Master in Economic Development and Growth

ANALYSIS OF TRADE POLICIES AND PRODUCTIVITY OF TURKISH ECONOMY DURING 1970s and 1980s

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Abstract: Protective trade policies possess an unfavorable reputation due to crude interpretation of comparative advantage theory and particular practices of protective policies in the developing countries after World War II. Recent developments in the international trade theory showed that there are forces other than comparative advantage influencing the patterns of specialization under international trade. Existence of massive increasing returns to scale in some important industries creates possibility for strategic trade policies that improve the long term prospects of countries. This dissertation is composed of two related parts. In the first part, Turkey's two different trade policies undertaken during 1970s and 1980s are discussed in the context of the recent theoretical developments in international trade theory. In the second part of the dissertation, productivity dynamics of the Turkish economy is analyzed during the same periods using shift-share analysis.

Keywords: import-substitution industrialization, strategic trade policy, productivity decomposition, shift-share analysis

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INTRODUCTION

The objective of this dissertation is to give an account of trade policies of Turkey during 1970s and 1980s in relation to recent theoretical developments. This account should provide reader with a historical perspective of modern Turkish economy. This perspective will include understanding the Turkish economy before the 1990s when it took serious steps towards integration with markets of European Union and before the 2000s when its financial and macroeconomic institutions started to function more properly. Also as an oil-importing middle income economy between Middle East and Europe, Turkey is an interesting case of economic development in its own right.

Like any other story of trade policies in developing countries, the failures and successes of Turkish economy during these decades also has an important political component. The focus of this study will be mainly economic aspects of the issues yet political aspects are by no means trivial in this discussion. Anyone involved in economic development can easily appreciate that no matter how rigorously certain trade policies are shown to be desirable economically or socially, they will still have serious difficulties to be undertaken unless they are also politically desirable. The issue of political desirability will not be discussed in this paper beyond a few remarks.

There will be parts dedicated to theoretical discussions of protective policies. As described in these parts, recent theoretical advances in international trade theory have important relevance to economic development of middle income countries.

Though it remains qualitative at certain parts where the data are not easily available, primary contribution of this thesis is its attempt to incorporate recent theoretical insights in international trade theory into a comparative discussion of trade policies during two very crucial contrasting decades of Turkish economic history. There are some studies that make comparative analysis of Turkish trade policies[1] however, to my knowledge; none of them discusses protective policies or more liberal ones from this new perspective.

Part one is annexed with an empirical part in part two. This empirical part is related to the questions raised in the theoretical discussion and the period overviews of the previous part. However this empirical investigation is not a direct attempt to test superiority of import-substitution or export oriented trade policies to one another. Instead structural changes in productivity of Turkish

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[1] Pamukoğlu (1990), Gökmen and Temiz (2010); also related chapters of Celasun and Rodrik (1989) can be interpreted as one such example.

economy will be estimated during the 1970s and 1980s. Therefore I found it appropriate to divide the thesis into two parts as presented in the table of content. Nevertheless both parts are still related and this relationship is also discussed in 2.1.

1980 is often considered as a crossroads that divert Turkish trade policies to a less protective direction. This crossroads will be elaborated throughout the thesis. The contrast that post 1980s period provides is the primary reason for this particular periodization. 1970s and 1980s provide the required contrast of trade policies for the discussion of the theoretical points raised in the initial sections. The choice of this periodization is partly data driven as well because data for the pre-1970s are less and less available.

The first part begins with an extensive theoretical discussion of protective trade policy in relation to new developments in international trade theory. Concept of strategic trade policy is described in this section to show that why static gains from international trade may happen at the expense of long term growth and how governments may improve the outcome of international trade in favor of their countries by protecting some key industries.

The second section of the first part is dedicated to the discussion of trade policies during the 1970s and 1980s. In the part which brief history of pre-1970 policies is told, some major events since the foundation of Turkish Republic are presented. In the overview of 1970s, significance of remittances for the continuation of import substitution policies and the other events that lead to the eventual abandonment of these policies are discussed. In the 1980s part, the questions concerning the extent to which major reforms in the economy played a significant role in the export boom of 1980s are tried to be answered.

The part 2 starts with a literature review of the studies that analyze the relationship between trade policies and productivity. Main results from two major empirical methodologies are presented before the empirical part of the thesis.

The methodology used in the empirical part is called shift-share analysis. This analysis enables one to decompose productivity into structural change and within sector effects. In the last section of the second part, findings from this methodology are discussed in relation to theories and observations presented in the previous parts.

PART 1: DISCUSSION OF TURKISH ECONOMY UNDER DIFFERENT TRADE POLICIES

1.1. STRATEGIC TRADE POLICY: THEORETICAL DEFENSE OF ISI

It has long been appreciated that comparative advantage is not whole story of specialization and increasing returns and endogenous technological change[2] should also be considered as the further factors that influence the pattern of specialization under international trade. Understanding pattern of specialization is central to understanding international trade. Until 1970s concept of comparative advantage was by far the most dominant explanation of the specialization patterns in international trade theory. In comparative advantage model of Ricardo, technological differences leads to trade; in Hecksher-Ohlin different factor endowments is this cause. Both Ricardian and Hecksher-Ohlin theories could explain a specialization pattern by looking at, what we can call, "the fundamentals" of the economies. These fundamentals are natural resources and factor endowments of the countries such as capital, labor, human capital or technology which directly affects the production costs of commodities. The relative production costs of each country determine the pattern of specialization under international trade. Policy implication of this theory is, to state crudely, what you export (or import) does not make any difference and countries should refrain from protection so that free trade improve the welfare of each party.

Static gains from trade are well established by these classical theories. However from the perspective of economic development, static gains have little to offer for developing countries because these static gains are often achieved at the expense of long term growth prospects.

It is obvious that concept of comparative advantage is not drawing the whole picture; some specialization such as prowess of Swiss watches [3]cannot be completely explained by looking at "the fundamentals" of the Swiss economy. To explain this rather "arbitrary" specialization, some international trade theorists emphasized the role of increasing returns to scale. Main problem with the concept of increasing returns to scale was that it implies imperfect competition and until theoretical developments of Spence (1976) and Dixit and Stiglitz (1977) papers, there was not a way to integrate imperfect competition into general equilibrium models. With the so-called New Trade Theory which is developed based on these authors' framework, increasing returns to scale is started to be seen as another cause of specialization that is independent of comparative advantages of the countries. So specialization of the countries on particular goods under international trade is actually being determined by interaction of these two -sometimes opposing- forces.

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[2] See Ohlin (1933), Vernon (1966) for some of the earlier accounts of this argument.
[3] Example is taken from Hausmann et al (2006)

These new models that are based on New Trade Theory showed that trade and specialization occur not only due to the differences in the fundamentals of the countries but also due to increasing returns. Although these ideas on role of increasing returns were not completely new, these new models provided the formal layout of this role.

Even though New Trade Theory changed the classical view that international trade is a result of comparative advantage, it did not necessarily challenge the view that trade provides mutual gains to both trading partners but rather redefined these gains by incorporating benefits of increasing returns. Besides exploiting their differences in their natural resources and technology, increasing the scale of their production of particular goods given the variety of the available goods is another source of gain with international trade.

Implications of New Trade Theory for trade policy are particularly important. Due to existence of increasing returns to scale, imperfect competition also becomes a part of international trade mechanism. Since imperfect competition is an opposing factor against efficient markets, potential static gains from trade should also be questioned in these terms. However both empirical and theoretical works seem to strengthen the view of mutual trade gains. Explanation of this, in principle, similar to the traditional defense of trade; the integration of markets causes more competition which in turn makes the market more efficient than the closed market. One crucial difference from the traditional view is potential for governments' role in this process. Traditional comparative advantage theory of trade does not suggest any role for strategic trade policy that aims to increase gains from trade because free trade without any policy will lead to optimal result for both trading party.

Laissez-faire trade policies based on the assumption that markets are competitive and they are also efficient however new models showed that some gains from trade may in fact depend on imperfect competition in the market. If imperfect competition is central to international trade, strategic trade policies, in principle, can be beneficial for improving prospects of their countries. This new perspective on causes of international trade made theorists reconsider their views about protective trade policies such as import substitution industrialization (ISI). New arguments against free trade started to be raised and these discussions could be made with the analytical basis of the new models.

This new view that some international markets are inherently imperfectly competitive due to the trade gains from increasing returns to scale created fresh arguments against free trade. These

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arguments differ from some previous heterodox views of trade which defends that trade is rather harmful in some social and economic terms. What the new view suggests is that laissez-faire trade policies may not be the optimal policy and there might be a room for government intervention for improving outcome from trade.

These new arguments against free trade can be described under the concept of Strategic Trade Policy. Arguments for Strategic Trade Policy are based the observation that the goods that have massive economies of scale will create oligopolistic market structure. Under this market structure, few firms that have highest market share will enjoy profits over the marginal cost of their factors of production. In their influential papers, Brander and Spencer (1983) and Krugman (1984) show that active trade policies such as import protection or export subsidies can increase the profits of an exporting firm of their country at the expense of a foreign one under oligopolistic market conditions.

