ECONOMIC DETERMINANTS OF DEVELOPMENT IN WORLD ECONOMY, 1820-2005. AN ANALYSIS OF 165 COUNTRIES

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Abstract: This study aims to make a different approach to development. The study assumes that development diverges according to countries, periods and effecting factors. Development exhibits a diversifying tendency in periods and countries. A common recipe of development can not be considered. The relation between human capital, physical capital, population, technological progress and development is real but not sufficient. Development has aspects that should be explained with debt, role of the state, tax structure, political instability, defence expenditures, geographical position, foreign capital, specialization in foreign trade and technological adaptation. Explanatory variables will all together explain economic growth. Otherwise, why countries that had close development performances in 1820 and 2005 period diverged and had growth miracles while some others had increased poverty can not be explained. In the study, OECD countries, EU countries, transition countries, Asian countries and middle-East countries are analysed. Development problem will be analysed with econometric unit root tests and a specific method developed by the author which employs standard deviations of GDP and per capita GDP figures of countries for the period between 1950 and 2002.

JEL Code: O10, O11, O47, C22, F01, F02, I30,
Keywords: Growth, Development, Convergence, Divergence, Technology, Structural Transformation, Industrialization, Informal Economy, Tax, Budget Deficit, IMF Policy, Income Distribution, Political Instability, Geographical Proximity, Urbanization, Unit Root

1. Introduction

We do not consider that there exists a common recipe for economic development that applies for all countries. In our opinion, economic growth exhibits different structures depending on time and condition. In this context, we are seeking for the answers to these questions: What is the reason that Turkey, Brazil, Mexico, Argentina, former USSR and countries in Africa, Arabic world and Latin America could not succeed in development and fell behind the countries which once were accepted to be at same development levels? In the studies on growth, physical and human capital, technological progress and population are considered as basic development factors. The study appreciates these factors while assumes that specialization, income distribution, regulatory and controlling role of the state, foreign capital, debt, foreign trade and dependence, geographical location, political stability and/or instability are as important as or more important than the mentioned variables. In the studies on growth, major factors of growth are considered as physical and human capital, technological progress and population. Doubtlessly, these factors are important but they are not sufficient in explaining growth. The study finds these factors significant while accepts that some variables such as specialization, income distribution, regulatory and auditory role of the state, foreign capital, borrowing, foreign trade, dependence on outer world, geographical location, political stability/instability are

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as important as and in some instances more important than the factors laid down above. In this framework, the situation of emerging countries (this includes Argentina, Mexico, Turkey, Brazil which were historically supposed to shift to a higher category but failed to do so), transition countries which could not exhibit the expected performance are especially important. We do not claim that these countries have similar structures. What we want to state is that Brazil, Argentina, Mexico, Turkey, Chile and former USSR countries that failed in transition have some common characteristics. Socio-politic problems are major ones. In this context, Iran, Iraq, Afghanistan, Pakistan and many countries in Africa it is observed that socio-political problems are intensely experienced. Most of these countries are rich of natural resources. However they have lower per capita income than some other countries which are rich of natural resources. Why can not countries with high natural resources develop? It is also well known that human capital investments in some of these countries such as former USSR countries are very high. But these countries with political instability have failed in directing their human capital to the economy. It is considered that socio-political problems experienced by these countries have prevented them from leaping forward. Among the countries mentioned, major socio-political problem is high political instability in that it has a potential to affect other problems. Injustice in income distribution, rapid population growth, lacking social rights, ineffective use of public resources, inability to make a certain inventory and audit of public resources, extreme increases in public expenditures, unplannedness in public resources, economy being under the control of the state, inauditablity of the state, lack of transparency, policy being used in gaining assets, populist policies, nepotism, bribery in every level of the state, sluggish justice system become more prominent with political instability and these problems increase political instability.

2. Stages of growth

In the study, stages of growth will be analysed by beginning with 19th century and development question will be tested. The study concentrates on post 1820 period and assumes 5 stages. As Maddison (2001, 2002) stated, since 1820 there have been five distinct phases of development (we accept Maddison's periodization but assume 6 rather that 5 periods): 1820–1870, characterized as a relatively peaceful and prosperous era in which per capita growth accelerated in all regions and in most countries, 1870–1913, characterized as a relatively peaceful and prosperous era in which per capita growth accelerated in all regions and in most countries. This phase of growth eventually gave way to an era deeply disturbed by war, depression, and beggar- your-neighbor policies… a bleak age, whose potential for accelerated growth was frustrated by a series of disasters, 1913–1950, 1950–1973, and 1973–1992 (we assume this era to end by 1990 and define a 6th era which spans the period between 1990 and 2006). 1950–1973 is an era of unparalleled prosperity in which income per head in all regions grew faster than in any other phase (Epstein, Howlett and Schulze, 2003, p.80). Finally, in the period after the breakdown of the Bretton Woods fixed exchange rate system, and the oil price shocks brought about a sharp reduction in the pace of economic growth throughout the world. The 6th era (1990-2006) is a period of increased warfare, terror, internal conflict and chaos. In this era, political instability has increased in the entire world. In the era which can be accepted to be the 2nd period of globalization, political stability has become the determinant of growth and development. Moving on from 19th century, it is assumed that

effects of the industrial revolution are significant in stages of growth and distribution of growth among countries and regions. The reason for this is that industrial revolution is not limited to technological progress and affects living standards and countries which quickly adapt these changes diverge from the others. In order to see the divergence and convergence among countries in 19th, 20th and 21st century, the countries are grouped into 4 according to per capita income levels in 1820 basing on the data of Maddison (2001). The first group is formed by Netherlands and United Kingdom whose per capita income level is above 1500$ The second group having per capita income between 1000-1500$ is composed of Belgium , Denmark, United States, Austria, Sweden, France, Italy, Norway, Switzerland, Germany and Spain. The third group having per capita income between 1000-500$ is composed of Portugal, Canada, Ireland, Czechoslovakia, Finland, Mexico, Philippines Jamaica, Japan, Syria, Lebanon, Brazil, Thailand, Turkey, Greece Hong Kong, Singapore, Palestine and Gaza, Indonesia, Malaysia, South Korea, China, North Korea, Iraq, Iran, Jordan, India, Vietnam Australia and Burma. Of these, 2 are in income group of 900$ or above while 20 are in the income group of 600$ or above. Countries that constitute the group with income 500$ and below are Taiwan, Sri Lanka, Egypt, Algeria, Morocco, Tunisia, South Africa, New Zealand, Nepal. The major desolation or divergence is observed among the countries in the third group. However the reason of this divergence is very important.

For many economists, the 20th century in which WW I and II are experienced are years of industrial revolution and rapid growth. Per capita growth in 1950-2001 period is 2.8% in western world and 2.2% in the rest of the world. In this period, the only region that managed to close the gap with the western world is Asia. Fastest growth in 1950-1973 period is performed by Japan by 5.9 times. Japan is followed by Western Europe with 2.51, Eastern Europe with 2.32. Africa is behind the world (1.94) with 1.6. In the period, Japan, catching up with the west is the first success while the west, catching up with USA is the second success. After 1973, pace of growth has declined in the entire world. Asia is the region that exhibited the highest performance of growth in the period. The growth of 2.61 times is above that of the entire world, 1.47. Lowest growth has been in former USSR. (Calculated from the data in Maddison (2002:p.52).) In the period 1950-1973, fixed exchange rate and planning strategies ale left aside while stock exchange and floating rate markets have become prominent, movements of international capital and trade have gained importance and foreign and domestic debt has increased. Mostly US has benefited from these developments. In the entire period of 1995-2002, it has grown faster than Europe. For the year 2001, the countries are grouped into 5 for economic development (the year 2001 is selected for that it represents both 20th and 21st centuries). The first group is the one with 25,000$ income. In the year 2001, the only country with per capita income level above 25,000$ is USA while it was in the second group in 1820. The number of countries with income level between 25,000-20,000 is 16. In table 2, the situation can be seen in detail. Green represents countries with development success while purple represents failing ones.

Why did Czech Republic, Venezuela, Argentina, Malaysia, Syria Mexico, Thailand, Turkey, Brazil failed while Hong-Kong, Singapore, Japan, Taiwan, New Zealand exhibited success. Why did not Iran, Tunisia, South Africa, Palestine and Gaza, Jamaica, Peru, Lebanon, Guatemala, Indonesia, Egypt, Philippines, India, Burma, Iraq, Central

African Republic and Niger develop? What was the reason that South Korea increased per capita income by an annual average of 7% in the second half of the 20th century? Why couldn't other countries manage this? What is the common point of countries that relatively became poor and that became growth miracles? The study attempts to find answers to these questions. In this context, we primarily will evaluate countries in terms of convergence, volatility and negative growth performance.

