

CHAPTER 1

INTRODUCTION

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INTRODUCTION

The subject of International Trade and the developments thereof can be broadly classified as ‘positive trade theory’ and ‘normative trade theory’. The former deals with the effect of exogenous or policy changes on the composition of outputs and relative prices, trade flows, or on the domestic distribution of real income. The province of normative trade theory poses the questions concerning the effect of exogenous or policy changes on the level of aggregate real income or dealing with the ranking of alternative policy instruments. The premise of Classical Paradigm is the General-Equilibrium, establishing the interactions among markets, based on the belief that all final goods are tradable among countries. The primary inputs although are non-tradable, but fully mobile between different sectors of the domestic economy. It neglects intermediate stages in production hierarchy and assumes that all agents are atomistic, operating in an undistorted and competitive environment in which technology exhibits constant returns to scale. Much of the work after Ricardo has concentrated on the consequences of doing away with the assumptions underlying the orthodox trade theories. It may not be possible to construct a general model addressing all others as a special case. “There is but one world and only one model is needed to describe it.”¹ Positive trade theorists use a variety of models, yielding useful insights into a limited but still important range of questions. One of the important issues, examined by the positive trade theory is the question of the determinants of the pattern of trade. The answer explores the possibilities suggested by Ricardo’s comparative advantage. Although the principle accommodates, the case of more than two commodities and two countries. It argues that if commodities are ranked by their relative price ratios in autarky in the two countries, demand conditions will determine a critical ratio, such that, when trade is opened up, the home country will export all commodities whose autarky relative price is below this ratio and import all other commodities. Such an assertion certainly requires the assumption of constant costs and the real conditions may rarely confirm it

However, this cannot diminish the credit of comparative cost advantage in providing basic explanation of determining trade patterns. Much of the trade theory thereafter has concentrated in investigating the alternative sources of differences in the intercountry autarkic relative prices. The recent works have relaxed the assumptions of classical theory, allowing for trade at different levels of the production spectrum and for departures from comparative behaviour.

Normative economics is concerned with welfare judgments about policies and economic events. Does a particular policy change represent a welfare improvement? How can a number of policies be ranked in terms of welfare? Is one first-best, another second best, and so on? The particular policy that is the “best” is usually described as “optimal”. While the focus is normally on government policies and, in the case of trade theory, on commercial policy – normative economics also embraces the study of the welfare consequences of various events when policies are constant. Similarly, does an increase in the domestically owned capital stock or technical progress raise or lower welfare?

The analysis of economic growth has emerged as a central theme of mainstream economics. The developed countries have worried about the stagnant or slow growth in real incomes in past few decades, which they effectively tackle by application of continuous and rapid technological changes. Whereas in developing economies the main emphasis has been on capital accumulation as the major source of growth. The most important thing is not the accumulation of capital but productivity of capital and labour through appropriate technological changes reaped from capital accumulation. Solow² and others, technological change is exogenous – unaffected by a country’s openness to world trade. Yet the ‘new’ growth theories suggest that trade policy affects long-run growth through its impact on technological change. In these models, openness to trade provides access to imported inputs, which embody new technology; increases the effective size of the market facing producers, which raises the returns to innovation; and affects a country’s specialization in research-intensive production.

The endogenous growth theory pioneered by Romer³ and Lucas⁴ sheds some light on how technological change is endogenously generated by micro and macro-level

incentives emanating from market conditions and the policy and institutional regimes. The non-public good nature of discovery is one of the major incentives for deliberate efforts in modern economies and a source for deliberate efforts in modern economies and a source of rents to innovators. International trade is an important source of incentives in generating both intentional and by-product technological change by increasing the aggregate economic activity (market size) and competitive conditions. New growth theories, however, do not predict that trade will unambiguously raise economic growth. "Increased competition as argued by Schumpeter could discourage innovation by lowering expected profits." ⁵ Grossman and Helpman⁶ point out "intervention in trade could raise long-run growth if protection encourages investment in research-intensive sectors for countries with an international advantage in these kinds of goods." In the static framework of the classical trade theory, free international trade does not increase endowment of capital (capital accumulation). Under the assumption of perfectly competitive markets, free trade improves the static allocation efficiency of resources across trading nations, which in turn increases real incomes. "The real world competition is far from perfect and International trade is a means to increase the production, thereby causing reduction in the average costs and prices through the economies of scale, ultimately increasing the real incomes. In a dynamic framework, increase in real incomes leads to increase in savings and investment (capital accumulation)." ⁷

