

A NEW APPRAISAL OF THE RELATIONSHIP BETWEEN ECONOMIC GROWTH AND THE ECONOMIC STRUCTURE

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Abstract

A country's potential for economic growth and its propensity for business development have long been associated with economic reshaping or restructuring. The numerous interdependencies that may exist between these phenomena are very difficult to grasp due to their complex nature. Economic growth can be seen as the outcome of various indigenous and exogenous factors that are to some extent interdependent. At a first glance, economic growth can be defined in terms of aggregate gain in productivity and competition, based on technological progress. On the other hand, when defining this process one cannot ignore the importance played by the economic structure and the consequent effects generated.

This article presents the relationship between the changes in economic structure and the aggregate growth of an economy, with an emphasis on the Romanian economic system.

Key words: economic structure, aggregate economic growth, structural change, real value added, productivity, tertiarization

JEL classification: J21, O14

1. Introduction

Economic restructuring proves to be an ongoing phenomenon being permanently connected with the evolution of economic principles, technological advances and government development policies. The interrelations that exist between the configuration of the main sectors of activity within a given country or region and the economic and social effects generated have long been a subject of debate and academic research.

While the process of reshaping and remodeling generally occur during extensive time periods and the reforms take place at a steady state, there are situations in which different methods are adopted. In the case of nations transitioning from a central planned system to an open capitalist economy, these developments can be moved forward and implemented in a relatively short time frame, thus generating economic shocks and ultimately accelerating both positive and undesirable effects.

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The restructuring of the entire economic system in relatively sudden stages stimulates growth and opportunities in some areas while concurrently determining an increase in structural unemployment and short term instability.

Decades of centrally planned economy have left numerous countries in a difficult situation where the transitioning process has been rather slow, as a consequence of long term repercussions such as limited entrepreneurial propensity, lack of confidence in the new system and dynamic regulations. These factors are continuing to influence market efficiency and the general allocation of resources.

2. Literature Review

The economic structure of a country has long been a subject of high interest. One very recent question that arises is whether economic growth causes structural change or changes in the economic structure cause aggregate growth? (Dietrich, 2011)

These processes are characterized as being co-evolutive meaning that structural change is needed to reach sustainable growth, while economic growth is needed to reach new levels of aggregate demand and changes in the demand structure (Dietrich, 2011).

Structural change was first approached in the classic literature of economics by Adam Smith who examined this issue in the context of development and economic growth (Smith, 1776). On the other hand, the neoclassical growth theory widely disregards these relationships. Solow (1956) considers that the chief cause of economic growth is solely technological progress, meaning gains in productivity. In this case the sectoral composition is considered constant thus structural change does not occur.

The restructuring of a country's economy can be analyzed by observing the structural distribution of the country's GDP. The coefficients of this distribution can change over time for very different reasons such as: technological change, a change in input quality, a change in relative price as a consequence of substitution between inputs or economies of scale (Teigeiro, Solis, 2007). This analysis can also be used as a starting point in the study of the relation between economic growth and structural change since, in economic development, aggregate economic growth is accompanied by a reshaping among the three main sectors of an economy (Dietrich, 2011). Therefore economic growth is associated with the phenomenon of structural change in the three main sectors of the private economy. The analysis explains the successive shift in dominance of the primary (agriculture and mining), secondary (manufacturing and construction) and tertiary (private services) sectors, measured in terms of employment or output (Dietrich, 2011).

Further studies suggest that the economy is divided in three sectors: a final goods sector, an intermediate sector and a research sector. The research sector uses human capital and common accumulated knowledge in order to produce new designs which it sells (or rents) to the producers of intermediate goods. Lastly, the final goods sector acquires intermediate goods in order to produce goods for consumption (Berthélemy, Söderling, 2001).

Each sector of the economy contributes to aggregate growth mainly in two ways: by productivity growth within the sector (the within effect) and by expanding its share in aggregate inputs (the between- or shift-effect) (Timmer, de Vries, 2008).