Table 1: Development level according to years
(dollars at constant prices of 1990, Geary-Khamis method)

United States	>25000
Norway, Ireland[h], Denmark[h], Switzerland, Australia, Netherlands[l] Hong Kong[h], France, Singapore[h], Belgium, Japan[h], Sweden, Finland Austria, United Kingdom[l]	20000-25000
Italy, Germany, Taiwan[s], New Zealand[s], Israel, Spain	<20000-15000
South Korea, Portugal, Greece, Chile	<15000-10000
Czech Republic[f], Venezuela[f], Argentina[f], Malaysia[f], Syria[f] Mexico[f], Thailand[f], Turkey[f], Brazil[f]	<10000-5000
Iran, Tunisia, South Africa, Palestine and Gaza, Jamaica, Peru, Lebanon, Guatemala, Indonesia, Egypt, Philippines, India, Burma, Iraq, Central African Republic, Niger	<5000

Notes: [h] signifies very high performance, [l] is for loss of power, [s] is success of development, and [f] is failure in development. Source: In this article all tables, figures and comparisons related with these periods are based on Maddison's studies (2001 and 2002) unless indicated otherwise.

In the Annex A1 we include an analysis of *Convergence, Volatility and Negative Growth.*

3. Economic factors

A. Real Wages and Efficiency of Labor. Two different points of development are important in a real wages perspective. The first one is the period after the industrial revolution. In this period, villagers are transformed into industry workers through dispossession. In England, wages have kept low until mid-19th century. Urbanization process after WW 2, the effect of globalization on wages is important. Though being very disputable, many economists have a consensus on this issue. The most important stylized facts of economic development since the fifties are the high growth rates of labor productivity. However growth rates slowed down since the seventies. (Smolny W., 2000; p.591) The some economies in the first half of the 19th century were characterized by high tariffs, modest commodity trade, no mass migrations, and an underdeveloped global capital market. In this epoch, early industrialization in Britain and resource "discovery" in the New World occurred. So transport costs were sharply declined. Real freight rates fell by an enormous 1.5 percent per annum between 1840 and 1910 (O'Rourke and Williamson, 1998, ch. 3). These situations triggered a divergence in real wages and living standards until the middle of the century. The effects of this shock, especially seen in the Atlantic economy and it triggered a divergence in real wages and living standards across the Atlantic economy. (Williamson 1996, p.1). In according to standard trade theory,

factor prices converge (or diverge) far faster than does GDP per capita or GDP per worker. (Williamson, 1998; p.1-3). By the end of the late 19th century, there were huge real wage and living standard gaps between the Mediterranean Basin and the industrial core in northwestern Europe even huge gaps around the Mediterranean itself. Real wages earned by Spanish workers were almost twice those earned at the eastern end of the Mediterranean and the difference between northern Italy and the rest of the Mediterranean was even bigger, ranging from four times Egypt, 2.5 times Turkey, 2.7 times the Italian South and 1.4 times Spain. Real wages in northern Italy were from a third to a half of those in Britain, the fifteen or twenty years in between allowing for some impressive catching up in the Italian North and for Edwardian crisis in Britain. Spain and central Italy were tied for second, both not much more than a third of British real wages. Portugal was next, at about one quarter of Britain, with Serbia and Turkey not too far behind. As Williamson, (1998) between the 1870s and the 1890s, two countries were catching up, and both of them were in the east. Turkey and Egypt both recorded real wage growth almost double that of France, Germany and the United States, and a quarter more than Britain. And Italy caught up, but not at the same fast rate as Egypt and Turkey. In the second point, the power behind the development performances of countries after 1960 is the low cost of labor. The change in production system has supported this issue. Contract production expanding with flexible production is nourished by low costs of labor. After 1960's and especially in 1980's, countries which lowered the cost of labor have exhibited fast development performances. As observed in Asian countries with fast development records such as Japan, Korea, India and China have succeeded this by not decreasing the real wages but by decreasing the cost of labor. The empirical evidence shows that high taxes on labour have a negative effect on employment and production, as it is analysed in Annex A2.

B. Structural Transformation, Industrialization and Convergence in Technology. Industrial revolution is the starter of structural transformation of countries. Economical dominance of Europe coincides with the aftermath of this period. In 18th century, European industry was not in a condition to compete with the east while China and India were not behind the west. After the first industrial resolution, de-industry began in these countries. India underwent greater de-industrialization than China 1750-1810 and China, India, Japan and some parts of Latin America started significant re-industrialization in the late 19th century, while Egypt, the Ottoman Empire, and others parts of Latin America did not? The reason for that was the difference in the source of growth before the industrial revolution. Land was the source of growth until the industrial revolution. Ottoman Empire had its most brilliant period in this era. The dominance of Ottoman Empire lasted as late as 18th century. In the agriculture-dominant period the industrial revolution, wars, invasions and spoils of war were the ways of generating income. Important variables in the industrial revolution are: Providing production and productivity increases in agriculture, continuous increase population, improvement in industry, urbanization and increase in working hours and discipline. With the mechanization of industry, first industrial revolution has become an important factor in structural transformation of the economy. Mechanization of production has increased productivity in England by 300-400 times in the period between 1750 and 1830. According to Krugman, per capita GDP has increased 1.3% per annum between 1802 and 1851 (Krugman P.; 1991, 23). Afterwards, other European countries and USA has

performed their own leaps. With industrialization, USA and other countries in Europe have increased their share in the overall world production by increasing their industrial output. According to Krugman (1991), per capita GDP has increased by 2.2% per annum in the period 1870-1913. In India and China, the process has worked the opposite way. Not only in these countries but in the entire third world this has happened. Depending on the very fast increases in the production of western countries and decreasing value of their own production, development/growth figures of these countries have started to fall. Penetration of cheap and high quality products into their markets, national industries has been negatively effected. The share of the core in world manufacturing output was increasing while it was following a downward path in India, China and rest of the periphery in the period 1750-1938. In the year 1750, shares were: India 24.5%, China 32.8%, rest of periphery 15.7% and developed core 27%. Following the first industrial revolution, the share of India and China started to decrease. By 1830, the shares were 2.8, 12.5, 5.6 and 79.1 respectively. By 20th century, developed core had raised its share as high as 92.8 while the share of India and China went on with falling. Another factor that decreased per capita income in China, India and similar countries was the increase in population (Simmons 1985, p.600 and Bairoch 1982; p.296 and 304). In this framework, per capita industrialization is important. In 1750's there was not a divergence of per capita industrialization rate between Europe and other countries. By 1900's, share of the third world was not far behind that of Europe. Per capita industrialization rates exhibit very interesting characteristics for Europe, third world and USA. Considering the long period covering 1750-1900, enormous increases are observed in USA while the same figure declined from 7% to 2% in the third world. Europe's rate of per capita industrialization has increased from 8% to 35% in the period. However the most significant increase is achieved by USA and England. USA carried up its per capita industrialization rate from a 4% to 69% while England reached 100% from 10% in the same period. (see Kennedy P.,1988). Prebisch calculates short run economic damage since the periphery was so committed to primary product exports. In 1890-1909, Latin America devoted 97 percent of its exports to primary products, Asia and the Middle East 90 percent, but the European industrial core devoted only 30 percent of their total exports to primary products. The trade for primary product exporting regions rose to the 1860s or 1870s. The decline in the trade of primary products in the 1870 and the 1930 period for Asia, the fall from its 1870s peak to its 1930s trough was 29 percent; for Latin America, the fall from its 1885-1895 peaks to its 1930s trough was 40 percent. This decline was used to support the move towards Third World autarky in the 1940s, 1950s and 1960s, an import substitution industrialization strategy. While a post-1950 improvement in the primary product exporter's terms of trade was increase to incomes in the short run, it was also likely to suppress industrialization in the long run. J. Sachs and A.Warner (2001) have confirmed the correlation. No new members joining the developed countries until 1960's (Krugman P.; 1991, 23) have reminded that the divergence between the first and the third world is permanent. However, the industrialization in Asia has been realised. Thus, pre capita industrialization rates of countries have one more time diverged after 1st and 2nd industrial revolution. Performance of the industry will be analysed by comparing the positions of Turkey, Spain, Mexico, Korea, Japan, USA and Germany. The production value of Turkish manufacturing industry is a mere 0.39% of that in USA in the year 1963. However, with the pace of growth in 1960's and 1970's, the ratio has