International trade may also generate positive externalities, learning by doing economies and provide incentives for technological change through increased competitive conditions and extension of market size (division of labour). For developing countries, along with capital accumulation, continuous efforts of technological upgradation is important to realise greater spin offs as partners of developed nations in International trade. It is very important for developing countries to achieve a minimum threshold level of development in the sphere of agriculture, industrialization, infrastructures and institutions to foster the dynamic gains from the International trade. "It brings forth the significance of selective policy interventions on the domestic production side and the incentives in engendering technological changes that goes a long way beyond generating these minimum necessary endowments." ⁸ The experience of the East Asian countries has demonstrated the dynamic gains from International trade have

been translated into high economic growth and subsequent increase in the welfare of the people.

In much of literature, exports are seen as causing growth. One school of thought sees the stumbling block in attaining self-sustaining growth as a lack of demand for one's products. In this area an influential set of ideas has come to be called the "big push" and "balanced growth" doctrine. Rosenstein Rodan⁹, along with Nurkse¹⁰, Scitovsky¹¹, argued that there was a vicious circle present. Firms did not industrialise because there was no market for their goods and there was no market for their goods because income was low and income was low because firms did not industrialise.

This kind of low level of equilibrium, can overcome by simultaneous industrialisation of a large part of the economy, and say failure to industrialise was essentially viewed as a coordination problem. Of course, exports, by breaking this circle of causation, could provide an important avenue for growth.

The other "unbalanced growth" theory argued that industrialisation of certain "leading" sectors would pull along the rest of the economy.¹² Hirschman's discussion of "backward" and "forward" linkages was an integral part of this analysis. Here "linkages" refer to the effects of one investment on the profitability of subsequent investments at earlier and later stages of development. Exports, especially in the industries with "linkage effects", could jump start the industrialisation. Exports also help in paying for imports of technology and capital machinery can help in generating further growth. Coe and Helpman¹³ "argued that there are international R & D spillovers as foreign R & D has beneficial effects on domestic productivity, and that these are stronger the greater is trade." Alternatively, micro-level studies by Bernard and Jensen¹⁴, Clerides, Saul and Tybout¹⁵ find that learning-by exporting does not appear to have a strong impact on growth. Rather than learning-by-exporting, self-selection of high productivity firms into exporting sectors seems to be the main reason for the growth of exports. Thus, it is not export-oriented firms that become productive; rather, it is productive firms that export.

Two factors explain why after so many years such a fundamental policy issue as the relationship policy issue as the relationship between trade policy and growth is still

far from being resolved. First, for a long time it was argued that the theoretical underpinnings of the preposition that freer trade enhances growth were weak.

While the theory was clear regarding the static gains from free trade, the generalisation of these results to a dynamic equilibrium growth setting presented some problems.

Only recently with the renewed interest on growth theory, and the resulting 'endogenous' growth models, new developments in this direction have been made. Second, the empirical work on the subject has suffered from some serious limitations. The most important of these stems from the fact that until now it has been exceedingly difficult to construct satisfactory and convincing measurements of trade orientation that can be used in time series analysis and, especially, in cross-country comparisons. Researchers have developed two types of strategies to deal with the measurement problem of trade orientation: Some groups of researchers have chosen to decompose the question of the effects of trade orientation on economic performance into two stages. The first stage basically amounts to assuming (without testing) that a more liberalised trade regime will encourage exports via a reduction of the anti-export bias. In the second stage the researcher usually tests whether higher exports (or a more rapid growth in exports) have indeed been associated with a higher rate of output growth. Neither of these approaches, however, has proven to be entirely satisfactory, since they have tended to generate a number of mutually contradictory results. Another influential set of ideas links trade policy and orientation with growth. Some studies, which were published in World Development Report 1987, have resorted to the construction of subjective indexes of trade orientation, which are not truly comparable across countries. "However, because trade policy is multi-faceted there is no unique measure of openness, and indeed various different openness measures are loosely used to cover a host of different concepts, resulting in considerable confusion of terminology."¹⁶ It is shown that such trade share measures are indices of vulnerability to terms of trade shocks, as they can be interpreted as the elasticity of indirect utility with respect to the terms of trade.