The mechanism behind strategic trade policy can be presented with a simple game theoretical model[4]. The model as shown in table 1 below is a two stage game and in the first stage of the game government of country A is to decide whether to subsidize exports of its national firm or not. This subsidy can be interpreted as R&D subsidies, cost subsidies or some import protection policy.

This firm does not have to be a state firm but we assume that government has stakes in the profits of this firm through for example taxes or simply government is an agent that tries to maximize its national income. Another assumption is that there is no demand for these goods in the domestic markets therefore they will only be exported to third country if produced.

In the second stage, it is firms' turn to decide whether to produce this particular good or not. The payoffs demonstrate the oligopolistic nature of the industry. The industry of this product has very high economies of scale such that for a firm to make profit, it should be the only producer of the good. Aircraft industry is mentioned as one example of such industry in both Krugman (1987) and Brander and Spencer (1995). Therefore if both firms from country A and B decide to produce in the second stage, they will both incur losses whereas if only either one of the firms decide to produce, it will make massive profits as can be seen in the matrices of the Table 1.

In the absence of government intervention, this game does not have a unique Nash equilibrium. The Nash equilibrium results are either one of the firm producing and enjoying massive payoffs while

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[4] This exemplary model is commonly used in the literature; Krugman(1987), Brander (1995) to mention a few.
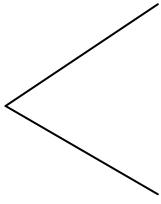
the other is out of the industry having no incentive of entrance. Therefore if one firm is able to enter the market first, his country will not only generate substantial national income but it will also deter firms of other countries from entering to the market and secure a substantial long term growth assuming the same game is repeated in each period. This case of first mover advantage may also be interpreted a representation of chronic problems of developing countries because of their late coming to industrialization.

According to the model, this problem of late coming can in fact be resolved by strategic government intervention. In the first stage, if the government of country A intervenes subsidizes small amount of the cost of this potentially high value added export good, the new payoff matrix suggests dramatically different results for the country A even when firm A is a latecomer. Now in the new matrix that is shown in the lower part the game, there is a unique Nash equilibrium in which only the firm A produces. With small amount of subsidy to the production of the good that has large economies of scale, the government can help firm A to overcome long term problem of late coming and to bring these large oligopolistic profits to its nation.

This simple model shows that government intervention may be a very effective tool in changing the outcome of international trade in favor of their countries under oligopolistic market structures. As in any market with large increasing returns to scale, problem of late coming also exists for the firms that compete in the international market. When the governments are competent enough to determine these markets, with a small amount of subsidy they can generate huge amounts of national income through the success of their firms in these markets.

As a last remark of this chapter, unlike the outcome of the comparative advantage, international trade in this model does not result in win-win outcome. The gain of the country that follows strategic trade policy comes at the expense of the other country that competes in the market. This zero-sum game type interpretation of monopolistically competitive markets had already existed in the study of domestic markets. However in the international economics; this interpretation obviously has important political implications.

TABLE 1: A simple game of strategic trade policy

No subsidy

A/B	P	NP
P	-5,-5	100,0
NP	0,100	0,0

Government A

Subsidy

A/B	P	NP
P	5,-5	110,0
NP	0,100	0,0

Goverment A with a subsidy of 10 makes producing (P) a domininant strategy for firm A and ensures very high income for its nation due to unique Nash equilbrium in the upper-right box of the new matrix.

*Nash equilibriums are highlighted with grey
Source: This exemplary model is commonly used in this literature;
Krugman(1987), Brander (1995) to mention a few.

1.2. TRADE POLICIES IN TURKEY DURING 70s and 80s

1.2.1. BRIEF PRE-1970 ECONOMIC HISTORY

Turkey as an oil importing developing country suffered from several exogenous shocks during 1970s and it had depended heavily on foreign borrowing until the debt crisis of 1978. Eventually in 1980, it had to radically alter its policies towards outward orientation. The definitive assessment of Turkish economy after adjustment of 1980 is still subject to debate however it can certainly be considered at least as relatively successful case of liberalization compared to other middle-income countries with similar trials. The factors that lead to debt crisis of late 1970s and assessment of export-led 1980 growth are two discussion topics that arise from Turkey's experience in this transition. Before discussing the macroeconomics of Turkey in the 1970s and 1980s based on these two questions, it would be helpful to describe briefly main institutional character of modern Turkish economy prior to these decades.

The Republic of Turkey was founded in 1923 after the Independence War following World War 1. The economic development of the new country was heavily based on state-led industrialization and import substituting trade policies. Etatism (statism) was one of the ideological pillars of the founder Atatürk's politics[5]. State was the key player in financial sector, industrial and technological development. State remained as an active player in the economy up until 1980s and this led to formation of a mixed economic system with an ideological bias against foreign trade and private initiative[6].

Early 1940s had to suffer from severe economic shortages and high inflation because of World War II although Turkey had little official commitment with either side of the war. After the war, Turkey was one of the major recipients of Marshall Aid due to the geopolitical importance of Turkish alliance with the US. However as a requirement of the foreign aid, Turkey had to leave its industrial development policies and shift towards production of primary goods[7].

In the 1950s, Turkish economy grew annually at rate about 4.8%[8] due to the rise in agricultural output and primary goods exports. End of 1950s was similar to what would be experienced in the

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[5] "Our people are naturally etatist because they see it as their right to demand from the state all sorts of remedies to their problems." Atatürk in İzmir Economic Congress 1931 (as quoted in Walstedt (1980))

[6] See Walstedt (1980) for detailed discussion of Turkish State Economic Enterprises from 1960 to 1974.

[7] Walstedt (1980) p.81

[8] Periodic 1950s to 70s national income accounting data is provided in Celasun and Rodrik (1989) ch 1. For the rest of years to date, SPO (State Planning Organization) and Saygılı et al (2005) are used as sources.

late 1970s. Financing state economic enterprise deficits and agricultural subsidies through central bank caused very high inflation rates. In addition to this domestic extravagance, poor foreign debt management, excessive dependence on short term foreign credit led to inevitable IMF-led stabilization.

1960s is an important decade for the history of Turkish economic development policies. After a short-lived yet tragic military take-over in 1960, a new socially progressive constitution was adapted in Turkey. Although Turkish development policies prior to WW II had already been based on 2 five-year development plans, with 1961 constitution these economy wide development plans and annual plans became a formal requirement with emphasis on government account balance. State Planning Organization was established to fulfill these tasks. Unlike development plans of earlier decades of the republic, development plans also have also been a guideline for private sector. With these institutional changes, economic development policies became more effective from 1960s on.

Average national product growth in the 1960s rose to 6.7% from 4.8% of the earlier decade. Agricultural production growth was slower compared earlier decade while manufacturing sector performed improved its performance of the last decade.

More effective development policy planning did not alter the character of restrictive trade policies of earlier decades[9]. Quotas and tariffs were actively used as a policy tools in development plans. However these policy tools were not used with an intention of protecting a potentially competitive industry as suggested in the previous theory part but rather they were used as instruments of controlling foreign exchange availability. The exchange rate was kept overvalued with the fixed exchange rate regime to support import dependent industries. However eventually external balance deteriorated another steep devaluation and IMF-led stabilization had to be introduced in the 1970. This devaluation helped exports to recover and GNP increased in the early years of 1970s but conditions of the stabilization programmed could not be fulfilled for long because of military intervention of the 1971.

During this period, Turkey started to benefit from unexpected source of foreign capital inflow. Emigration of Turkish workers to mainly Germany had accelerated towards the end of 1960s. Subsequently foreign capital inflow rose to unprecedented levels thanks to remittance from Turkish

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[9] See Krueger (1974) for a detailed analysis of Turkish trade policies in the 1950s and 60s

emigrants. Third development plan, which was adopted in 1973, focused development of capital intensive industries in its import substituting industrialization policies.

1.2.2. 1970s: THE LAST DECADE UNDER IMPORT SUBSTITUTION

Before discussing the experiences of Turkish economy under import substitution policies, I would like to briefly describe evolution of these policies in modern economic history. Globalization and international trade lead to international division of labor in a systematic way and this division directly influences long term development prospects of the countries. After Industrial Revolution, Western world diverged from the other parts of the world with their industrial economies. International division of labor was established such that many developing countries become exporters of primary goods to western manufacturers.

WW 1 interrupted the globalization trend and this international division of labor. The primary product exporting countries started their own industrialization. In general this process can be characterized as import-substitution industrialization although it is quite different from the ISI that took place after WW 2. Some authors divide ISI into various stages and identify the first stage as the period in which industrial production of basic consumer goods occurs. This is close to what we see in the post WW 1 period ISI. In this period, the countries were less integrated to the foreign economies and their industrialization is less dependent on import of intermediate goods and capital inflow.

Foreign capital is an important part of the ISI process of post WW 2. Productive capital from developed countries started to be directed to markets of developing countries. This led to a not only a new division of labor but also new political relations between developing and developed world. Developing economies became increasingly dependent of capital from developed countries and they tried to adapt technologies and economic structures of the developed economies. In contrast to the earlier period in which basic consumer goods were the object of industrialization, in this period policies were directed toward consumer durables. From economic development point of view, next phase of ISI should be succeeding domestic production of intermediate goods and being able to finance them with accumulated domestic capital. Possibly the reason for that ISI has often been considered as an unsustainable policy and that eventually had to leave its place to export oriented more liberal policies is the failure to realize this phase in many developing countries. Turkey and many other developing countries that followed ISI in the post ww2 could not established a sustainable industrial growth that can also be financed by domestic capital when needed.