reached 1.6% in 1979. With the effect of devaluations, a decrease in this ratio is experienced in 1980's and after mid 1980's the increase started again and the ratio reached 2.7%. Industrial production in Japan has exhibited a similar development and reached 83% of USA in 1985 from a 12.9% in 1963. In terms of relative growth, Mexico exhibits the worst performance. Industrial production of Mexico has not shown any progress relative to that of USA since mid 1980's. A study by Guisan shows the positive impact of manufacturing on non-manufacturing sectors in several OECD countries. The study concludes that manufacturing has great importance on economic development (Guisan, 2005). (For Latin America, see Guisan and Aguayo (2005) which explores the relation between industrial and economic development.) Considering the technological structure of the industry, major differences are observed among both developed/developing countries and fast/slow developing countries. Share of high technology industries in developed countries are much higher. In Japan, Germany and USA, share of high technology industries in the value added from manufacturing industry has reached 27-30% in mid 1990's from 20-22% of 1960's with a perpetual increase. In this period, among the fast developing countries, a major structural change has taken place in Korea The share of high technology industries has reached from a mere 5% in 1993 to 27% in 1995 after the fast increase that began after 1970's. In Spain, share of high technology industries in manufacturing industry has partially developed in the second half of the 1970's (the share in 1995 is 15%). The situation in Mexico and Turkey is quite similar. In both countries, the share of high technology industries has merely reached 9-10% in 1990's from a 5-6% in1960's. The share of high technology industries in Turkey has increased only in 1970's and kept almost constant all along 1980's and 1990's (the years with highest share are 1978 with 10.8, 1993 with 10.5% and at the year of the crisis, 1994, 7.9%) (Lall (2000)). Industrialization model preferred by the country is determinant on industry and growth rate of the country. It is observed that countries that prefer import oriented growth can not accomplish performances and fall behind and those who prefer export oriented growth strategy. Productivity, technologies and barriers and/or support to technology are very important in the framework of development level. Germany, Holland, USA and France who followed the first industrial revolution have developed while Turkey (Ottoman Empire) and India did not and fell behind. Technology is central factor underlying divergence between countries, as it is analysed in Annex A3.

C. Foreign Capital Investments, Globalization. The theory relating growth, convergence and financial market development is several important strands. The literature on poverty traps and interpersonal convergence or divergence in economies with credit market imperfections, in particular, Banerjee and Newman (1993), Galor and Zeira (1993), Aghion and Bolton (1997) and Piketty (1997) relate with that all agents face the same production technology and poverty traps are either non-convexities in production or monitoring, or pecuniary externalities working through factor prices. However, there is no technical progress and therefore no positive long-run growth in these models. A second strand analyzes the effects of financial constraints and/or financial intermediation on long-term growth. Greenwood and Jovanovic (1990), Levine (1991), Bencivenga and Smith (1991, 1993), Saint-Paul (1992), Sussman (1993), Harrison, Sussman and Zeira (1999) and Kahn (2001) analyze the effects of financial intermediation on growth in an AK-style model with no distinction being made between investing in technology and investing in physical or human capital accumulation. King and Levine (1993), de la Fuente and Marin (1996), Galetovic (1996), Blackburn and Hung (1998) and Morales

(2003) consider the relationship between finance and growth in the context of innovation-based growth models. (Aghion, Howitt and Foulkes; 2004: p.2-5). The question whether FDI promotes economic growth in countries is very important question, the many economist claims that FDI negatively affects the distribution of income, environmental quality and working conditions. Saltz (1992) argues that FDI raises the price of capital, depressing domestic investment. Dependency theorists also view FDI as crowding out domestic investment and creating distortions in economic development. As Borensztein et al. (1998) the relation between FDI from OECD countries and economic growth is positive for 69 developing countries. They explain that FDI from more technologically advanced countries creates technological spillovers. Balasubramanyam et al. (1999) and Olofsdotter (1998) also found a positive association between FDI and growth although the relation is greater in countries with stronger property rights regimes. Olofsdotter interprets this result to imply that nations with better institutions are to capture the benefits provided by FDI. Hermes & Lensink (2003) report that advanced financial sector is necessary for FDI to promote economic growth. When two periods of globalization are compared, the development of the industrial revolution is important in the first period of globalization (Eichengreen, 1991; 4: Ashworth, 1987, p.194). In 1870-1914 periods, capital and labor flowed across national frontiers in unprecedented quantities and commodity trade boomed because transport costs dropped. The late 19th century underwent an impressive convergence in living standards. Poor countries around the European periphery tended to grow faster than the rich industrial leaders at the European core, and even faster than the richer countries overseas in the New World. Free movement of capital has been an important characteristic of this century. Capital has flown from West Europe to East Europe and other regions of the world. The years between 1880 and 1914 were the years during which capital flows have paced up. An important point in this pacing up was the linkage between commodity and capital markets. The most typical example of this point is that countries which were borrowing from England were importing the goods produced in England. The countries where British credit was directed at were Canada, New Zealand, USA and countries where political risk was low. In this period, it is known that 90%of the capital movements were in the form of portfolio investment. 19th century is a period in which private investment to USA, Argentina, Brazil, Mexico Canada and India increased. In this period, one of the reasons for cross-border investments increasing was the great difference between domestic and foreign return on investment. In the study of Lehfeldt where the return of fixed interest bonds for 1888-1913 were calculated, domestic rate of return is found out to be 4.35 while the rate of return was 3.43 in colonies and 5.61 in foreign countries. In the period 1903-1907, domestic return on stocks was 3.37 while it was 6.25 in the colonies and 6.14 in foreign countries (Iversen, 1967, p.104). Economic conditions of countries, official regulations and international conjuncture determines international movements of capital. Historical outcomes confirm these findings, as it is seen in Annex A4.

D. Foreign Trade. Many economists concentrate on the positive effects of foreign trade on growth. Open economies exhibit higher growth performances than closed ones (Bulutay, 2004, p.28; Rodrik, 1999, p.1; Fischer, 2003, p.11-13). This underlies the great performances of Asian countries (Helliwell, 2004). According to Frankel and Romer (1996), a %1 increase in the share of foreign trade in GDP increases per capita income by

1.5-2% (Frankel and Romer, 1996, p.380-81). Vamvakidis demonstrates that there is no evidence that there is a significant relation between free trade and growth since 1870's to recent (Vamvakidis, 2002, p.73). After the petroleum crisis of 1970's, developed countries attributed priority to policies that aimed liberalization in world trade in order to guarantee their economic growth. In this context FX systems became more flexible. By the collapse of centrally planned economies at the end of 1980's, liberalization tendencies became stronger while support programs of international foundations implemented in order to decrease foreign debt burden on crisis countries increased the liberalization tendencies. Support programs increased export oriented production while social expenditures decreased and income distribution deteriorated (Celasun; 2001, P. 163). In emerging countries, an important dilemma is the parallel path followed by real exchange rate and increases in exports. In a situation where local currency is depreciated against Dollar or Euro, which is a common issue in emerging countries, Dollar prices of domestically produced goods decrease and they became easier to export. Rodrik (1995) reaches similar conclusions by analysing Turkey, Chile, Korea and Taiwan. According to Rodrik, "moderate increases in exports" of Turkey and Chile in 1980's are provided as a result of devaluations which reach 100%. Export increases of Korea and Taiwan that began by 1960's have been realized by equally high increases in investment**.** In the context of the relation between economic development and transformation in the technological structure of exports, fast growing economies of Asia, Hong Kong, Singapore, Korea, Taiwan, Malaysia and China have experienced a structural transformation in the period 1985-1996. In all these countries, the share of resource intensive exports falls while the weight of high technology industries has increased. In Latin America countries like Argentina and Brazil and some other countries like India and Turkey, the share of high technology industries are very low and no structural change has been realized. The share of high technology products in the exports of Mexico is larger because of the re-exports of multinational USA firms in Mexico. In the 1990's, volume of international transactions have unexpectedly increased and gained liquidity. Emerging countries that have liberalized their trade policies opened their financial sectors by transition to full convertibility or removing barriers on capital movements. These economies gained sensitivity to short term flows of funds, dollarization has been experienced and fragility against financial shocks has increased. In this context, while crisis are experienced, risk perceptions of financial investors and reliability of policy makers has gained importance.

