standard transmission channels of fluctuations in export earnings on growth - hypothesized to deter investment - and the transmission channel of the permanent income literature - hypothesized to ease investment - are taken into account simultaneously within an integrated theoretical setting and not, as has generally been done, within an ad hoc specification. Second, the focus is on the link between fluctuations in export earnings and the formation of capital, which is more direct. Third, the relationship is tested for a country by approach method as opposed to the usual cross-country analyses. He used the standard normalization combined with a moving average approach. His conclusions show that export earnings fluctuation was found to adversely affect investment in the short run. It appears that export stabilization schemes are likely to stimulate investment by minimizing the debilitating effect of fluctuations in export earnings in the short run. However, it should be noted that the impact of such stabilization schemes on investment is not anticipated to be very large because of the small magnitude of the coefficient of export earnings fluctuations. The small extent of the reaction of investment to export earnings fluctuations in the short run suggests that other policy instruments could have a larger investment stimulating
It appears that a change in the official interest rate has no effect on investment. However, fiscal policy instruments may have the largest impact on investment, under the assumption that they affect output directly. Finally the small sample size on which the results are based, implies that the policy lessons are suggestive and therefore should be taken with some caution.

3.11 BONJEAN ET. AL. (2001)

Bonjean et. al. (2001) provides a brief survey of the literature about the effects of export instability in developing countries. They have mainly focused on commodity dependent economies. Whatever the nature of instability, export instability does generate major disturbances in these economies. Export instability is considered a major source of macroeconomic instability. Export instability is also risk generating for individual economic agents who take it into account in their economic decisions but cannot get rid of it in the absence of appropriate credit and insurance devices. They thus examine the macroeconomic consequences of export instability, first in the short term, using the Dutch Disease framework, and later its effects on growth and then examine the effects of instability from a microeconomic point of view. The Dutch Disease has two effects. There exists first a spending effect and secondly a resource effect. An unexpected increase of primary export earnings boost the national income and consequently increase the domestic demand. The main reaction is an increasing labor demand and hence wages. Wage increases reduce profits in the traditional (manufactured goods) exports sector as output prices are exogenous and increase non-tradable prices. In the traditional tradable sector, the negative consequences of the spending effect are reinforced by the resource
effect as expected because labor flows from the traditional tradable and non-
tradable sector to the booming sector. There is a decrease of the real exchange
rate. For example, an appreciation reduces the country's competitiveness. They
can notice that the Dutch Disease only concerns a temporary increase in export
earnings. If the latter is permanent, the real exchange rate appreciation could be
diagnosed as the "normal" reaction of the economy. When the boom is
temporary the inter-sectoral reallocation of resources raises difficulties as there
are adjustment costs. For example, deindustrialization may reduce permanent
lags in technological knowledge accumulation or a permanent lag with respect to
competitors production costs (scale economies). They can first notice that the
public agent benefited from the boom through the marketing boards or Caisses
the Stabilization (Côte d'Ivoire, Madagascar) of which resources are mainly
considered as Para-fiscal revenues, and fiscal receipts.