Import substitution industrialization in Turkey began in the early 1950s and continued until 1980 and it was a crucial phase in the history of Turkish industrialization. We observe a cyclical trend in the Turkish economy in which each cycle is concluded with a balance of payments crisis and economic depression. Stabilization programs after crisis had to be dealt during political turmoil.

I will go into details of these cyclical trends and seemingly inevitable balance of payment crises but the application of the import substitution policies can easily give us some ideas on the fundamental problems in practice of these policies. Although pro-import substitution ideas are not theoretically unfavorable over liberal ideas, ISI policies received unfavorable reputation over the decades leading to 1980s due to consequences of their application in not only Turkey but in developing countries of Latin America[10] in the post WW 2 period.

What we observe in the developing countries that pursue import substituting policies is in great contrast to what the name of these policies suggests. During the process of ISI, many developing countries in fact become more and more dependent on import of intermediate goods and inflow of foreign capital. ISI makes the economy critically dependent on the import of the intermediate goods for industrial production; this dependence also requires existence of continuous foreign currencies flow for the imports. A decrease in inflow of foreign capital or stagnation in world economies immediately causes stagnation in the domestic industry and the economy in general.

In Turkish case, due to increasing external dependency, the economy under ISI policies was not able to sustain growth over longer periods. Until the ISI policies were left and instead export-oriented growth policies were started to be undertaken, external debt had dramatically increased.

Import substituting industrialization started in the early 1950s in Turkey and if we look at the growth of the industrial growth rates until 1980 we can easily observe the cyclical behavior. Each expansion in industrial sector after roughly a decade ended with a devastating balance of payments crisis and depression. Occurrence of military coups very closely mimics these cycles which suggests the vulnerability of political mechanism and democracy against such economic turmoils.

The 1960s ended with implementation of an IMF-led stabilization program due to growing balance of payment deficit. Although the main objective of the program was to steer Turkish economy towards export-promoting liberal policies, these policies had a short life until implementation of the third 5-year development plan in 1973. Even within this short period of time, contribution of

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[10] See Hirschman (1967) for discussion of Latin American cases

exports in GNP increased from 4.3 percent in 1970 to 5 percent in 1974, similarly during the ratio of industrial exports to total exports grew from 17.5 percent to 38.6 percent.

One of the most notable characteristics of the 1970s is the dramatic rise in the remittance of Turkish worker's abroad which provided a new source of foreign exchange source for Turkish economy. From a few hundred million dollars of annual amount in the 1960s, worker's remittance rose to unexpected levels in the 1970s. In its peak the remittances were as high as 1400 million dollars in 1974. In fact this rise in foreign capital inflow was one of the important factors that enabled Turkey to accumulate necessary foreign exchange reserves to afford more intermediate-good imports and continue with import substitution industrialization policies a while longer.

Unlike ISI policies of previous two decade which supported production of consumer goods, production of intermediate and capital goods was the focus of the industrialization policies in the five year development plan of 1973. During ISI policies of 1950s and 1960s, Turkish economy achieved a decent growth rate of 6.5 percent and its manufacturing industry grew at 10 percent per year. However these successful growth rates did not result into economic development due to the lack of long term perspective of policies. The third five year plan in 1973 set ambitious long term objectives for Turkey. Some of these objectives were fivefold GDP per capita increase, 12 percent annual growth rate in manufacturing output until 1995. The plan also appreciated the necessity of considerable structural change in the economy to achieve its development goals. The share of agriculture was planned to be dropped to 12% from 26% while contribution of industry in GDP is to increase to 37% from 25%[11].

Until 1977 Turkish industry achieved 10% annual growth rate yet its share in GNP was still around 23%. Industrial growth rate was roughly on par with outcomes from earlier two decades. Structural change within industry was not as dramatical as the five-year plan aimed at; the share of consumption goods in industrial production decreased while that of capital goods and intermediate goods increased but only slightly considering 10% growth rate in aggregate industry. Consumer goods continued to be produced particularly production of consumer durables had a high growth. Therefore despite being the most promising five-year plan from a developmental point of view, plan of 1970s in practice became a failure. Industrial production remained to be highly dependent on intermediate and capital goods imports. Once again industry was not able to generate enough

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[11] Pamukoğlu (1990) provides these figures and further discussion of five year development plans.

foreign exchange reserves to finance growing import demand and eventually ISI policies had to be abandoned in 1980s with a radical shift towards export promoting policies.

In principle, the problem of Turkish industrialization policy was easy to point out. Ability to decrease import of intermediate goods is a prerequisite for long term sustainable industrial development. However after three decades of planned protective trade policies and public spending, dependence of Turkish industry on imported inputs had not decreased even slightly. As table 2 shows, in the 1970s both capital and intermediate goods consistently constituted the 95% of the imports with even increasing its share in late 1970s.

TABLE 2	Composition of Imports, %						
	1950	1960	1970	1975	1977	1978	1979
Capital goods	46.0	52.1	47.1	41.4	38.9	34.6	31.5
Intermediates	33.4	38.3	47.9	54.3	58.0	62.5	66.6
Consumer goods	20.6	9.6	5.0	4.3	3.1	2.9	1.9
Source: Sönmez (1982)[12]							

During the 1970s, actual imports were much higher than the planned levels yet rise in oil prices was one of the major reasons of this unexpected growth. However import of other goods also increased in this period and this was also partly due to loosening of the import restriction after rapid growth in foreign exchange reserves. This growth happened thanks to increasing workers' remittances and convertible Turkish lira deposits (CLTD)[13].

Although inability to generate export growth and foreign exchange deficit were chronic problems of Turkish economy since 1950s, the problem was less critical in the 1970s. The main difference was inflow of remittances as new and significant source of foreign exchange reserves. Since 1965, foreign reserve compensated for about 40% of the trade deficits. This poor export performance, particularly in manufacturing exports considered to be the bottleneck to Turkish industrial development. Krueger (1974) argued that this realization of poor development prospect rather than deteriorating balance of payment were the principle reason behind 1970 devaluation because it was still possible to sustain the deficit for a while. Increase in subsidies for exports in manufacturing goods that followed the devaluation also supports this argument. The 1970 stabilization program increased the effective exchange rate for exports of agricultural goods by 28% and of manufacturing goods by 57%[14]. Thanks to these policies, early 1970s experience rapid rise in foreign exchange inflow and this inflow result in unprecedented accumulation of foreign reserves and increase in imports.

As mentioned before, the growth of exports was remarkable during the three years when 1970 stabilization was in practice. Total value of exports expanded to 1.3 billion dollars from its 0.6 billion level in 1970 which made 25% growth rate per year. This export performance stands in sharp contrast to the 3% annual growth rate during two decades after 1950 which does not even

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[12] as presented in Pamukoğlu (1990)

[13] CLTD enabled Turkish workers in abroad to deposit their savings denominated in Turkish lira in Turkish banks with a guarantee of payment at Swiss or German interest rates in the case of devaluation or inflation. This scheme was in principle was like a subsidy on foreign borrowing.

[14] Dervis et al (1978)

double its value. This export boom mainly occurred due to textile and food processing industries which increased their export values from 127 to 200 million dollars and 127 to 391 million dollars respectively. However there had also been promising start in some other manufacturing goods such as glassware, metal products, cement, inorganic chemicals which had little or no export previously[15]. The export boom in the period between 1970 and 1973 showed the potential of Turkish manufacturing industry in exporting wide range of products under right policies and sector structure. However the export promoting policies of 1970s continued only a few years and was not maintained in the 1973 five year plan. Since 1974, exports did not grow dramatically while imports almost grew almost threefold during period 1973-1977.

During the period 1969 to 1973 foreign capital inflow due to worker's remittances grew at a 70% per year on average. By 1973 these flows were already could already finance 50% of the imports. Convertible Turkish Lira Deposits scheme enabled Turkish workers abroad to deposit their savings at higher interest rates with basically no risk and this certainly was one of the factors behind this surge in capital inflow. However there is more basic explanation to this dramatic growth. During the same period, average annual growth rate of population of Turkish workers abroad was itself 35%. If we also take the annual GDP per capita growth rates into account, this trend can easily be stated as the major cause of surge in remittances.

In terms of inflation, 1970s also sharply differs from the previous decade. During the 1960s inflation was on average 5% with small rise towards the late years. In the 1970s, the inflation was a problem all over the world however inflation rate in Turkey surpassed the world average. During the 1970-1973 period average annual inflation in the world was about 10% while in Turkey inflation rate was 18% having risen over 20% 1973. In the following years inflation trend came close to the world trend average around 9% partly due to devaluation of Turkish lira at around 5% annual rate.