When reached to 2000's, an important problem emerged. Domestic and foreign balances of the USA deteriorated. The method to maintain these balances was making some countries have surpluses and attracting these surpluses towards USA by financial operations. In this context, balance of payments of European countries, petroleum exporting countries and Japan were pushed to making surpluses. These surpluses play the role of closing USA's foreign deficits. Another point to be considered in this context is the decrease in USA's reserves in strong currencies and gold since 1950's. Consequently, USA had 60% of the overall world reserves and 70% of the developed economies' reserves in 1960 while these ratios fell all the way down to 4% and 10% consequently. This monetary expansion becomes into a political asset for the USA while other core and peripheral economies are forced to adhere to this dominance. (Bulutay; 2005; p.26, 29)

E. Budget Deficits, Debt and IMF. Budget deficits are generally high in emerging countries. This affects domestic public debt and seignorage revenues. Public Debt/GDP ratio is high. However, this situation is not specific to emerging countries. Public Debt/GDP ratio is high also in developed countries. FTPL theory asserts that high public borrowing increases the rate of inflation. However, what matters is the rate of interest rather than the public debt ratio. Especially in countries where economic crisis are frequently experienced, real rate of interest increases. This increases the rate of inflation and rising inflation pushes the rates of interest further up. Among the OECD countries, in Belgium, Italy and Greece, indebtedness ratio is around 100% and the ratio of net interest to the GDP is 8%. In Turkey on the other hand, interest/GDP ratio is 23.2%. Ratio of overall domestic and foreign debt to GDP is 51.2% in Turkey, 55.7% in India, 90% in Pakistan, 114.4% in Belgium, 64.6% in Denmark, 61.1% in Finland, 20% in Germany, 112.7% in Greece and 34.8% in USA. Share of interest in overall public revenues (aggregated tax and non tax revenues) is 58.7% in Turkey, 55.7% in India, 90% in Pakistan, 16.7% in Belgium, 10.8% in Denmark, 14.3% in Finland, 7.3% in Germany, 38.4% in Greece and 11.2% in USA. These data show that critical problem in Turkey and similar countries are not the debt stock but the share of interest. In countries where rate of interest increases, the maturity decreases. In such countries, borrowing is made in short term and high interest rate. This increases inflation. Countries like Turkey, Chile, Brazil, Peru, and Romania are advised to implement inflation targeting in decreasing inflation. But the result of inflation targeting is appreciation of currency and increase in current account deficit. (For results of application in countries, see Marfan; 2006, Mnyande, 2006; Fachada, 2006; Roman, 2006; Leiderman, 2006; Özatay; 2006). The important point here is that the part of inflation caused by the rise in the cost of domestic borrowing is overlooked. FTPL approach developed by Leeper (1991), Woodford (1994, 1995, 1998, and 2000) and Sims (1994) exhibits a relation between domestic borrowing and inflation. (For analysis on the issue for Turkey and Brazil, see Ersin; 2005 and Loyo; 1999) In countries of similar structure, inflation will decrease with the decrease in the cost of domestic borrowing. The most important problem in inflation targeting is the appreciation of local currency by transition to flexible Exchange rate system. In countries where Washington Consensus was accepted, financial liberalization is also accepted. Policy suggestions of IMF on transition to flexible exchange rates lead to overvaluation of local currency and these countries finance USA in some sense. In countries where the cost of domestic borrowing is high, the result is overvalued exchange rate and financing of USA. As in domestic debt, the cost of borrowing is an important point in foreign debt. Rate of interest is an important factor in foreign borrowing as well as domestic borrowing. By the early 1980's, developed countries, especially USA, caused increases in international interest rates and decreases in prices of raw materials by the stabilization policies it undertook in order to decrease inflation (Celasun, 2001;p.163). This caused foreign debt crisis in countries that had high foreign debt. In these countries and some others whose balance of payments had deficits, maturity of foreign debt gets shorter as the rate of interest increased. USA is the greatest borrower of the world as it was the greatest lender in 1980. But apart from Argentina, Mexico and Turkey, it does not experience negative effects of indebtedness. USA economy is strong, rate of interest is low and it receives high revenues from its investments in other countries. However in emerging countries, interest rates are high, FX markets are volatile and capital markets

are shallow. Current borrowing is generally made in order to make the interest payment of outstanding debt. In this framework, debt/exports ratio and the share of external deficit in national income must be analysed. Considering the debt/exports ratio in emerging countries, delicate structure of these countries can be seen. In the period 1970-1980debt/exports ratio is 214.6 in Argentina, 281 in Brazil, 250.5 in Chile, 271.7 in Mexico and 80.7 in Venezuela. Between 1991 and 1995, the ratios are 393.2, 295.9, 153, 215.9 and 194.3 respectively. The ratio is 277.8 in Turkey at the same period. In the period 1970-1980, it is 4.1 in China, 185.8 in Indonesia, 135 in South Korea, 42 in Malaysia, 168.8 in Philippines and 77.2 in Thailand. In the period 1991-1995, the ratios are 83.3, 214.1, 4.4, 43.5, 174.5 and 88 respectively (Baer, Miles and Moran, 1999; p.1738). Magnitude of the ratio in countries that failed in development is interesting. Dornbusch (2001) asserts that situations where the share of the external deficit in national income exceeds 4% are "dangerous". Celasun (2001) shows that this ratio has exceeded 4% before the crisis Mexico 1994, East Asia 1997 and Turkey 2000-2001.

We think that budget deficit is an important point to be analysed in terms of domestic and foreign debt. In 1970's and 1980's, IMF suggested stabilization packages that generated shrinkage. These packages which further deteriorated the income distribution were difficult to apply and because of this, exchange rate based stabilization programs are considered as an alternative to decrease inflation. Such policies were implemented primarily in Chile, Argentina and Uruguay in 1970's and after 1985; heterodox policies are implemented in Argentina and Brazil.

The success of the policy depended on capital inflows and liberalization of capital movements. In this framework, liberalization of foreign trade increased capital inflows and with appreciating currencies, inflation was decreased without bringing excessive burdens on the budget. In 1990's, pegged FX policies and Washington Consensus were popular. As Akyüz (2004), pegged FX policies and currency board lost popularity while IMF started to suggest flexible exchange rate policies after the experiences of Turkey and Argentina. However the peg applied by China since 1994 has proved much more sound relative to that in Argentina. Malaysia defends its level against US Dollars since 1998. In Malaysia and China, real effective exchange rate falls with dollar. Despite the pressure from USA, China does not shift to floating exchange rate on the cause that its currency will appreciate. This increases the inflow of hot money to China. (Akyüz, 2004, pp.13-17). As analysed above, in the framework of inflation targeting, just opposite situations are observed countries where flexible exchange rates are applied.

4. Empirical results.

A two phase analysis will be made in the framework of convergence. Primarily, the conventional unit root approach will be utilized. At he second phase, the method developed by us will be used in the framework of convergence analysis. In the first phase, Zivot-Andres test is used for the period 1870-2002.

Convergence is tested through unit roots however the accuracy of this method is disputable and does not fully apply to convergence theory as our opinion. For this reason, analysis for 180 countries is made. First, standard deviation of GDP of 165 countries

from that of USA is calculated for the 1950 and 2002 years. Larger deviation is assumed to be an indicator of divergence. In the second stage, magnitude of deviations is calculated. At this stage, convergence seems to be experienced for many countries as we approach the 2000's. However, this convergence does not represent the convergence we had been searching for. For this reason, the difference between the standard deviation in 1950 and 2002 is calculated. Negative numbers represent convergence and positive numbers represent divergence. The greater the number, the higher is the divergence.