They can also notice that in several countries the boom benefited the
private sector (Cf. Bevan, Collier and Gunning for the Kenyan experience, and
Cuddington, 1986 for Columbia). Coffee producers in Kenya correctly
appreciated the temporary character of exports increases. However, the
imperfect character of capital markets resulting in poor investment opportunities
has resulted in a boom on the building sector, which is non- tradable. In
Columbia, saving rates did not increase because of financial repression (negative
real interest rates). Liberalization of Primary product markets may be ineffective
when there exist imperfections.
The empirical literature devoted to the effects of risk on growth is abundant. The usual manner of conducting those analyses is an econometric analysis on international data. The results are very scattered. Three pieces of explanation may be proposed for. Most studies do not separate the ex ante instability (perceived or expected instability) from ex post instability (measured or global instability). Deméocq and Guillaumont, (1989) show the crucial role played by perceived instability (risk). Most studies calculate the instability indices as the difference between a deterministic trend and the observed values of export earnings. This measure is biased if the trend is stochastic (Nelson and Kang, 1981). Samples are very diverse. Deméocq and Guillaumont,(1989, 28 developing countries, 1958-68), Yotopoulos and Nugent (1976, 38 developing countries, 1949-67) and Lim (1976, 1968-73) show that export earnings instability boosts savings. Moran (1983) delivers non-conclusive results for the 1954-75 period. Deméocq and Guillaumont (1989) find a negative reaction of savings to instability between 1970 and 1981 and a positive one between 1960 and 1970. Such a diversity may be explained by the different attitudes of the public agent in the risk management. Combes (1993, 22 developing countries exporting mainly agricultural products, panel data, 1972-84) shows that the private income instability increases private savings. Combes (1993, international data, 40 developing countries exporting mainly agricultural products) obtains different types of results: negative reaction of global savings (public and private) to export earnings instability in the 70's and 80's, The latter is the result of domestic price stabilization policies. When international prices are high (70s), public taxes are important and hence global savings are negatively affected by a poor public management. Precautionary savings exist for private agents but not for the public
agent. When domestic stabilization is important, the effects of export earnings instability on savings are negative. The negative effect of exports earnings instability on public savings may be the result of the existence of a ratchet effect that consists in an asymmetrical reaction of the public agent to increases and decreases of prices. The ratchet effect overcomes the permanent income effect. Finally, the empirical analyses of the effects of price instability on growth tend to deliver a negative link (Lutz, 1994 and Guillaumont, Guillaumont Jeanneney and alii, 1999). To summarize, international data from empirical studies and theoretical analyses (Dutch Disease) tend show more and more clearly that exports earnings instability have a negative influence on growth. This is particularly true for African economies. Theoretical advances in the comprehension of the effects of instability have been greatly improved by the use of stochastic control tools. Instability indices are better defined notably when weighted by international trade. The results seem to be more robust when embedding appropriate control variables (exports’ growth and initial income per capita).

3.12 KWASI FOSU (2001)

Kwasi Fosu (2001) believes that the traditional thesis that export instability is deleterious to economic growth in developing economies has received mixed empirical results. For African countries, recent research suggests that the effect of export instability is weak, but that investment instability adversely influences economic growth. The current study argues that in many of these nations, imports are likely to be critical to the growth process, while exports represent only one of the various sources of investment resources. Hence, import instability may
pose a more serious problem than export instability in hindering economic growth. Employing 1968–86 World Bank data for 33 sub-Saharan African countries, export instability, investment instability and import instability variables are calculated for each country as the standard errors around the respective ‘best-fitted’ trends over the sample period. These instability measures and additional World Bank data are then used to estimate an augmented production function that controls for the effects of labor, capital, and exports. The study finds that although investment instability is still a relevant argument of the production function, import instability appears to be even more important, while export instability is extraneous. The theoretical underpinning for the hypothesis that export instability is adverse to economic growth in developing countries primarily rests on the following two axioms: (1) export instability retards productive efficiency by rendering relatively uncertain the supply of foreign exchange required for timely imports of capital and (2) export instability disrupts or discourages capital formation and thus output.


Abraham (2004) explores the relationship between export instability and economic growth in Ethiopia. Like in most of the Sub-Saharan African and other developing countries, the economic crisis in Ethiopia was characterized by shortage of foreign exchange, because of declining exports, particularly primary commodity exports, which are a significant part of the total export earnings of the country. Export earnings increases are associated with increased investment and subsequent increased consumption and output. Using a reduced form of one equation built around the endogenous growth model, index of instability as a
measure of fluctuation in export and adopted co-integration technique; it was found that the export earnings instabilities negatively affected the economic growth of Ethiopia in the short run. The imperial regime policy and strategy were found to favor inward orientation with little attention to export promotion while that of the current government was relatively export oriented one. The study demonstrates that trade policies, unless pursued within a consistent macroeconomic stabilization framework, cannot enlist significant response from exports-producers. Coffee contributes on average about 60-66 percent of the country's export earnings. Moreover, coffee price highly fluctuates from time to time due to internal and external factors. Export earning instability was found to have the expected negative sign and was statistically significant. Though the sign in the long and short run is the same, the significance of the coefficient of the short term is greater than the long run implying that instability affects economic growth more in the short-run than in the long run. One immediate recommendation that emerges from this study is that the government in power should attempt to diversify and promote exports in order to reduce the adverse effect of export instability and thereby to fully exploit the benefits of the sector and promote economic growth. In this regard, appropriate stabilization schemes and the policies towards export promotion are crucial.
3.14 SINHA (2007)