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[15] ibid

FIGURE 1: Export, Import and Remittances (in thousand dollars)
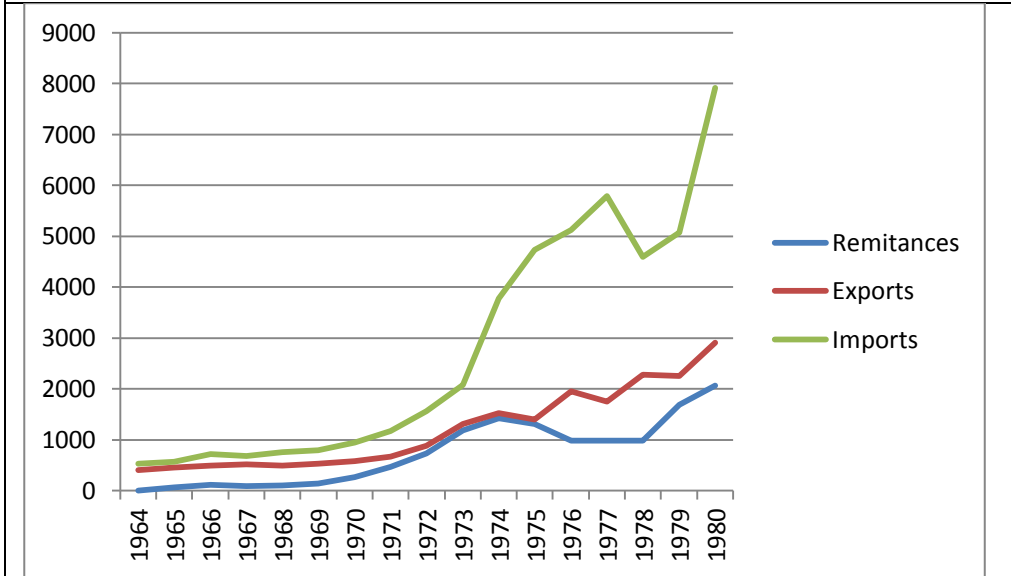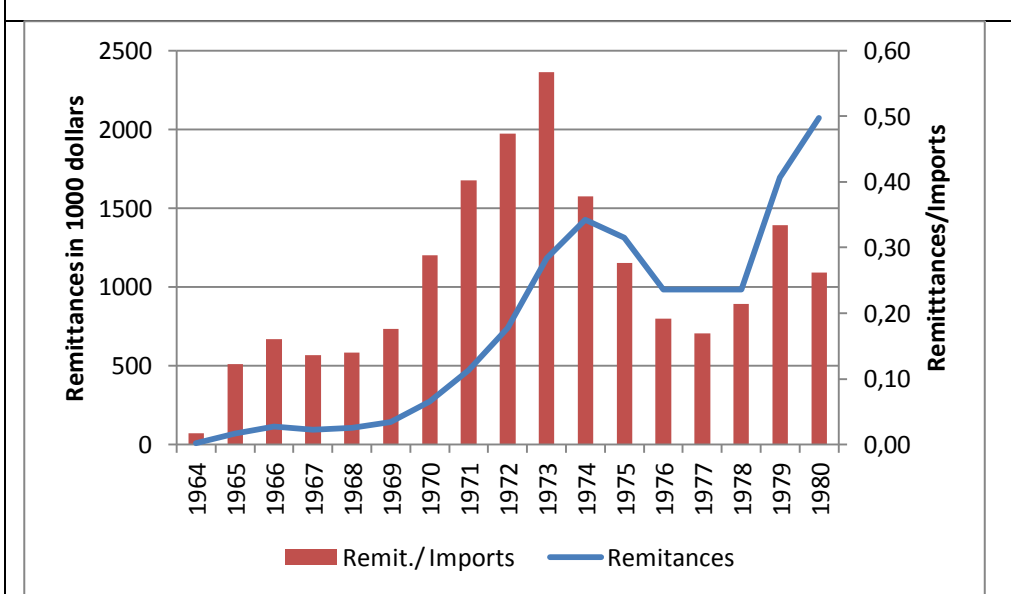

FIGURE 2: Remittances and its ratio to imports

*Source: Turkish Statistics Institute
**For the continuation of the data to 1980s see table A in the appendix

During the period 1970 to 1973 when stabilization program of 1970 was still being implemented, imports and exports grew at similar rates and dramatic rise in worker's remittances continued until

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1974. In 1973, Turkey could even have a large current account[16] surplus the exports and remittances in total exceeding the imports. Nevertheless after introduction of third five year plan, import rose to 3.8 billion in 1974 with remarkable growth rate of 80% compared the last year. Despite this dramatic increase in exports, foreign exchange deficit produced in 1974 was still modest at level of about 820 million dollars, 3% of the GDP.

Indications of upcoming balance of payment crisis became apparent starting from 1975. As it can be observed from the figure 2, imports kept rising rapidly, growing at 25% in 1975, while both exports and remittance decreased. This time foreign exchange shortage was 5.5% of GDP, reaching at 2 billion dollars. In the following years, this negative trend did not improve and the foreign exchange gap was 3 billion dollars and 9% of the GDP in 1977. By 1978 foreign exchange reserves that had been accumulated in early 1970s and the country's external borrowing limits had already exhausted. It was once again the time for a substantial stabilization program.

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[16] Current account balance of Turkey from 1972 to 1985 is presented in Table B in the appendix.

1.2.3. 1980s: THE BEGINING OF LIBERAL TRADE POLICIES

As I also mentioned in the previous parts, after the last debt crisis of ISI in late 70s, Turkey steered away from its protectionist policies and started to implement more export oriented trade policies. Unlike experience of some developing countries with such policies in the 1980s, growth rate of Turkish economy recovered remarkably fast being driven rapid export growth.

Before going into detailed discussion, it might be useful to open a parenthesis concerning some basic concepts used in this chapter. In the discipline of Turkish Economic History, 1980s is typically considered to be the decade that Turkey was introduced to liberal economic policies. However to understand why they are named "liberal" may require a historical perspective. The policies of this decade were a major challenge to the ideological bias against exports and private initiative that had its roots in the early years of the republic as mentioned before.

In the domain of international trade a liberal policy had to mean a degree of devaluation since the currency was known to be over-valued to sustain import of capital and intermediate goods. Devaluation under CTLD scheme was also undesirable since the depositors would opt to attain their savings denominated in foreign currency and this would cause huge foreign reserve outflow. Celasun and Rodrik (1989) states that the Turkish Lira was already overvalued by the beginning of 1975 and the CGE model of Dervis and Robinson (1978) calculates the degree of overvaluation by 1977 to be more than 50%.

In the domestic markets, liberal policies had to concern state economic enterprises (SEEs). As Walstedt (1980) concludes state holdings were not profitable enterprises during 1970s, had the true accounting procedures been undertaken. Therefore prices reforms in SEEs were key part of the 1980s reforms that is to restructure the relative price in domestic economy[17].

Principle causes of remarkable recovery and export boom in 1980s hard to pin point because several structural and economical adjustments took place after the abandonment of ISI policies. The reforms included unprecedented 50% devaluation of Turkish lira and generous export subsidies which were explicit demonstrations of export orientation of new Turkish economy. However

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[17] Although SEEs were not directly part of protectionist trade policies of 1970s, some of these industries (such as steel, natural fertilizers) were certainly among major benefiters of them due to their ability to import equipment at an overvalued exchange rate. However one should not confuse SEEs with the strategic state intervention that I discussed earlier. While a strategic trade policy involves a monopolistically competitive industry with a high long term economic returns, virtually all the enterprises that Turkish state involved in produced at costs higher than world average as shown in Walstedt (1980) p 117.

liberal policies were not limited to trade policies but also directed towards domestic markets. In the ISI decades (SEEs) were not allowed to make required increases in their prices due to populist restrictions by the government. This made SEEs unprofitable institutions and their survival dependent upon continual external financing. Also markets of basic consumer goods markets such as textile became highly inefficient due to existence of SEEs therefore private incentive remained very limited. One of the reforms of the 1980 package was the substantial price increase in these SEE products. Nevertheless the intention to privatize many state subsidies could only be realized in 1989.

In the 1980s liberal reforms continued to deepen through the decade. This was possible partly due to exceptionally stable political environment in the 1980s compared to earlier period[18]. After the military coup of 1980, Özal became the prime minister with one-party government in 1983, this facilitated decision making during his period. As the Prime Minister, he expanded the package that he introduced in 1980 as the minister of financial affairs in 1983. These new reforms included further import liberalization but the reforms concerning to capital account were particularly important because of their implications for balance of payments. Turkish citizens were now allowed to create deposits in foreign currency in Turkish banks and interest rate controls are relaxed. Another restructuring was done in convertible Turkish lira deposits scheme (CLTD) which was established in 1967 to attract foreign capital inflows from Turkish citizens that live abroad particularly in Germany. The amount of CLTD debt rose rapidly up to 3.5 billion dollars, 2% of GNP by 1977 and ended when the government ran out of foreign currency in the late 1970s. In 1980, the CLTDs are eventually were converted to long-term liabilities along with other major debt restructurings.