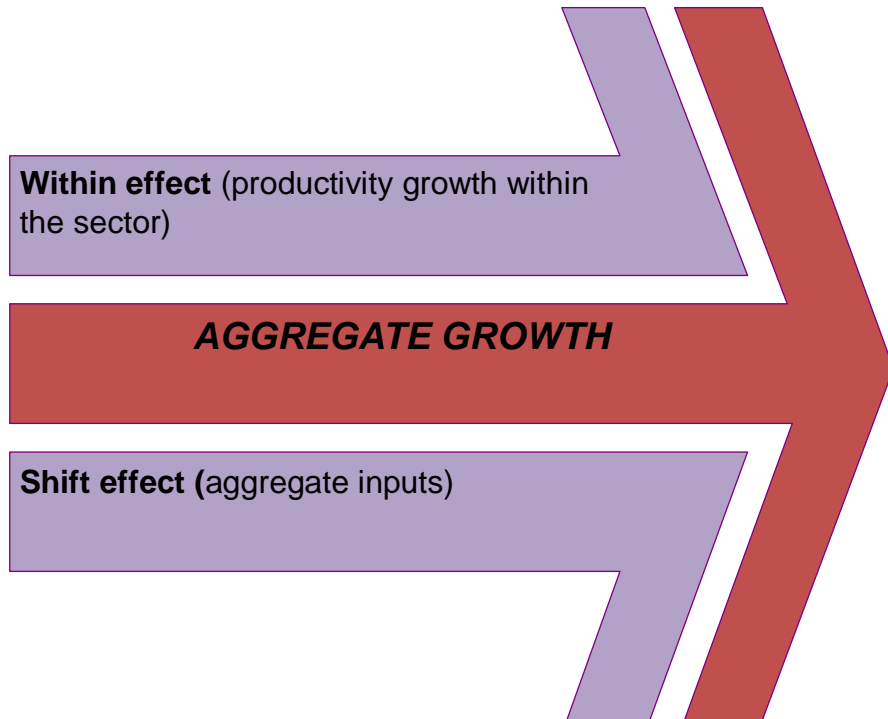


Figure 1 - Sectoral contribution to aggregate growth (design based on Timmer, M.P.; de Vries, G.J. (2009) *Structural change and growth acceleration in Asia in Latin America: a new sectoral data set*)

According to Boratav, Türel and Yeldan (1996) structural change can be measured in terms of employment shares or in real value added shares. Felzenstein and Portonov (2005) consider as indicators for structural change the growth in productivity and the employment/population ratio. Furthermore, the growth in productivity consists of two major components: productivity growth in each of the three broad sectors and the effect on aggregate productivity of shifting sectoral employment shares due to structural change over time.

Aggregate productivity growth integrates intersectoral, intrasectoral and residual growth. Intersectoral growth measures aggregate productivity growth arising from shifts in sectoral employment shares due to structural change. Intrasectoral growth measures aggregate growth, due to sectoral productivity growth. The residual or interaction component represents the joint effect of changes in both sectoral employment shares and productivity growth (Felzenstein, Portonov, 2005).