Table 3. Zivot-Andrews unit root test results (1870-2002)

Country	*Result*					
	k	*t-value*	T_{B1}		*k*	*t-value*	T_{B1}
Austria	1	-11.217	1946	12westerneurope	1	-8.628	1946
Germany	3	-6.887	1948	ABD	3	-7.589	1944
England	2	-7.747	1943	Australia	2	-7.017	1931
Belgium	1	-10.419	1943	New Zealand	1	-11.124	1933
Denmark	1	-11.225	1942	Portugal	3	-7.425	1958
Finland	3	-7.358	1958	Spain	1	-7.310	1960
France	2	-6.560	1942	Canada	1	-7.888	1933
Sweden	1	-8.420	1987	Western offshoots	3	-7.52	1938
Italia	1	-9.744	1945	Uruguay	3	-7.337	1958
Holland	1	-9.871	1945	Japan	2	-4.911	1959
Norway	1	-8.560	1944	Brazil	2	-7.683	1980
Switzerland	1	- 9.365	1944	Srilanka	2	-6.108	1942

* Critical values: 1%: -5.57 5%: -5.08

According to our calculations, countries that closed the gap between USA and themselves in the period 1950-2002 are Norway, Hong Kong, Singapore, Japan and Ireland. Just to remind, per capita GDP of USA has risen from $9,561 in 1950 to $27,948 in 2001. Qatar and United Arab Emirates seem to be converging but this seems disputable. Considering the per capita figures of Kuwait, United Arab Emirates and Qatar, it is observed that these countries have 2 or 3 times higher per capita GDP than USA in 1950's ($28.878, $15.789, $30.387 respectively). In the same year, USA's per capita GDP was $9,561, Switzerland's was $9,064. However, per capita incomes of these Arab countries have started to decline right after petroleum crisis and have bottomed in 1990's as a consequence of Gulf War. Thus what we observe is not long term divergence or convergence but rather the rise of USA catching up and overtaking these Arab countries. Highest divergence from USA in the period 1950-2002 has been experienced in Africa. At second stage, we calculated the ratio between the differences of standard deviations of their GDP's(standard deviation of Per Capita GDP of 165 countries from that of USA) and Per Capita GDP differences of USA in 1950 and 2002 years calculated.

Table 4 below depicts a list of countries ranked according to their convergence performances for the period 1950-2002. The countries are ranked by the magnitude of the ratio between the differences of standard deviations of their Per Capita GDP's in 1950 and 2002 and Per Capita GDP differences of USA in 1950 and 2002 years calculated for

1950 and 2002. Countries marked with an "A" are accepted to have convergence while those marked with "A-" are ones with relatively low divergence. The countries marked with "E" are most unsuccessful ones. We can also mention about convergence between countries that are placed at the same mark group. From the table it can be concluded that convergence in OECD countries is not a homogeneous process and a full convergence can not be observed on the overall. Some OECD countries are marked A or A- while some others are marked with B, C and D.

Table 4. The Ratio of Convergence

Country	C.S.	Suc.	Country	C.S.	Suc.	Country	C.S.	Suc.
Kuwait	-5.71	A	Colombia	59.43	D	Guinea Bissau	69.26	E
Ireland	-5.24	A	Uruguay	59.57	D	Mali	69.28	E
Qatar	-4.41	A	Yugoslavia	59.85	D	Kenya	69.30	E
Norway	-2.80	A	Dominican R.	60.62	D	Bangladesh	69.34	E
Hong Kong	-2.52	A	Reunion	60.63	D	Malawi	69.37	E
Singapore	-1.56	A	Indonesia	61.42	D	Rwanda	69.47	E
Japan	-1.45	A	Jordan	61.51	D	Gambia	69.53	E
Austria	7,18	A-	Sri Lanka	61.83	D	Guinea	69.62	E
Denmark	8,34	A-	Jamaica	61.83	D	Eritrea&Ethiopia	69.67	E
Finland	8,83	A-	Egypt	62.70	D	Benin	69.70	E
France	9,87	A-	Ecuador	63.07	D	Côte d'Ivoire	69.72	E
Netherlands	10,24	B	Romania	63.07	D	Burundi	69.88	E
Italy	10,95	B	Estonia	63.24	D	Senegal	69.88	E
Belgium	11,25	B	Swaziland	63.45	D	Sudan	69.96	E
Taiwan	11,91	B	Albania	63.77	D	Ghana	69.98	E
Canada	12,98	B	USSR	63.85	D	Uganda	70.24	E
Germany	13.81	B	Yemen	64.24	D	Tanzania	70.26	E
Australia	15,06	B	South Africa	64.28	D	Zambia	70.61	E
South Korea	17.24	B	Namibia	64.35	D	Comoro Islands	70.66	E
Sweden	17.55	B	Algeria	65.14	D	Togo	70.71	E
Spain	18.91	B	Libya	65.22	D	Chad	70.83	E
Switzerland	19.95	B	Paraguay	65.42	D	Nicaragua	70.88	E
United Kingdom	19.99	B	Peru	65.45	D	Iraq	70.98	E
United Arab Em.	20.20	B	Cape Verde	65.47	D	Central African R.	71.21	E
Israel	20.95	B	Lesotho	65.52	D	Afghanistan	71.45	E
Puerto Rico	23.37	B	Philippines	65.55	D	Somalia	71.50	E
Portugal	24,01	B	India	65.56	D	Liberia	71.51	E
New Zealand	28.24	B	Morocco	65.61	D	Madagascar	71.56	E
Greece	29.96	B	Pakistan	65.70	D	Angola	71.69	E
Oman	46.47	C	Guatemala	65.80	D	Haiti	71.73	E
Malaysia	46.88	C	El Salvador	66.00	D	Sierra Leone	71.75	E
Chile	46.95	C	Vietnam	66.13	D	Niger	71.82	E
South Arabia	48.47	C	Venezuela	66.69	D	Zaire	72.13	E

Thailand	49.31	C	Burma	66.81	D	Djibouti	72.23	E
Syria	50.95	C	Lebanon	66.86	D	Croatia	81.32	E
Poland	51.31	C	Congo	67.06	D	Belarus	81.55	E
Hungary	51.66	C	Gabon	67.75	D	Kazakhstan	85.54	E
Mexico	52.54	C	Honduras	68.23	D	Russian Federation	86.58	E
Turkey	53.75	C	Bolivia	68.25	D	Armenia	89.23	E
Slovenia	54.24	C	Mongolia	68.27	D	Former USSR	89.69	E
Botswana	54.54	C	Cambodia	68.38	D	FormerYugoslavia	90.65	E
Costa Rica	54.70	C	Total Africa	68.42	D	Uzbekistan	94.00	E
Bulgaria	55.35	C	Laos	68.44	D	Georgia	95.13	E
Brazil	55.72	C	Mauritania	68.52	D	Macedonia	95.35	E
Seychelles	55.73	C	Nepal	68.67	D	Ukraine	95.91	E
Panama	56.10	C	Cameroon	68.87	D	Bosnia	96.75	E
Tunisia	56.88	C	Mozambique	68.87	D	Azerbaijan	96.87	E
China	56.88	C	Zimbabwe	68.95	D	Turkmenistan	97.15	E
Iran	58.44	D	Cuba	69.05	E	Serbia/Montenegro	97.88	E
Argentina	58.60	D	São Tomé& Principe	69.11	E	Kyrgyzstan	98.50	E
Total Asia	58.60	D	Nigeria	69.16	E	Moldova	98.80	E
Palestine&Gaza	59.16	D	Burkina Faso	69.16	E	Tajikistan	103.28	E

Note: C.S. means Convergence Statistic. Suc. is success in convergence.

Although Kuwait, Qatar and United Arab Emirates seem to converge to USA, what is really observed is USA catching up with these countries and diverging from them by overtaking. Considering the ranks taken by OECD countries, we conclude that there is not an exact convergence between them. But only a partial convergence can be mentioned about. Similar to OECD, there is not a convergence between European countries either. Keeping in mind that some African countries have 2 or 3 marks higher than others, we can also assume no absolute convergence among African countries. On the other hand there is an absolute convergence between former USSR countries.

5. Conclusion

The point intended to be stated in the study is that there is not a single recipe for development and different factors affect economic development in different ways. In our opinion, the source of economic development before 1st industrial revolution is ownership of land. How the land was acquired is not important in this sense. In the 1st industrial revolution, ownership of thechnology has become the main factor in development while technological imitation has become the main dynamic after 1960. Countries that combine low labor costs and technology has developed fast. After 1980, political stability and low labor costs have become the determinant of development. The relation between political stability and development is intended to be tested by panel cointegration method but the test could not be performed due to limitations on data. GDP figures and data on political instability for the period 1985-2003 is gathered but large size of country groups and the shortness of the period has led us to give the panel conintegration test away.