After Turkish economy altered its trade policies from protectionist import substitution towards more export oriented market-oriented policies in 1980, rise in exports during the first decade was remarkable. From 1980 to 1987, average annual growth rate of export was over 20%. Structural composition of exports altered drastically in favor of manufacturing exporters. In a way, this period was the realization of the potential of Turkish manufacturing that had already shown the indications during the short period of liberal policies in the early 1970s. Industrial exports increased to 8 billion dollars in 1987 from 1 billion dollars in 1980 by also increasing its share in exports more than 70% from 36% in the same period. The sector that lose large share in exports was agriculture. Although
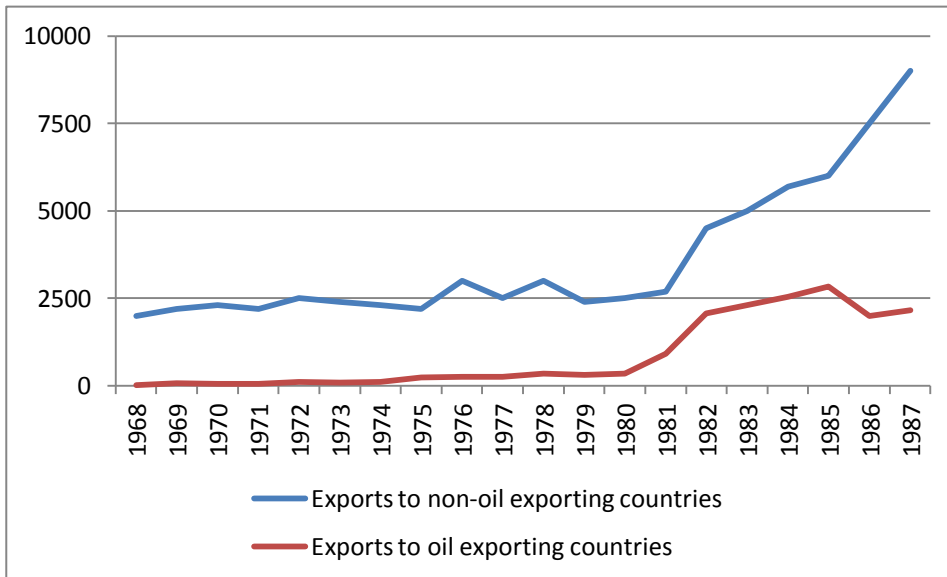
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[18] See Öniş and Webb (1992) for detailed analysis of political economy of policies of 1980s.

agricultural exports in value terms did not alter significantly, its share in total exports drastically decreased to 18% from 57%[19].

Although various export incentives as microeconomic factor and real exchange rate depreciation as the macroeconomic factor considered being the major drivers of 80s export boom, some authors such as Celasun and Rodrik (1989) expressed their skepticism on significance of these factors. Celasun and Rodrik (1989) mentioned two different factors which they considered to be more relevant to high export figures during this period. According to them, high recorded export figures are partly fictitious as a consequence of transition from under-invoicing exports in ISI to over-invoicing in the 1980s when export incentives rose and black market premium fell. Although formalization is a gain for the economy and it can indirectly be attributed to macro and microeconomic reforms of 1980s, it does not represent the real structural change in the economy as these data suggest. Arslan and van Wijnbergen (1990) test the statistical significance of over-invoicing in Turkey's 1980s export boom by comparing Turkish records with importing OECD member counterpart. Their results suggest that the role of over-invoicing is not substantial. After correcting results with OECD records, one can observe still a dramatic rise in Turkey's export performance. Instead they suggest export subsidies, sustained real depreciation of Turkish lira and expansion of import demand in Middle East in the early 1980s as the major factors in play.

Another important yet disregarded cause is related to the geographical position of Turkish market. Iran-Iraq war which lasted through the decade caused creation of a big market for Turkish manufacturers. During the first half 1980s, Iraq and Iran became main destinations for Turkish exports due to low transportation costs. In the period 1981 to 1985, 25% of the Turkish exports were sold to Iraqi and Iranian markets. This share was only 8% in 1980. Although these data does not directly shows that all of the exports to Middle East due to the war, the increase in demand for imports in Iran and Iraq was one of the major stimulator of Turkish manufacturing exports.

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[19] The figures concerning the composition of exports in the 1980s is provided in Arslan and van Wijnbergen (1990) along with their analysis on the topic. Celasun and Rodrik (1989) ch. 7 is another useful discussion of export boom of 1980s.

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FIGURE 3
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```
10000