Several scholars have estimated cross-country regressions relating GDP growth to investment and/or trade variables in the last 30 years. The earliest studies, beginning with

Emery¹⁷ simply regressed GDP growth on export growth rates and found significant positive coefficients. However, later investigators showed that these were not robust to changes in the data set. Michaely¹⁸ pointed out that since exports are a component of GDP, the correlation was only to be expected and had no explanatory power.

Balassa¹⁹ in his paper indicated that export growth favorably affects the rate of economic growth over and above the contributions of domestic and foreign capital and labour, thereby concluding that the benefits of export-orientation as compared to import substitution is greater in semi-industrialised countries. Further Balassa²⁰ re-examined the validity of his earlier proposition in 1973-79 periods of external shocks, using a measure of trade orientation defined in terms of deviations of actual from hypothetical values (derived from per capita income and population variables, and availability of minerals) of percapita exports. He found that the countries with lower levels of development experienced the rate of economic growth importantly affected by rate of growth of exports. The rate of economic growth is further influenced by increases in the labour force and by domestic savings while, in contradiction with the earlier results; foreign savings do not appear to have affected the outcome. The results are cumulative of the extent of outward orientation at the beginning of the period and the reliance of export promotion in response to external shocks of the period.

Of particular significance were 'growth accounting' specifications derived from production functions, incorporating the growth rates of capital stock and the labour force.²¹ Kohli and Singh²², using the analytical framework developed by Gershon Feder, showed some convincing positive evidence for non-linearities (i.e. export-led growth may be subject both to a critical minimum effort requirement and to a form of diminishing returns) in the relationship between GDP growth and export growth rates and shares. Taking a different track, Chow²³ asks whether export growth promotes industrialization as proxied by growth in the manufacturing industries in eight successful export-oriented NICs. Results of Sims' causality test shows that for six of these countries exhibit bi-directional causality. Jung and Marshall²⁴ by using granger notion of causality find that only four of the thirty-seven countries in their data set show evidence of a causal linkage from export growth to output growth. Thereby casting doubt on the validity of the export

exports and output in either direction for Korea, Singapore, and Taiwan. (However, using the Sims version of Granger causality tests, he finds bi-directional causality, except for Hong Kong, which exhibits causality only from output to exports).

A similar study on the ASEAN countries by Ahmad and Harnhirun²⁶, using cointegration and error-correction methodology found that the export-led growth in the ASEAN not optimistic but bring out convincing evidence of a growth pattern in which internally generated mechanisms and the growth of exports interact and mutually reinforce one another. Another supporting evidence regarding the ambivalence about the endogenous growth is shown by Young²⁷, that East Asian growth can be substantially explained by the growth of capital and labour inputs, with residual productivity growth (and hence efficiency gains of various kinds) playing a distinctly secondary role.

With reference to industrial countries Afxentiou and Serletis²⁸, using the integration and cointegration technique, indicated that by and large there is no systematic relationship between exports and GNP. However using the same method, Dalia Marin²⁹, in his paper proved that a causal link between exports and productivity exists for four developed market economies. Bahmani-Oskooee³⁰ et.al address the issue of optimally selecting the lag structures for empirical models used to explore causality, and find that six countries out of twenty LDCs in their sample, export growth is causally prior to output growth.

Similarly Kala Krishna³¹ et. al, finds limited evidence of bi-directional causality between GDP, exports, imports and investment. In addition, the “best” models of growth in the sample of countries are usually characterised by uni-directional causality either from investment or from exports and/or imports to output, once stochastic trending properties of the data are correctly accounted.

Some of the studies that used subjective indices of trade orientation and linking the relationship between international trade and economic development. Salvatore and Hatcher³² used the trade orientation measures available in The World Development Report 1987, shows that the hypothesis that international trade benefits most developing

growth is partially supported by the econometric results. In another study by Edwards³³, nine alternative indicators of trade orientation was used, the data supports the view that more open economies tend to grow faster than economies with trade distortions.