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Annex

A1. Convergence, Volatility and Negative Growth. In context of convergence theory, the late 19th century underwent an impressive convergence in living standards, at least within most of the OECD club. Poor countries around the European periphery tended to grow faster than the rich industrial leaders at the European core, and often even faster than the richer countries overseas in the New World. This club excluded most of Third World and Eastern Europe, and even around this limited periphery there were some who failed to catch up. (J. G. Williamson; 1998, p.1). As Pritchett (1997) indicates, the proportional gap in per-capita GDP between the richest and poorest countries grew more than five-fold from 1870 to 1990, and according to our calculations based on Maddison (2001), the proportional gap between the richest group of countries and the poorest grew from 3 times in 1820 to 19 times in 1998 (calculated from the data provided by Maddison (2001, 2002). The "great divergence" between rich and poor countries continued through the end of the twentieth century. The proportional gap in per-capita GDP between Mayer-Foulkes' (2002) richest and poorest convergence groups grew by a factor of 2.6 between 1960 and 1995, and the proportional gap between Maddison's richest and poorest groups grew by a factor of 1.75 between 1950 and 1998. (Aghion, P., Howitt, P., and Foulkes, D. M.,; 2004: p.1).When the distribution of growth on a regional basis is analyzed, inequality in intercontinental growth since 19th century can be seen in the Annex (figure 1). In the period 1820-2001 the fastest growing region of the world is Europe while the worst performer is Africa. When approached in terms of convergence theories, the discrete line of convergence is to be mentioned about. The convergence would appear to have been driven by a significant reduction. The σ convergence seemed to have received little further impetus in the late 19th and early 20th centuries. Epstein, Howlett and Schulze, (2003) argue that the timing and incidence of convergence processes over the last 120 or so years is not straightforward. In Broadberry (1996), this evidence is consistent with local rather than global convergence and that the convergence process has not been smooth and continuous. According to figure 2 (see Annex), in 1870, per capita income in England has increased thanks to the industrial revolution. In 1870, per capita income of Austria is 58% of that of England while in 1980 it is grater than that in England. The same process is experienced in Norway. Norway has reached the level of 116% from a mere 44% in 1870. Interesting point is that, all countries exceeded England in 1980 and after (calculated from Maddison's data). While some OECD countries have closed the gap of income between England and themselves and even reached higher income levels, the same can not be concluded when rest of the world is considered. In 2001, among Asian countries, Japan, Hong-Kong and Singapore have higher income levels than England while they had a mere 25% in 1870. 8 Latin America composed of Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela have risen to 1/3 from ¼. It is to be stated that Turkey is also in a similar position. 7 East European Countries (Albania, Bulgaria, Czech Republic, Hungary, Poland, Romania, and Yugoslavia) have an income level of %28 of England in 1870 and they still keep the same level. There are some countries which had 8.03 times less income than England and relatively deteriorated in the period. In 1870, England has 6.3 times higher income than Burma while the same ration has become 14.28 in 2001. In Nepal, income has deteriorated to 19.58 times less than that in England while it was 8.03. Greatest

deterioration is experienced in Zaire by 1/99, 1/35 in Togo and 1/37 in Tanzania. In regional level, per capita real income level and per capita real income growth rates after 1950 outline two basic issues. The first is that convergence is found out in terms of per capita real income level while it is very difficult to mention about a similar issue in developing countries. However we can mention about a group of Far Eastern countries that converged towards developed countries. After WW 2, the issue to be mentioned is that performances of countries are different. East Asian countries, especially Japan, have caught up with developed countries while some other countries like Russia considered to catch up with others have fallen behind. In last periods, India and China can be considered to grow fast. Within this context, it can be said that developing countries grow fast. However, differences among the periods are to be mentioned. Fastest growing country in 1970-1990 and even in 1970-2000 is Korea. (when approached in terms of the sub-period 1990-2000, the fastest growing country is Ireland) so for a period countries like Korea and other Eastern Asian countries and recently South Asian countries like India and China grow fast. So it can be concluded that in the period 1980-2000 Asia grows fast. The most unsuccessful region is Sub-Saharan Africa and together with Latin America, it has achieved growth performances lower than that of the world average. Within the framework of beta-convergence, conditional beta-convergence and sigma convergence, it is observed that post WW2 income diversification decreases among developed countries while it increases when considered between developed and undeveloped countries (especially countries in Africa) and that poverty trap did not exist. Africa's economic performance is characterized by two events: the slave trade and colonialism. As Bairoch (1993) there are a large number of negative structural features of the process of economic underdevelopment and historical roots go back to European colonization. Manning (1990) focuses on the slave trade. Slavery is source of pre-colonial origins for modern corruption. Bertocchi and Canova (2002), Englebert (2000a, 2000b) and Grier (1999) find a relationship between a country's colonial heritage and post independence economic growth. Acemoglu et al. (2001, 2002) show the strong influence that colonial institutions have on the current economic development among former colonies (Nunn, 2005:1). During the trans-Atlantic slave trade, slaves were taken in greatest numbers from the Bight of Biafra (Benin and Nigeria), West Central Africa (Zaire, Congo and Angola), and the Gold Coast (Ghana). All of these countries, as well, Ethiopia, Mozambique and Sudan are among the top 10 countries. These countries are unsuccessful ones in 21st century. The data of Nunn (2005) is to show the number of slaves exported from a country to be an important determinant of economic performance in the second half of the 20th century. (Nunn, 2005, pp.8-9)

Volatility. The second issue is volatility. Growth rates fluctuate across countries and time. The interesting point in this context becomes clear when the growth rates of the last 40 years are analysed for countries. One of the "characteristic properties" is the inverse relation between the variance and the mean of the growth. Considering as both time series and cross sectionally, average growth falls as volatility increases. Most characteristic examples for this are Argentina, Brazil, Mexico and Turkey. In countries where the pace of growth is asymmetric and volatility is high, divergence is observed. In figures 3 and 4 in the Annex, the volatility of country groups can be seen. Volatility calculated by SD/Mean is low in developed countries. The second group is composed of emerging and

undeveloped countries. In this group high volatility is noticed. Development level falls as the volatility increases. An important point observed in the figure is that, the volatility in developed countries for the period 1960-2002 is less than 1 and it is 1.2 in the period 1990-2002. The rates for LDC's in the same period is higher than 3. Development decreases as volatility increases and volatility increases as development decreases.

Negative Growth Performance. When the negative growth figures of countries in the period 1980-2002 are analysed, very interesting issues will be found. Countries like Argentina, Mexico, Brazil and Turkey have experienced negative growth rates 5 times except for Argentina; Argentina has had negative growth rates 11 times (financial crisis experienced by these countries in the context of globalization policies will be discussed in detail in the sections of the study about debt and globalization). In the period 1960-2002, Australia, France, Ireland, Japan, Spain has experienced negative growth 2 times each while Austria and Netherlands has had 3, Portugal and Singapore has had 4, England and USA has had 5 periods of negative growth. When considered as a whole, 48 Sub-Saharan African countries had 7.3 negative growth years on the average for the period 1960-2002. When the negative growth performance of East Asia is considered, the average number of negative growth years happens to be 3.8. The number of countries which experienced more than 5 years of negative growth is merely 5. Negative growth figures become less common as the development level of the countries increase. The study will analyse the diversification in development performances in an economic and socio-politic framework. It will be laid out that besides all social and economic factors; political stability is positively a determinant factor in growth**.**

A2. Economic factors: Wages. Lowering real wages is not significant alone. Consequently, the change in unit labor is -12.04 in Malaysia, -1.20 in Chile, -9.10 in Singapore, -4.96 in Japan, -4.26 in Taiwan, -0.75 in USA, -0.07 in Korea, -0.65 in New Zealand, and -2.12 in Austria while the figures are 30.87 in Venezuela, 9.30 in Turkey, 4.91 in Israel, 3.29 in Mexico, 1.89 in Norway, 0.0003 in Ireland, 0 in France (IMD, 2005). Considering the change in dollar cost of unit labor in manufacturing for the period 1996-2004, the figures are: Austria -31.1, Ireland -32.8, Sweden -18.7, France -15.8, Japan 0.5, USA 6.2, Mexico 15.5, EURO Zone, 19.8, Turkey 30.5. (OECD Yearbook, 2005). In 2004-2005 years, the portion of labor cost spared for employment taxes are 42.7% in Turkey and 26.6% in OECD average while it is 16.4% in USA, 5.9% in Ireland, 15.4% in Mexico, 15.8% in Korea, 27.8% in Norway, 41.5% in Poland, 23.8% in Japan and 9.3% in Luxembourg. (OECD, Taxing Wages 2003-2004, 2005). Some studies concentrating on real wages assert that in Turkey in the1980's, real wages are suppressed but expected success is not achieved. As our opinion, The distinction is the difference between real wages and the labor related costs which constitute the cost of the worker for the firm. As stated above, low real wages do not mean low labor costs. It is emphasized that Turkey has the highest ratio among OECD and EU countries. Increasing labor costs is the most important factor that prevented growth in Turkey, Mexico and Argentina. What makes Turkey different in this sense is an obstacle created by the government. The reason for overall cost of the worker being high for the employer is the high level of

taxes. Bildirici (2004) defines this cost with the concept, cost of the worker to the firm, real cost.