7500

5000

2500

   0
     1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

     ——— Exports to non-oil exporting countries
     ——— Exports to oil exporting countries
```

*Source: Arslan and van Wijnbergen (1990)
**Figures are in thousand dollars

The export markets for Turkey in the Middle East were not limited to these two countries. Share of exports to Middle East among total exports rose to 40% from 17% during the same period. Among Middle Eastern markets, the share of OPEC countries were dominant. Thanks to market expansion in OPEC countries created by high oil prices, Turkey's exports to oil exporting countries rose to 2.9 billion dollars in 1985 from 400 million dollars in 1980 increasing their share in exports from 13% to 36%. As the oil prices started to fall in the late 1980s, this trend also stagnated. The fact that Turkey had this booming Middle Eastern market as a destination for their exports in the midst of second oil crisis of 1980s in the developed world can also be an important factor distinguishing Turkey from other export oriented developing countries.

If Turkey's export boom in 1980s were limited to Iranian-Iraqi market and OPEC countries, we could have suspect that external factors rather than the changes in the domestic policies play the major role in this success. However this was not the case. Prior to 1980, OECD countries were the major export markets for Turkish imports and after 1980 Turkey managed to further increase its exports to OECD at the average annual rate of 17.5%. These exports were composed of both labor intensive textile, leather products and other specialized goods such as machinery, chemicals and

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electrical tools. One important structural change in this period is that export of raw materials and low value added products such as processed food decreased in share among total exports. During 1980s, textile industry and leather industries grow rapidly and become the biggest exporting industries and iron and steel industry came second after them.

PART 2: PRODUCTIVITY DYNAMICS OF TURKISH ECONOMY: 1972-1989

2.1. TRADE POLICY AND PRODUCTIVITY

Before presenting my results of productivity decomposition during the period 1972 to 1989, I would like to discuss the relationship between productivity and trade policy and the related literature on this topic. Although the literature is quite substantial, the studies usually differ from each other in their formation of the question and their methodology. In this part, I will try to summarize main theoretical developments and empirical findings on productivity and trade policy relationship with reference to their methodological differences.

Although superiority of liberalization over protective policies in terms of their effect on productivity is a widely held view in this debate, modern trade theories in fact do not suggest such unconditional benefit of trade openness to productivity.

In static models of international trade without imperfect competition or market failures, trade liberalization result in increase in real output hence in productivity. However when the models are extended with market imperfections, protective policies may in fact improve the productivity. For example in the case of ISI in developing countries, strategic protection of import competing sectors should create positive externalities due technology spillovers, network effects etc. However in a short run analysis of trade liberalization may find positive effect of openness on real income due to short run static gains from export of raw materials or other low value added goods.

In the recent decades, development of new set of theories that are based on endogenous growth provided deeper insights on the role of trade restrictions. These international trade models with endogenous growth that includes various related mechanisms such as increasing returns or learning-by-doing demonstrate that relationship between productivity and trade policy is not so straightforward.

Endogenous growth models show that trade liberalization would increase the real gross world output however individual country experience will depend on the specialization pattern is has to adapt based on its factor endowments and technological level. Therefore it is not reasonable to assume that trade liberalization is unconditionally good for growth when individual countries are concerned.

In my discussion of strategic trade policy in part 1.1., I have already mentioned these conditions that would make international trade favorable. To state it briefly, these gains all depend on whether country will reallocate its resources to the industries will generate long term growth. The

unfavorable experience of many developing countries with trade liberalization is exactly due to their failure to direct resources towards such strategical industries with high positive externality.

The empirical literature that investigates the impact of trade policies on productivity can be divided into two groups as macro and micro level in terms of their approaches to the question. Macro level method uses cross country regressions to estimate the impact of openness on GDP growth controlling for various institutional factors. Usually openness is estimated as an index that measures outward orientation of countries trade policy. However validity of these openness measures is also subject to debate. Rodriguez and Rodrik (2001) argue that these openness indices are often high correlated with the causes of low economic growth. That means these indices in fact are not independent of the growth performances and are hence source of endogeneity bias in the regressions. In addition to other methodological problems of these macro analyses are also criticized for not being able to capture the variation in the countries' treatment to different industries.

An influential empirical paper that analyzes relationship between openness and growth is Dollar (1992). He measures openness based on price comparison ofhen same consumption goods across 95 countries so that he calculates the distortion due to trade protection. His findings suggest negative effect of trade distortion on national income growth. Another most cited paper that deals with the issue is Sachs and Warner (1995). As a measure of openness, they generate a dummy variable based on some criteria including tariff rate, black market premium, share of state enterprises in exports etc. After controlling for various institutional and other economic variables, their regression shows that the openness dummy has positive and significant effect on income per capita growth. Edwards (1998) is another paper that investigates this question. The difference of his regression model is that he uses 9 different measures of openness as the regressor of ten-year average of TFP. Out 9 measures of outward orientation, 6 of them turn out to be positive and significant. Although these papers seem to be consistent in their findings, they are widely criticized on methodological issues[20].

Due to the recent theoretical advances, many empirical works are written based on micro approach in recent decades. Micro level approach uses plant level regressions to calculate productivity measures and then either analyzes the effect of the firms' participation in exports markets or the effect of policy change such as trade liberalization on productivity levels of the firms. This method

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[20] See Rodriguez and Rodrik (2001) for an extensive discussion of these issues.

avoids the openness index problem that arises due to difficulty comparison of trade policies across countries. However different methodological difficulties arise for the need to control for country-level shocks which is also captured by the productivity measures.

One of these empirical works that follow firm level analysis is by Baldwin and Gu (2003). Their analysis includes Canadian manufacturing firms from 1974 to 1996. They found that both TFP and LP are higher for exporting firms. Furthermore these productivity measures found to increase overtime. Clerides et al (1998) for Colombian, Mexican and Moroccan firms, Hansson and Lundin (2004) for Sweden, Bernard and Jensen (1995) for the US also found similar supportive results.

2.2. PRODUCTIVITY DECOMPOSITION

2.2.1. DATA AND METHOLOGY

Data

Data set is provided by State Planning Organization of Turkish Republic in their report on capital accumulation in Turkish economy from 1972 to 2003[21]. I will limit my analysis to the period from 1972 to 1989 because of its relevance to my study.

Shift share analysis contains two main variables employment levels and output. Output will be measured by production values instead of value added. Production levels that are presented in these figures and used in the calculation are in 1990 constant prices. There are no missing data problems in either series and an overall summary of the data is available in table 3 below. Export taxes are excluded from production figures.

Another specification of the shift share methodology is the definitions of sectors. In this study, productivity decomposition is calculated based on three basic sectors; Agriculture, Industry and Services. Some authors such as Üngör (2011) opted for several sectors disaggregation by using sub-industries in their calculation. Such disaggregation may find higher structural change effect by design. For example, if the three sector economy specification is used in calculation, a labor allocation from automotive to textile sector will not be counted as structural change effect.

Definitions of three sectors are as follows

- Agriculture
- Industry: Mining, Manufacturing, Energy(electricity, gas and water)
- Services: Transportation, Communication and other services

TABLE 3	Descriptive Statistics of the dataset					
Sectors	Employment shares		GDP shares		GDP per worker(in TL)	
	1972	1989	1972	1989	1972	1989
Agriculture	0.62	0.47	0.31	0.18	6545	7444
Industry	0.12	0.16	0.20	0.26	20300	32414
Services	0.26	0.37	0.49	0.55	24096	28934

Source: Saygılı et al (2005)

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[21] Saygılı et al (2005)

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Methodology

Decomposing productivity change into its structural and sectoral component is common way for understanding sources of economic growth. However productivity may have couple of different definitions. Most common of these productivity measures are Total Factor Productivity and Labor Productivity. Labor productivity as simple ratio of output or value added produced per employee is a practical representation of productivity and particularly useful for cross sector comparison of productivity over a long period when the data are less available. On the other hand, there are various ways to calculate Total Factor Productivity and most common way is to calculate it as the residual of a multiparameter linear regression. In contrast to Labor Productivity, more factors such as physical and human capital could be taken into account during computation. Also if the analysis has relevance to technological change, Total Factor Productivity is considered better approximation for technological progress. Although Total Factor Productivity has some preferable qualities insignificant coefficients of parameters may cause methodological difficulties for confirming validity of estimates. Labor Productivity in this sense rather more uniform measure when controlled for relevant structural differences.

The productivity decomposition that I will use in this study is called shift-share analysis. In this decomposition, both productivity measures are applicable and in the empirical literature both measures are used. I will be using labor productivity as a measure for my analysis. The purpose of this analysis is to explore changes in the productivity of Turkish economy in two different policy periods; 1972 to 1980 and 1980 to 1989. In the previous parts, I have tried to describe implications of protectionist and liberal trade policies that are applied successively in these two periods. With this method, I will try to quantitatively analyze these two fundamentally distinct policies periods by looking at dynamics and composition of productivity change over the period.