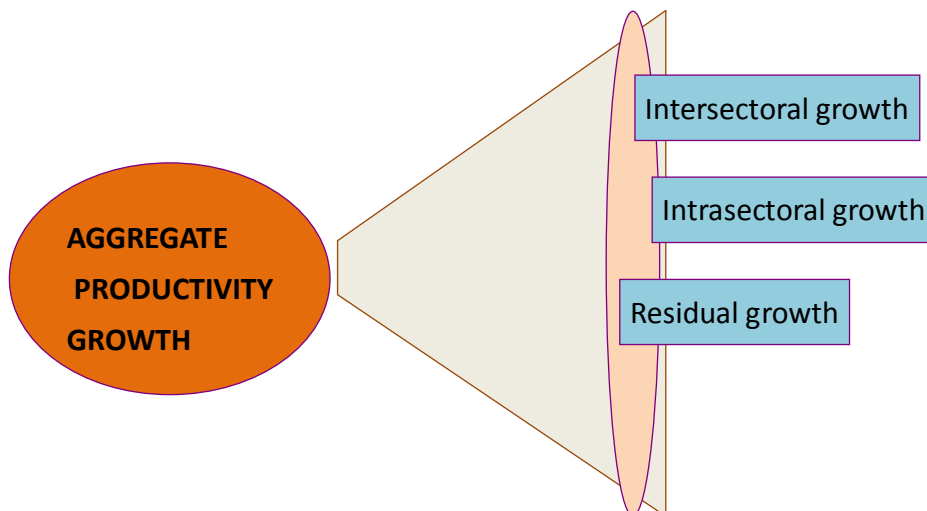


Figure 2 - The composition of aggregate productivity growth (designed based on Felzenstein, D.; Portonov, B.A. (2005) *Regional disparities in small countries*)

Dietrich (2011) examines the relation between economic growth and structural change in time and asserts that aggregate economic growth decelerates structural change in the very short run but accelerates it with some lag in time. Moreover, the aggregate effect depends on whether structural change is measured in terms of employment or in terms of real value added. Conversely, structural change supports aggregate economic growth, irrespective of which measure of structural change chose.

This relation is analyzed using the same concepts of accelerations and decelerations by Timmer and de Vries (2008), who examine the economic restructuring of developing countries and postulate that employment reallocation to more productive sectors lies behind accelerations and decelerations of growth in many such countries.

Additionally structural change can be a reaction to increases or decreases in environmental uncertainty, dynamism, heterogeneity or hostility. This response or reaction, in theory, can be reactive or proactive as well (Miller, Friesen, 1982).

Many countries undertaking structural adjustments have done so in the context of severe macroeconomic imbalances, reflected in high and rising rates of inflation and unsustainable balance of payments deficits (Bhattacharya, 1997).

Economic reshaping in recent years has been associated to strong growth in services as well as with their greater integration into the production system. On the other hand, economic reshaping is a complex phenomenon, arising from the state of current development, and not a mere transfer of industrial activities and tasks to certain services (Teigeiro, Solis, 2007). In latest years there has been a high growth in the service sector (both public and private) considering the supply of services and a sharp drop in the primary branches of a country's economy, therefore industrial sector as a whole lost weight in the economic structure. From the measures that were undertakes as a reaction to these changes it can be remained: companies shut-downs, production capacity

reduction or early retirements. On the other hand an integration of services into the production system can be observed, that lead to the introduction of the so called “intermediate services”.

Another aspect to consider refers to the influence of the opposing components over economic reshaping: preference changes in demand and sectoral-specific productivity gains. On the demand side, a higher income per capita results in a shifting structure of demand, as Engel’s law predicts; it is often called “demand hypothesis”. This implies that economic growth causes structural change due to adjustments in the production process occasioned by demand side changes, and that a higher rate of economic growth increases the speed of structural change. On the supply side, the “productivity hypothesis” claims that different kinds of technological progress across are decisive for structural change (Dietrich, 2011).

Consequently sectors with below average productivity growth need to increase labor input while sectors with above average productivity growth are able to save labor input. Moreover, changes in the employment structure and the real value added structure are necessary due to changes in the demand structure. If higher productivity and higher output values do not meet appropriate levels of demand for products, prices will decline as a consequence. This will eventually lead to a non-efficient use of resources (Dietrich, 2011).

During economic reshaping efficient allocation of resources occurs through the decision of individual economic agents, with government’s role reduced to that of setting the rules of the game i.e. property rights, rules of jurisprudence and maintaining macroeconomic stability. The expected overall result of these responses should be increased productivity, both through greater efficiency at the firm level, and through a shift in resources toward more productive firms and sectors (Reinhardt, Peres, 2000).

One representative example is the energy consumption. During economic reshaping there is a rising trend in energy consumption both in terms per unit of output and per labor employed, despite the rising energy costs (Boratav, Türel, Yeldan, 1996).

There are cases where these expected outcomes are very improbable, these are the situations in which the state applies measures as protectionism and granting subsidies to sectors with no comparative advantage, while discouraging those sectors with great potential (Reinhardt, Peres, 2000).