More recent investigators have incorporated school enrolment ratios (to measure human capital); GDP levels in some earlier years (to test for 'conditional convergence' between countries at different initial levels of development); shares of government consumption in GDP (to measure the cost of 'resource misallocation') and literally dozens of other variables, including several alternative measures of outward orientation.

A novel method by Harrison³⁴, estimated panel data models with fixed effects, finds evidence of bi-directional Granger causality between openness and growth, and concludes that the issue of causality remains unresolved.

In the context of various authors between them finding over 50 variables to be significant determinants of growth, but often experiencing contradictory results, Levine and Renelt³⁵ assembled a data base of over 50 variables, most of them time series, and ran thousands of growth regressions to test whether the conclusions of the earlier studies were robust to small changes in the set of conditioning variables. For each candidate explanatory variable, they estimated coefficients in multiple regressions with different combinations of conditioning variables, and computed the upper and lower 95% confidence limits from the highest and the lowest estimate for the coefficient of interest. The variable was deemed to be robust only if these upper and lower bounds were both significantly different from zero and of the same sign. Most of the explanatory variables in the literature failed this test, but the investment ratio passed handsomely. Their findings on variables representing trade and price distortions shows:

First, if one substitutes imports or total trade for exports in cross-country growth or investment regressions one obtains essentially the same coefficient estimate and coefficient standard error. Thus, researchers who identify a significant correlation using an export performance measure should not associate this with exports per se, because it could be obtained using a corresponding measure of imports or total trade. Second, the

GDP. Finally, when controlling for the share of investment in GDP, it could not be found to have a robust independent relationship between any trade or international price-distortion indicator and growth. These three results indicate that the relationship between trade and growth may be based on enhanced resource accumulation and not necessarily on the improved allocation of resources. These results suggest an important two-link chain between trade and growth through investment.

Levine and Renelt seem to favour a causal chain running from trade through investment to growth. They also found that six measures of trade policy orientation and distortion could not be robustly related to GDP growth when the equation included the investment share. Moreover none of the broad array of fiscal indicators or economic and political indicators was robustly correlated with growth or the investment share.

Harrison finds that the relationship between openness and growth cannot be established in cross-section regressions which use averages of the data over long periods, which is the method used by (Edwards). This is presumably because “most developing countries have experienced large swings in commercial and exchange rate policies over the last 30 years, which could render any proxies for openness essentially meaningless” [Harrison, 1996: 432]. This would apply especially to the Leamer indices, which gave Edwards his only worthwhile result, and which Harrison explicitly rejects. Her panel estimation using annual data (i.e, pooling the cross-section and time series data) gives the strongest verdict in favour of openness. However, a limited sensitivity analysis she undertakes along the lines of Levine and Renelt shows that half the openness indicators found to be significant are not robust. Nonetheless, she finds it encouraging that the remaining half is encouraging that the remaining half is robust. What is noteworthy in this context is that in both studies the investment ratio is significant in every regression, regardless of which other variables are used.

1.2 Sources of Data and Methodology

The study is mainly based on data published by Directorate General of Commercial Intelligence and Statistics (DGCI & S), Monthly Statistics of Foreign Trade, Report on Currency and Finance, Statistical Abstracts, Economic Survey, National Accounts Statistics of India, CMIE Reports, Annual Survey of Industries.

The Methodology of the analysis in the chapters to follow is quantitative techniques like regression analysis, and other econometric techniques.

1.3 Plan of the Study

In the light of the above discussion the present study attempts to examine the possible relationship between international trade and economic growth in the context of the Indian economy.

The Plan of the Dissertation is as follows. Chapter 2. deals with the literature survey on International trade and Economic Growth. Chapter 3. presents the Structure of exports and imports at current price and constant price at aggregate level and disaggregate level covering the period 1960-61 to 1995-96. Further we have examined the impact of policy changes on exports and imports at aggregate and disaggregate level. Chapter 4. examines the causality between exports, imports and growth at current and constant price. Chapter 5. investigates the causal relationship between exports of manufactures and productivity, imports of manufactures and productivity, GDP and productivity, exports of Agriculture, Chemical, Machinery and Transport equipment and Productivity, Imports of Chemical, Machinery and Transport equipment and Productivity. The final Chapter 6. is the concluding chapter.

The Table Numbers are running number from II.1 to II.94 in this thesis.

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