Shift share analysis is first developed by Dunn (1960) as an employment forecast tool in his regional development study. He used a two-component decomposition to investigate whether regional growth was due to all sectors growing uniformly or it was a consequence of a region's specialization of well performing industry.

Esteban (1972) extended this method by adding its third part which indicates the interaction of the first two components. He mentioned that this third term can be interpreted as the regional growth due to specialization of region in its most competitive sector[22].

Although shift-share analysis was initially developed for investigation of changes in regional employment, same methodology could be adapted for decomposition of productivity and could be used in macroeconomics and industrial organization studies.

Basically the method investigates the question whether productivity change over a certain period is a consequence of reallocation of labor towards sectors with different productivities *(structural change effect)* or it is rather a consequence of productivity change within sectors *(intra-sectoral effect)*. For example an overall productivity gain can be a result of better distribution of labor towards more productive firms without any change in the productivity of the sectors, analogously; the economy can have the same gain by an increase in productivity within sectors without any change in labor distribution.

Shift-share analysis enables us to analyze contribution of these two difference sources of productivity change. To be more precise, structural component of the productivity is further decomposable to capture static and dynamic sectoral effects. Static- sectoral effect is the main the major source of structural change as being the reallocation effect towards more(less) productive sector. Dynamic sectoral effect on the other hand is interaction component that show the gain (loss) due to reallocation towards sectors with growing (shrinking) productivity. Dynamic sector usually account for a very small part of productivity change in annual estimates. This is due to its definition more than anything else; because the changes in employment shares and productivity are often less than 0.05, dynamic component becomes insignificant in these results. For example allocation of labor towards a sector higher yet decreasing productivity will increase productivity with a positive static sectoral effect yet negative dynamic sectoral effect.

Shift-share analysis is a very common method for isolating structural component of productivity changes. Its use is not limited to macroeconomic and trade studies but it is similarly applicable to regional development and industrial organization studies as I mentioned before. In the following paragraphs I will describe the steps of computation that make such decomposition possible.

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[22] Later some further components are developed by various authors but three term composition is to my knowledge the most commonly used version among national economy productivity studies. Isaksson (2009) provides a summary and critique of these later developments together with earlier versions.

First productivity can be represented as the sum of multiplications of labor share and productivity of sectors;

(1)

$$P_t = \sum_i s_{it} p_{it}$$

In equation 1 capital P_t represents the productivity of the economy at time t, s_{it} represents labor share of industry i among all labor of the economy, small p_{it} represents productivity of the industry i. Productivity in my analysis is calculated by output over labor and output is measured with production rather than value added.

(2)

$$\Delta P_{t,within} = \sum_i s_{i0} \Delta p_{it}$$

Here Δ represents change over time. If there were no change labor distribution across industries, equation 2 would show the changes in productivity, therefore to complete the equation we need to add the structural change component of the equation which is equation 3. One methodological detail is the choice of base year for the estimation of change over time. In the results part, I will present both decomposition of productivity change over the whole period taking the base year as 0 and also annual decomposition taking base year t-1. In the latter case we have the possibility of observing the trend of structural change.

(3)

$$\Delta P_{t,structural} = \sum_i \Delta s_{it} p_{i0} + \sum_i \Delta s_{it} \Delta p_{it}$$

This equation is the structural change part of the productivity change. First part of the equation by multiplying the change in employment share with base year productivity shows the effect of allocation of labor towards sector with different productivity. Since it only takes productivity of the previous year into account rather that also the change of productivity over time, this part is called *static sectoral effect*. The latter part on the other hand captures the covariance of productivity and employment change that the other two parts of the equation did not account for. This last part is

called *dynamic sectoral effect*. Hence the whole equation represents the effect of shifting the resources (labor in this case) between industries.

$$\Delta P_t = \sum_i s_{i0} \Delta p_{it} + \sum_i \Delta s_{it} p_{i0} + \sum_i \Delta s_{it} \Delta p_{it}$$

Intra-sectoral effect | Static | Dynamic

Structural change effect

2.2.2. FINDINGS

In this part I will discuss the changes in the productivity dynamics of three main sectors of Turkey over the two periods 1972 to 1980 and 1981 to 1989. As I discuss extensively in the previous parts of this thesis, these two periods differ from each other substantially in terms of trade policy undertaken during them. In general, we can identify 70s as the period of protective policies that aims at import substitution in capital intensive goods and 80s as the period of liberal reforms that result in remarkable export growth particular in manufactured goods.

Before discussing structural changes in productivity of Turkish economy, I will discuss the main labor productivity trends and changes in the average productivity during these two periods. Averages figures presented in the table below are average of annual productivity and annual productivity growth respectively.

Analysis of annual labor productivities[23]

Basic results on productivity dynamics drawn from this empirical methodology can be considered to have a good degree of representativeness. However further remarks on the relationship between the productivity dynamics and underlying trade policies will rather be tentative since it requires a more extensive quantitative methodology. First and foremost, as I also discussed in part 2.1., industry productivities are also affected by various exogenous shocks beyond policy incentives and macroeconomics of the country. For example these shocks can be climate for agriculture industry or supply shocks in the one of imported intermediate goods for manufacturing. Such exogenous factors will also be captured by the productivity and structural change measures unless they are explicitly controlled with a more complicated statistical model.

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[23] Productivity in this empirical part refers to labor productivities both in tables and figures. The units are output per thousand workers.

Annual Labor Productivities of Sectors

*Author's calculation from Saygılı et al (2005)
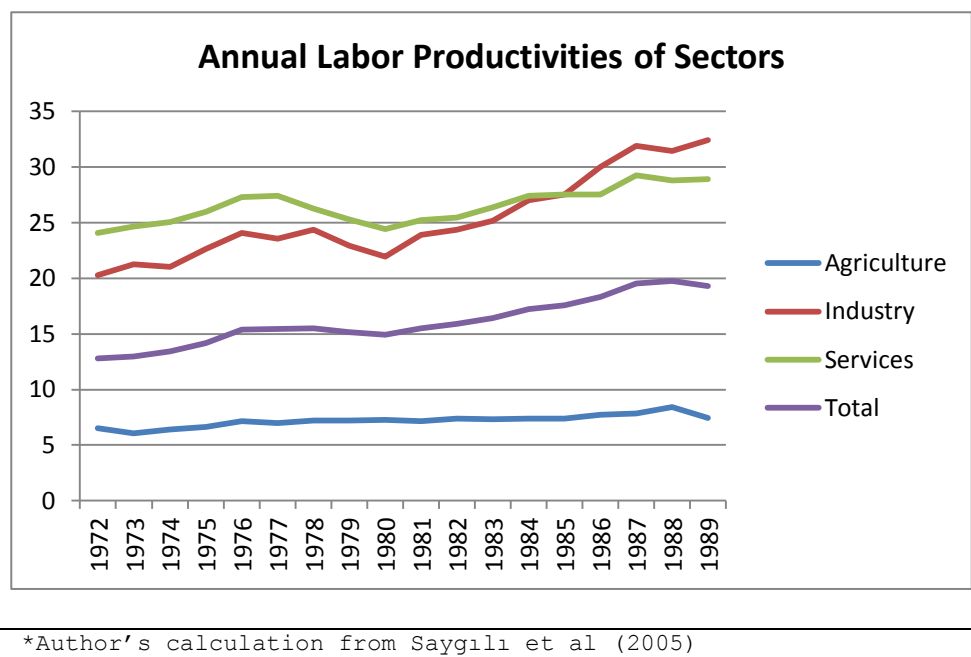
If we look at main productivity trends during these seventeen years, the most obvious trend change is observed in the industry sector. In the 1970s, industrial productivity was stagnant around 22,5 and overall productivity increased only slightly with 1% average annual rate. However after liberal reforms in 1980 the trend immediately becomes upwards and the period average increases to 28,2. This shows that export boom of Turkish manufacturing sector in 1980s was accompanied by a comparable boom in labor productivity.

Various reasons can be suggest for the stagnant productivity in 1970s. The development plan of 1970s was actually on the right track in recognizing the symptoms of development problems of Turkey. Less import dependent manufacturing sector had to be promoted to avoid reoccurring balance of payment crisis and also export promotion was crucial for generation of sufficient foreign exchange reserve. The key development during this period was unprecedented rise in workers' remittances which at least in the short runs solve the problem of foreign exchange. Many indicators including the stagnant productivity suggest that this surge of capital inflow may actually be a curse in disguise.

On the other hand, average annual productivity growth rate in industry during 1980s was at 4% which is 4 times higher than same rate of the 1970s. Also from 1980 to 1987 industrial exports have increase eight-fold; from 1 billion to 8 billion dollars. In 1.2.3, I have discussed to what extent this remarkable growth in export is related to domestic policy changes. Certainly expansion of import

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market in Middle East, higher invoicing of export sales due to fall in black market premium had played a role in this export boom. However the export potential of Turkish manufacturing industry was already once indicated in 1970 during a short period of liberal policies. 25% annual average growth rate of in export from 1970 to 73 was mainly driven by manufacturing sector.

Trade theory that was discussed in 2.1 also supports positive correlation of export boom with productivity boom. One theoretical explanation might be positive externalities created by learning-by-doing and network effects which is to increase the productivity as production levels expands.

TABLE 4	Average Labor Productivity	
	1972 – 80	1981 – 89
Agriculture	6.83	7.57
Industry	22.47	28.20
Services	25.61	27.40
Total	14.42	17.73
Source: Author's calculation using Saygılı et al (2005)		

TABLE 5	Average Annual Labor Productivity Growth	
	1972 – 80	1981 – 89
Agriculture	1%	0%
Industry	1%	4%
Services	0%	2%
Total	2%	3%
Source: Author's calculation using Saygılı et al (2005)		

Out of three sectors, agriculture is the one that exhibits the most stable trend. The average productivity of agriculture slightly increased from 6,8 to 7,5. This should not be surprising if we consider technology dynamics of agricultural sector and history of Turkish agricultural development. The modernization of Turkish agriculture happened in 1950s and this caused significant productivity gains and increase in agricultural exports during this period. Agriculture has not been the main focus of development policies since then. Although agriculture lost its share in exports dramatically, in terms of value its exports more or less remained the same even after 1980 liberalization compared to 1970s. Obviously amount learning-by-doing is also very limited in the sector compared to any manufacturing sector therefore we cannot expect such dynamic gains from trade in agriculture sector.

Productivity decomposition

For decomposition, shift-share analysis will be employed. In part 2.2.1, the technical details of computation and interpretation were described at length. Basically the shift share analysis, when employed for productivity decomposition, shows us to what extent certain productivity change is due to reallocation of resources towards more productive components and to what extent due to productivity change within one component. The former effect is called structural change effect and the latter is called intra-sectoral effect.