Sinha (2007) has worked on effects of volatility of exports in two Asian countries: Philippines and Thailand. He used the GARCH methodology to study export volatility, Sinha has used quarterly data for the Philippines and Thailand to study the effects of export volatility (during the first quarter of 1960 to the third quarter of 2005) like his another research about export instability he going to test variable to ensure that they have stationarity. In this article, he used the kwaitkowski, Phillips, Schmidt, Shinkpss (1992) for stationarity.

He used the autoregressive conditional heteroscedasticity (ARCH) methodology. While in most models of regression, he models the means of variables, in ARCH, He models the variance of variable. Conventional wisdom associates the problem of heteroscedasticity with cross-section data and the problem of autocorrelation with time series data. In this paper, according to Sinha, the variance of the forecast errors is not constant and sometimes change from small to large and be small again. Then, one of the assumptions of the classical linear regression model is violated. The cause that he needs to use the generalized ARCH or GARCH is that there may be autocorrelation in the errors of the regressions. He found that for both countries, Philippines and Thailand, the shock to volatility of growth of exports was permanent. In addition, past volatility was significant in predicting future volatility. For his research, he used Feder (1980) and Moran (1982) models and made the growth rate of output a function of the growth rates of labor, capital and exports. He made a new equation and provided a specific functional form.
In addition, he used three indices of instability in his paper. The first index of export instability used is the coefficient of variation of export earnings, obtained by regressing the log of exports on time and the square of time. He used the coefficient of variation in order to account for differences in average size of export across countries. As he explained in his paper, the second index of export instability used in this article is the mean of the absolute difference between actual export earnings and its trend value, normalized around the trend values of export earnings.

The third instability index the mean of the squares of the ratio of actual export earnings to trend earnings. The natural logarithm of this ratio equals zero when actual export earnings equal trend export earnings. According to Brempong, this index differs slightly from the first two indices because it assigns greater weights to larger deviations from trend of exports than do the first two indices.

After estimating a neo classical growth equation with export growth and export instability, he found that export instability has a negative and significant effect on the economic growth rate in sub-Saharan African countries. According to him, this negative effect does not depend on the measure of export instability used or a consideration of the growth rate of total GNP or GNP of exports. The use of a neoclassical growth equation makes it possible to isolate the effects of export instability on the economic growth rate after allowing for the effects of other variables.
3.15 HESSE (2008)

Hesse (2008) believes export diversification can lead to higher growth. Developing countries should diversify their exports since this can, for example, help them to overcome export instability or the negative impact of terms of trade in primary products. The process of economic development is typically a process of structural transformation where countries move from producing “poor-country goods” to “rich-country goods.” Export diversification does play an important role in this process. He also provides robust empirical evidence of a positive effect of export diversification on per capita income growth. This effect is potentially nonlinear with developing countries benefiting from diversifying their exports in contrast to the most advanced countries that perform better with export specialization. He estimates a simple augmented Solow growth model and investigates the relationship between export diversification and income per capita growth. Overall, the evidence is strong that export concentration has been detrimental to the economic growth performance of developing countries in the past decades. He did not empirically investigate the specific channels through which export concentration affects per capita growth in our simple empirical model. One reason could be the reduction of declining terms of trade, especially for commodity-dependent countries. Another reason, put forward by Hausmann and Rodrik (2003), relates to the cost discovery process faced by entrepreneurs and the valuable contribution of government policies to alleviate ensuing problems of coordination and information externalities. This results in a diversification of investments into a new range of activities and higher levels of growth.
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