Restructuring of economic sectors must be made considering organizational capacity within sector ministries, the legal framework for private sector development, and the ownership by stakeholders of the change proposed. These aspects are considered by Bryant (1996) as key to achieving sustainable strategic change. The same study emphasizes the importance of the relationship between institutional development conceived as rules (policies, norms), roles (learned behaviors) and structures (formal and informal organizations) and strategic change conceived as asking fundamental questions and charting long-term goals (in light of external and internal factors).

Furthermore economic restructuring is also heavily influenced by political constraints. This is because structural reforms involve some distributional changes in favor of some groups and against others, and there are limits on the extent of distributional change that can be tolerated (Bhattacharya, 1997).

When developing a strategic agenda, decision makers must take into account the macroeconomic variables such as: exchange rates, international trade and capital flows. In addition, considerable attention has to be focused on the influence of policies over a country's inflation rate (Handroyiannis, Lazaretou, 2007). Furthermore these macroeconomic variables are components of the external shock or of the domestic shock. These are considered to be determinants of economic reshaping. External shock is noted as a policy variable whilst domestic shock is considered to be a policy determinant factor (Boratav, Türel, Yeldan, 1996).

An additional aspect that should be considered with respect to economic reshaping is the appropriate pace of the reforms undertaken. The choice is essentially between a "big bang" or "shock therapy" approach in which all reforms are implemented more or less simultaneously and a more cautious "gradualist" strategy (Bhattacharya, 1997).

Bhattacharya (1997) provided arguments pro and con for both types of strategies. A gradualist approach minimizes adjustment costs and limits the distributional burdens on particular groups in the initial years of the reform; however it creates what is called "reform fatigue". On the other hand, a rapid implementation does not allow time for opposition to built up and for interest groups to get together and increase their lobbying activities against reforms.

In practice, however, productive resources cannot be moved instantaneously and costless among different sectors of the economy, and the various markets concerned often adjust with different speeds toward their long-run equilibrium in response to various structural reforms (Bhattacharya, 1997).

3. Discussion And Evidence From The Romanian Economy

For a long period of time, the developing countries have been synonymous with structural change at the economic level. These conditions have also applied to Romania's economy in which the shift from centrally planned policies to the open market has ultimately meant a process of "creative destruction".

Many scholars describe the economic growth as necessarily connected with restructuring and reform, introducing the notion of creative destruction (Aghion, Howitt, 1992). This creates a paradox in which structural unemployment and the rendering of certain occupations as redundant are always prerequisites for growth and development. The introduction of new products and services will always make part of the work force unemployed (Aghion, Howitt, 1994).

Sustainable economic growth is achieved through the continuous implementation of technological improvements and through the restructuring of existing sectors. An evident argument for the influence of technology on economy can be seen in the evolution of the

agricultural sector in developed economies that has come to employ less than 10 percent of the workforce yet generate more products and revenue than in the past when it occupied up to half the labor (Vasile, 2011).

In general, the process of economic reshaping in Romania as well as in any other ex-communist states that became EU members (i.e. Estonia, Lithuania) is considered to be finished, while the effects of this transition have remained a mainstream issue. The actual process of economic restructuring is generally considered to have ended in Romania starting with 2008. (See Figure 3)