Theoretically trade liberalization can result in both structural and intra-sectoral productivity change. Let us consider that after liberalization, country get to produce and export the products with high positive externality so that there will be not be loss due to fall in long term growth. Intra sector productivity gain simply will occur as the sector produce more and therefore enjoy more from the benefits increasing returns to scale. Structural change, first of all, may happen due to static force of comparative advantage since country will reallocate its resources towards the sector that it is better equipped to produce. Whether dynamic force will have a structural effect will depend on the labor market consequences of the liberalization and the changes in real wages across industries.

TABLE 6	Productivity decomposition of the periods		
		Structural change	
	Intra-sectoral	a. Static	b. Dynamic
1972–1980	0.73	1.40	0
1981–1989	2.59	0.96	0.24

Source: Author's calculation using Saygılı et al (2005)

Annual productivity change

Annual productivity decomposition

■ Intra-sectoral effect ■ Structural change effect
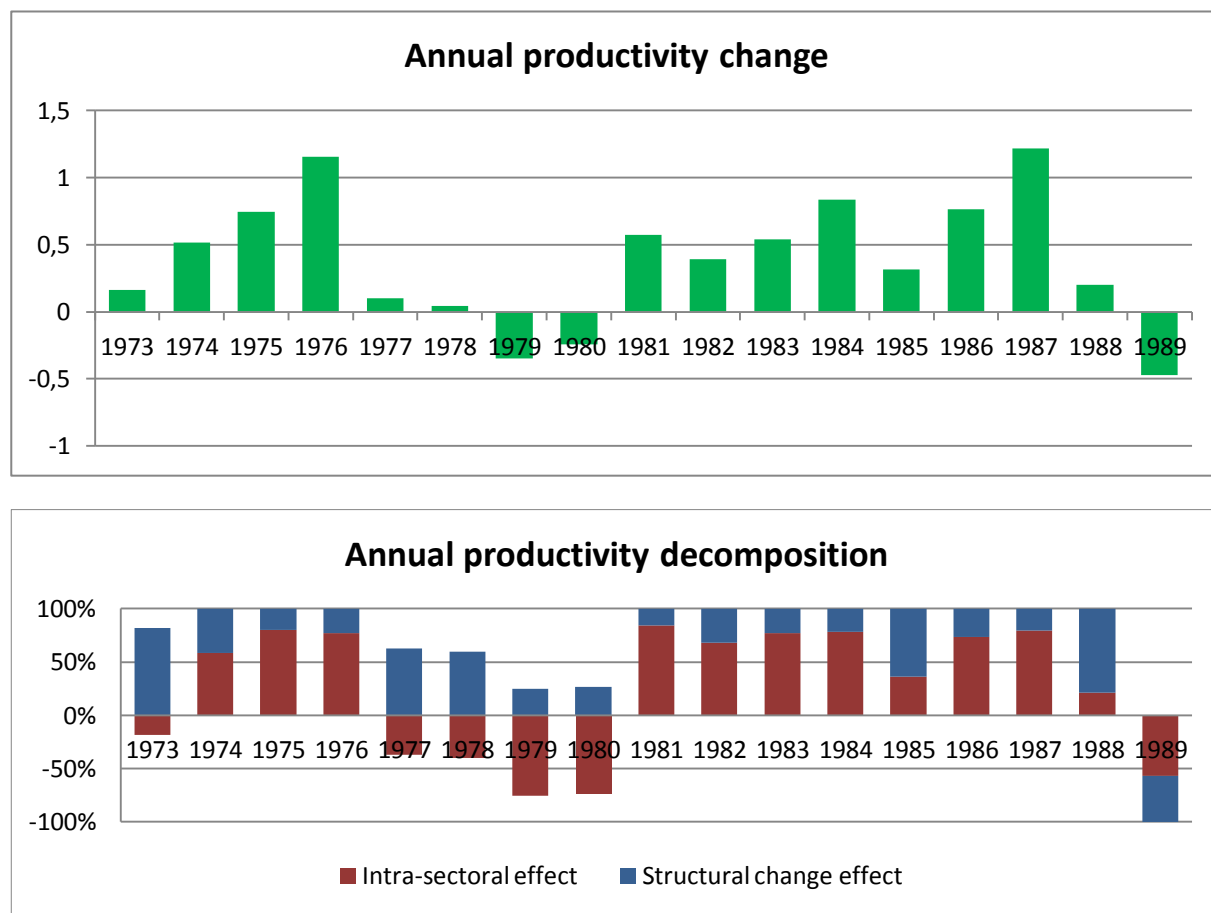
*Source: Author's calculation using Saygılı et al (2005)

As figure 5 & 6 show, until mid 1970s there had been decent productivity gains in Turkish economy. Majority of these gains were intra-sectoral rather than structural. Also productivity losses from 1977 to 1980 are also due to intra-sectoral effect. The level of structural change is 1.4 in 1970s and it slightly decreases in the 1980s to 1.2. As I mentioned earlier the most critical development of 1970s was the surge of remittances at unexpected rates. This surge stagnated starting from 1975 from then on balance of payment deteriorated until the crisis of late 1970s. Productivity gains follow similar trends with these changes in capital inflow. As I mentioned in part 1.2.2, these capital inflows were critical in financing intermediate goods imports in this period and their absence theoretically may undermine the efficiency of production process.

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The figures above indicate that there had been consistent productivity during the 1980s except the years 1980 and 1989. Although structural component of these gains are very close to that of 1970s, intra sectoral productivity gains are more than three times higher than that of the previous decade. Arguably these intra-sectoral gains are partly due to positive externalities of increasing export values. However increasing efficiency of state enterprises should also be mentioned in this discussion. As I discussed in previous parts, prior to 1980s state companies kept their prices very low due to populist politics of the times. Therefore they had to be consistently financed from external state budget. However one of the reforms of 1980s was the substantial price increase in these goods produced by the state enterprise.

As a final remark, dynamic component of structural change in the 1980s is worth mentioning. In the previous decade this component was effectively zero while in 1980s period it is 0.24. This finding suggests that roughly 1/5 of the structural productivity gains were due to allocation of resources towards not only higher productivity sectors but also sectors with growing productivity.

CONCLUSION

In this dissertation, the main aspects of trade policies of Turkey and the productivity transformation during 1970s and 1980s are discussed in relation to the new theoretical insights. With this discussion, I also tried to highlight main developmental difficulties that middle income countries with limited natural resources experience when they are directly or indirectly exposed to the international trade. 1970s and 1980s periods are suitable for this discussion since two very distinct trade policies are undertaken in these periods as described in the earlier parts.

New developments in the international trade theory have important implications for protective trade policies like in 1970s. Due to existence of high increasing returns in some critical sectors, such interventionist policies could potentially be used strategically so that long term national income of the country is increased. This agenda assigns a very sophisticated role for the government and requires a long term commitment to this role. However the developing countries are chronically vulnerable to political turmoils that undermine such decision making that requires long term planning.

As discussed in part 1, the import substitution policies of Turkey in 1970s in practice was far from such strategic trade policies suggested by the theory. What actually happened during this period and in many other cases of import substitution in other developing countries is in fact increasing dependence on imports of intermediates for industrial production. The reason for this growing dependence is that these policies are not used to protect strategic industries but to control capital outflows. When the exporting industries are not performing well enough to generate sufficient foreign capital, imports of intermediates remain limited and the country under import substitution remains in a way in a development trap.

Availability of foreign exchange reserves has critical importance for both continuation and success of interventionist trade policies. 1970s was also an example of this. The critical development in this period was the unprecedented surge of remittance which became about 40% of import on average during the first half of 1970s. During this abundance of foreign reserves, we can also observe decent productivity gains in the Turkish economy. As shown in the figure 6, these gains were most intra sectoral and in the second half of the 1970s the productivity losses were also within sector rather than structural. The exact reasons behind this fluctuation in intra sectoral productivity change require a micro economic study of determinants of sector productivities however it can be observed

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that these gains and losses are correlated with inflow of remittances in the 1970s. As I mentioned in the previous parts, remittances were important sources for financing import substitution industrialization of 1970s and decrease in them in the later part of 1970s might have an adverse effect on the production in import dependent sectors.

As described in part 1, 1980s exhibited a radically different case of trade policy compared to 1970s. The decade started with series of liberal policies such 50% devaluation of the Turkish lira and other generous subsidies for promoting exporting industries. These policies were combined with reforms for the domestic market such as substantial price increases in the state enterprises which had been notoriously unprofitable for decades. The result of these reforms was an export boom in Turkish economy as could be seen in the table A in the appendix. There was a small "fictitious" component of this boom as a result of overinvoicing exports after the fall in the black market premium. However major factors were the expansion of import demand in Middle East market and export incentives that the liberal trade policy provided.

Productivity response of Turkish economy to these reforms was also as impressive as export values. Roughly 60% of these gains were due to intra sectoral gains which suggest improving efficiency of productions in the Turkish sectors. However structural gains during the periods also occurred. Unlike the 1970s, there had also been some dynamic contribution to these gains in the 1980s which suggests that the economy not only better allocated its resources toward more productive sector but also these sectors experienced growing productivity. Theoretically increasing export values in manufacturing industries should play important in the intra sectoral productivity improvements due to gains from endogenous growth. On the other hand the structural gains might happen due to better functioning of the markets under liberal policies.

Although this dissertation provides an in depth discussion Turkey's experiences with distinct trade policies based on a relatively new theoretical perspective, there are some points that are left unaddressed or not analyzed rigorously enough. The empirical part of this dissertation attempts to highlight outcomes during 1970s and 1980s trade policies and the sources of these outcomes – within or structural- using a macro variable; productivity. As briefly reviewed in part 2.1, studies with macro variables are understandably subject to critique because they do not distinguish variation of policies between industries. The main emphasis of strategic trade policy is the difference between industries in their inherent market structures and governments' ability to make use of this difference with strategic interventions. Therefore in order to answer the questions such as

how different 70s would have been compared to 80s had the policies tailored more strategically, further empirical research is necessary based on micro economic evidences from industry specific trade policies; to the extent data availability permits. Although empirical part of the dissertation could not incorporate such within industry differences, in sections concerning period discussion included remarks on effect of trade policies on industries and composition of imports and exports.

Although conclusions from empirical part should remain tentative, some insights for policy-makers can still be extracted from the dissertation. Based on the results presented in table 6, it can be suggested that the export oriented policy of 1980s provided Turkey higher and more sustainable productivity. Nevertheless this should not be considered as yet another case for liberal policies and this actually is one of the main claims of this dissertation. Several reasons for this practical failure were outlined in the first part. To sum up these points, we should have a look at the main developmental challenges of closed middle-income countries. Devastating aspect of pre-80s Turkish economy was recurrent debt crises which were due to poor debt management and running out of foreign reserves. In the early 1970s, only when foreign capital exogenously flowed into economy in unprecedented amounts, the old protectionist policies could sustain decent productivity gains for the economy which were obviously to be lost when the exogenous contribution was exhausted. On the other hand, export oriented trade policies are less vulnerable to such foreign reserve deficiencies since the exporting sectors are also the source foreign capital. Furthermore liberalization of the domestic markets under international trade is like to provide also structural gains in the very short run as evidenced by table 6 and figure 6. This dissertation tries to emphasize the point that this short run gain may in fact be a case of development trap that was explained in part 1.1. Reallocative force of markets that are in play under liberal policies can only seize the short run opportunities based on current fundamentals of the economy; however governments of developing countries should be able seek strategical allocations for their economy for higher long term returns.

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APPENDIX

	Remitances	Remit./ Imports	Exports	Imports
1964	9	0.02	411	537
1965	70	0.12	464	572
1966	115	0.16	491	718
1967	93	0.14	522	685
1968	107	0.14	496	764
1969	141	0.18	537	801
1970	273	0.29	588	948
1971	471	0.40	677	1171
1972	740	0.47	885	1563
1973	1183	0.57	1317	2086
1974	1426	0.38	1532	3778
1975	1312	0.28	1401	4739
1976	982	0.19	1960	5129
1977	982	0.17	1753	5796
1978	983	0.21	2288	4599
1979	1694	0.33	2261	5069
1980	2071	0.26	2910	7909
1981	2490	0.28	4703	8933
1982	2140	0.24	5746	8843
1983	1513	0.16	5728	9235
1984	1807	0.17	7134	10757
1985	1714	0.15	7958	11343
1986	1634	0.15	7457	11105
1987	2021	0.14	10190	14158
1988	1776	0.12	11662	14335
1989	3040	0.19	11625	15792

*Source: Turkish Statistical Institute
**1. 3. And 4. columns are in thousand dollars

TABLE B

	Current account balance (in thousand dollars)		
1972	47	**1979**	−1,203
1973	534	**1980**	−3,304
1974	−662	**1981**	−1,919
1975	−1,889	**1982**	−935
1976	−2,286	**1983**	−1,898
1977	−3,431	**1984**	−1,407
1978	−1,595	**1985**	−1,013

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