High costs for the firm limits employment and increases informal economy. In countries where the cost of labor for the firm is high, firms prefer labor-saving or capital intensive production. Firms moving from labor intensive production to capital intensive production create a crowding-out effect for labor intensive sectors. With the crowding out effect, unemployment increases, and when combined with the hysteresis, it can not be decreased with monetary and fiscal policies.

However, efficiency of labor is as important and determinant as real wages for growth. Diversification in the labor productivity of Turkey, Spain, Mexico, Korea, Japan and Germany in high, moderate and low technology industries relative to that in USA has significant explanatory power on the development of Japan and Korea. Countries that had highest pace of relative productivity growth are Japan, Germany and Korea. Although productivity of labor in Japan was lower than in Germany in 1960's, it has performed faster growth, it has caught up with Germany by late 1970's, early 1980's and USA by early 1990's. Productivity in Korea who becomes significant by her pace of development is still far below than the productivity in USA, however has managed to maintain a continuous increase in its labor productivity. Labor productivity in Korea was even much below than that in Turkey, but as a result of this continuous increase, it has exceeded Turkey by mid 1980's. When labor productivities of Ireland, Spain, Portugal, Greece and Turkey are compared, Ireland has a level around 120, Spain around 100, Greece around 90, Portugal around 60 and Turkey has a productivity level of 40. It is observed that labor productivity in Turkey is very low relative to other countries. A similar structure is observed in Mexico.

A3. Economic factors: Convergence in technology

As Easterly and Levine (2001), 60% of the cross-country variations in growth rates of per-capita GDP can be explain the differences in productivity growth as Klenow and Rodríguez-Clare (1997) about 90% of the variation can be estimate differences in productivity growth. Feyrer (2001) finds that the distribution of the productivity residual has become increasingly twin-peaked. The level of productivity can be affected by many factors other than technology and the divergence reflects long-lasting cross-country differences in rates of technological progress. These facts are very important when is taken into account the possibility of international technology transfer and the "advantage of backwardness" (Gerschenkron 1952) that is related with technological laggards. That is, the further a country falls behind the world's technology leaders the easier it is for that country to progress technologically by implementing new technologies and this advantage should be enough to stabilize the proportional gap that separates it from the leaders. This is situation that happens in neoclassical models, technology transfer is instantaneous (Mankiw, Romer and Weil, 1992), and in models where technologies developed on the frontier are not "appropriate" for poorer countries (Basu and Weil, 1998; Acemoglu and Zilibotti, 2001), in models where technology transfer can be blocked by special interests (Parente and Prescott, 1994, 1999) and in models of country with institutions that impede technology transfer (Acemoglu, Aghion and Zilibotti, 2002). ((P. Aghion, P. Howitt and D.M.Foulkes; 2004: 1-2). Posner indicates that there are divergence tendencies between developed and developing countries in terms of efficiency

and per capita income. Because, according to Posner, there is time lag or adaptation period between the emergence of an innovation in a developed country and its spreading to developing countries. This lag has increased in recent years. In this context, Ernst and O'Connor (1989) state that microelectronic revolution has made it more difficult for the developing countries to catch up with leading countries.

In developing countries, perpetually innovating technologies become more complicated and adaptation possibilities of developing countries decrease while it becomes impossible to catch up with the developed ones. Even for the industrialized countries and big corporations, maintaining existing competence and catching up with the current technology in integrated circuit and computer industries has become overwhelmingly difficult. Besides, it can not be concluded that economical technological leading positions of countries can not be changes and developing countries con not catch up with the technologies of developed countries. Economic and technological backwardness varies according to time and location. Consequently, there is a possibility that developing countries can catch up with and pass beyond developed countries under some circumstances. In this context, experiences in some European countries, USA and Japan and progress achieved by recently industrialized countries are indications of this. For example, South Korea, right after USA and Japan, has achieved significant successes in production and export of memory chips. In 1960's, South Korea had a small industrial sector and was very backward in technology but for the last 30-40 years it is one of the major countries in electronic industry. According to Abramowitz, technologically backward countries have potential to catch up if they have improved their social abilities sufficiently to adapt the technology in developed countries. In some instances, catching up is not possible due to low levels of social ability even if there existed appropriate realization factors According to Abramowitz, non existence of convergence among OECD countries in 19th century is the difference in social abilities. Abramowitz indicates that even though they had appropriate levels of realization factors, their lack of social abilities have hampered them from utilizing the technology in developed countries after the war. Another point within the framework of convergence hypothesis is that, low level of education and industrialization in poor countries has prevented them from utilizing the technological gap. Aghion, Howitt and Foulkes (2004) explores that financial constraints prevent poor countries from taking advantage of technology transfer and this situation causes some of them to diverge from the growth rate of the world frontier. They introduce credit constraints into a multi-country version of Schumpeterian growth theory with technology transfer. As Cohen and Levinthal (1989) and Grifth, Redding and Van Reenen (2001), each act of technology transfer requires an innovation on the part of the receiving country, and technology investment is a necessary input to the process of technology transfer. A point as important as technology and productivity is the cost of technology. In many countries, restrictions of laws and regulations, bribery, violence and sabotages are important factors that are considered among obstacles in many countries. Bureaucracy caused by laws and regulations is a major problem in many developing countries. Common point of all instances mentioned is that, these obstacles increase the cost of adapting technology. Common point of all instances mentioned is that, these obstacles increase the cost of adapting technology. Conformingly, of the countries which realized development miracles after WW 2, Japan, France, (West) Germany and Asian Tigers have succeeded in dampening these obstacles. By considering that the major factor in Japanese miracle is imitating technology, it is to be asserted that some of the emerging

countries including Turkey have wasted this chance by copyright laws and consumer protection laws. Copyright, intellectual property and consumer protection laws are obstacles in this context. In these perspectives, an important point is the Washington Consensus. The Washington Consensus advocates the removal of development to international trade, the liberalization of capital flows and the creation of a strong patent regime regulating technology transfers and intellectual property. In 1990's a large number of countries were adopted this reform, but not all courtiers, for example, the policy followed in India, the "Delhi Consensus" avoided liberalizing the capital account, down played the speed of reforms, and relied little on external resources. (See. G.Cornia; 2005; Parasız and Bildirici; 2004)

A4. Economic factors: Globalization. In England, the years 1886-1890, 1896-1900, 1904-1907 and 1909-1913 are years of exporting capital while the developed has decreased capital export in the years 1891-1895, 1901-1903 and 1908. The second period of globalization is experienced intensely after 1980. The most important difference between the two periods of globalization is the duration of capital flows. In the first globalization period, capital movements were long term while they were short term in the second period. Short term movement of hot money is an important factor in beginning or deepening of crisis. Private capital flows have been towards East Asia and Latin America. Inflows have paced up after 1991. In the period during which the regional structure is determinant, flows into America source from USA while flows into Asia are sourced by other Asian countries. Asian countries constitute the region where foreign capital movements are focussed while portfolio investments have directed at west hemisphere. Another characteristic of this period is that middle income countries attract more funds than low income countries while low income countries concentrate on official capital movements. (Chen and Khan, 1997, pp.5-11). According to Dollar and Kraay, in 1960's and 1970's, those who globalize have grown slower than those who did not globalize. While in 1980's and especially in 1990's, those who globalized grew faster than those who did not (Bulutay, 2004, p.29). It has to be asserted that those countries are ones with high political stability. Second period of globalization have asserted change to social and political structures. Processes of change observed have emerged problems of adaptation and crisis in many regions of the world. Development generating capacity of foreign capital in countries where it has flown in is disputable while its potential of generating financial crisis is high. Major effect of globalization is decreasing the limitations and tax burden on the more mobile and powerful of factors of production, the capital. For the 30 most developed countries, average corporate tax rate has fallen from 37.6% in 1966 to 30.8 in 2003 (Bulutay, 2005a; 30). Besides, marginal rate of tax for high income groups is decreased in nearly all countries. As is the case in Turkey, as the tax burden on capital is decreased, the taxes are concentrated on labor incomes and share of indirect taxes have developed. Especially in countries where political instability is high, this increase has been more significant. For a study on this issue in Turkey see Bildirici and Coşar (2005). Finally it has to be stated that 2nd period of globalization has become a period of frequent financial crisis and wars in the context of financial liberalization. China and India which were distant to financial liberalization movements have utilized their low labor costs and became a center of outsourcing for multinational firms.

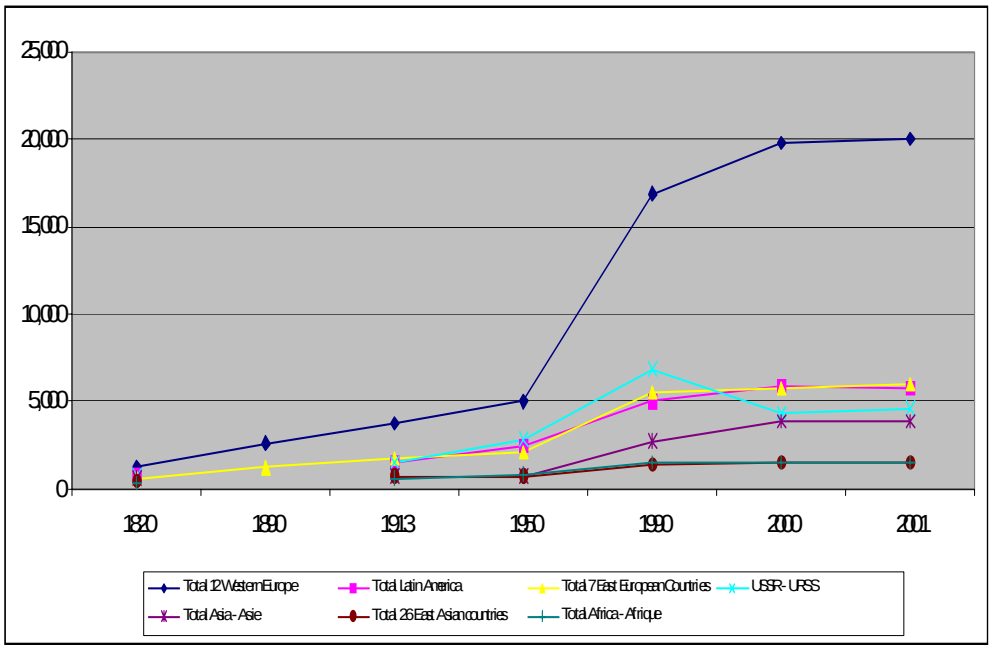

Figure 1. Regional Growth Performance

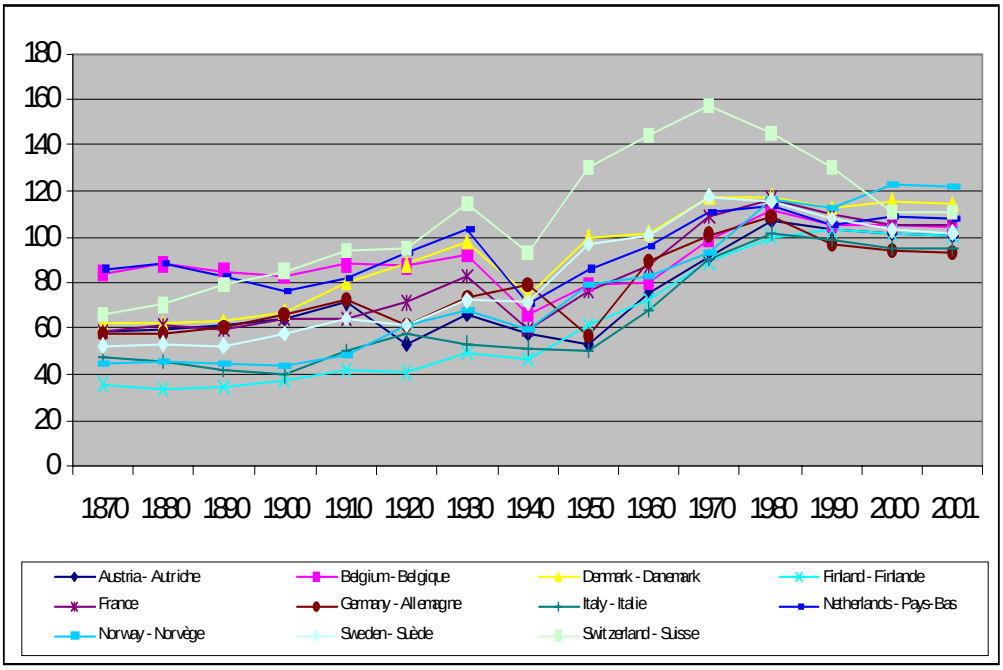

Figure 2. Comparison of Per Capita Income with the United Kingdom (%)

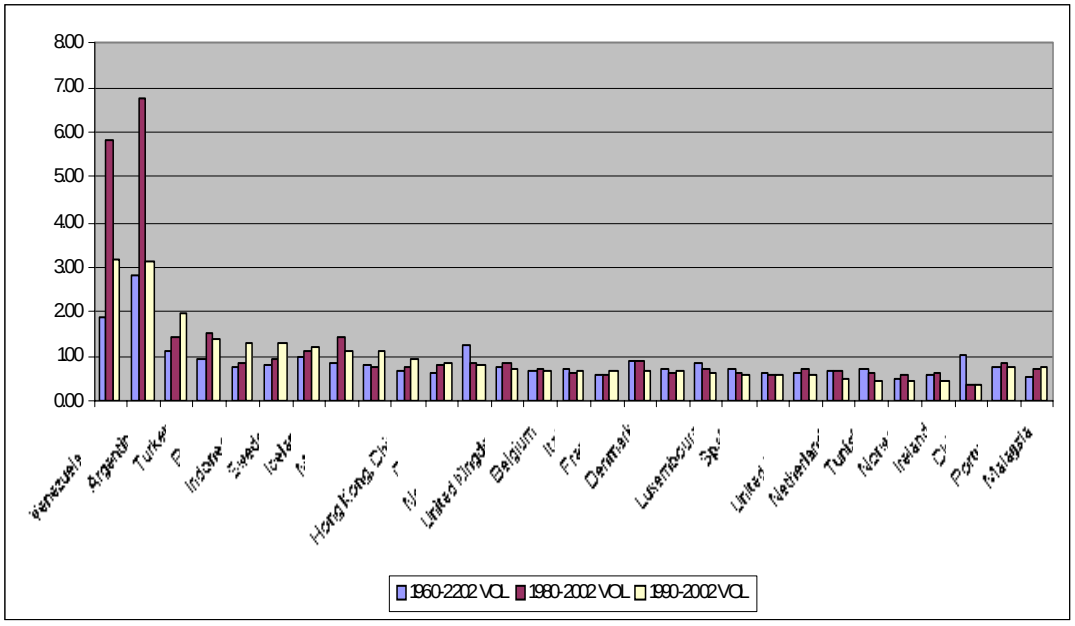

Figure 3. Volatility of Developed and Emerging Countries

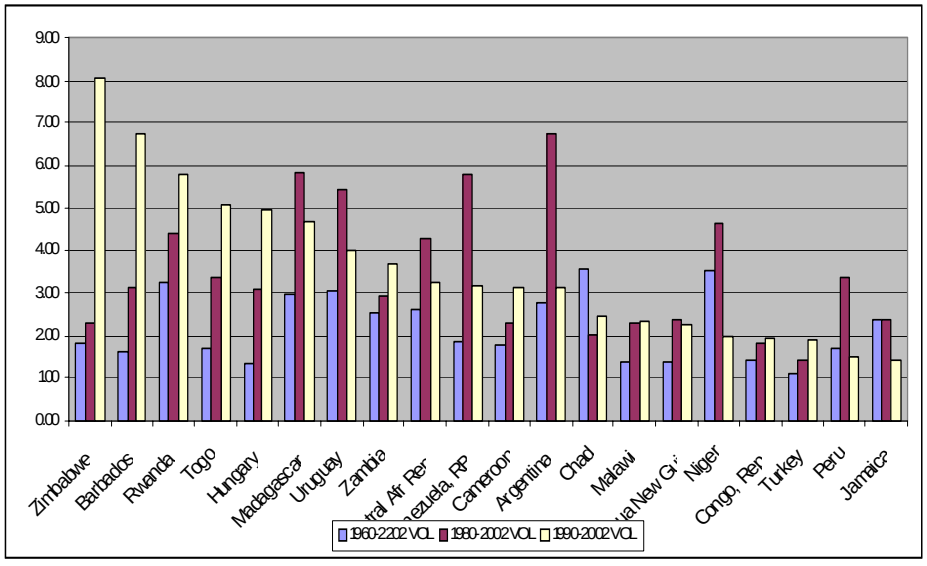

Figure 4. Volatility of Underdevelopment and Emerging Countries