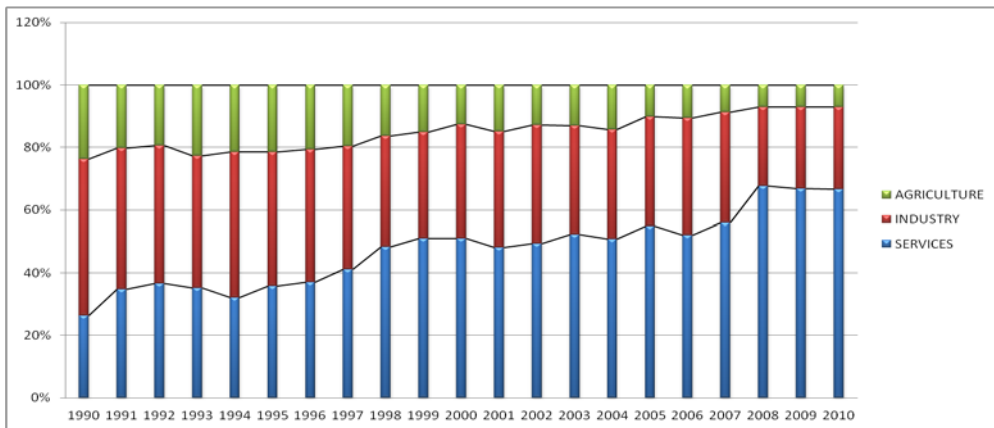


Figure 3 – Sectoral distribution of GDP 1990-2010 for Romania (developed on data provided by World Bank- <http://data.worldbank.org/>)

Starting with the year 1990 Romania’s economy shifted from central planned economy to the open market system. If in 1990 agriculture represented almost 24% in Romania’s GDP whilst in 2010 this sector contributed to the GDP with almost 7%. Most of this reduction was accommodated within the services industry, this sector accounting for 26% of GDP in 1990 and 67% of GDP in 2010. These changes were a result to both domestic and external shocks. The domestic shocks that impacted the Romanian economy are the interest rate shock (increasing interest rates correlated to a volatile rate of inflation), the supply shock (caused mainly by technological progress) and the demand shock (based on adjustments in production processes). A major influence on the Romanian economy was represented by the monetary policy undertaken in Europe. The policies taken as a result of these shocks are very difficult to be isolated, hence their effects are complex.

Following the shift in the sectoral distribution of GDP, Romanian labor force presented the same effects of economic reshaping. From 1980 to 1990 the labor market structure of the labor market was invariable as a consequence to the planned measures applied in the market. As a consequence of adherence to an opened market economy concept, starting from 1990 the labor force in Romania fluctuated, thus reacting to the measures undertaken to sustain economic restructuring.

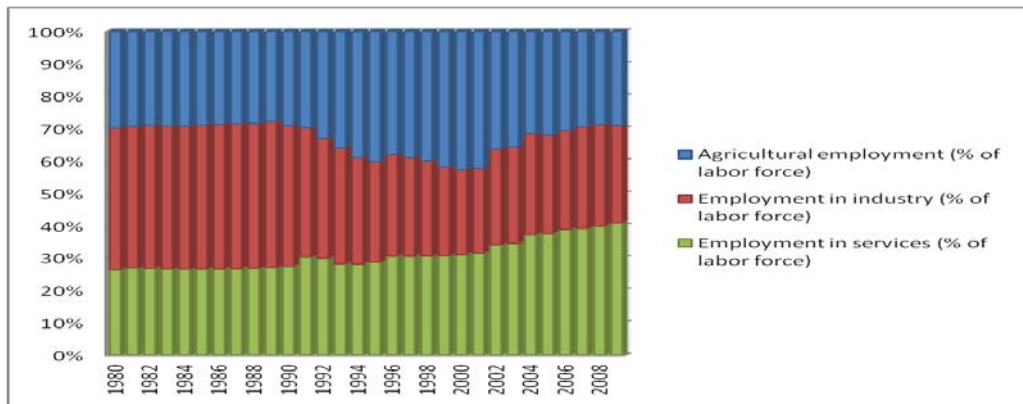


Figure 4 – Labor force 1980-2009 for Romania (constructed based on data provided by World Bank- <http://data.worldbank.org/>)

It can be seen (Figure 4) immediately after the shift towards the open market, that the industry sector reduced significantly as large state subsidized companies stagnated and eventually collapsed. Initially, the agriculture sector took most of the extra employees, while in the medium to long term the fluctuation is sharply in favor of the services sector.

4. Conclusions

Creative destruction was seen as a prerequisite for economic growth and development, as the evolution of policies and technologies ultimately stimulate certain activities at the expense of others. While creating negative effects such as structural unemployment and uncertainty, the long term positive effects on economic efficiency and the optimal allocation of resources should outweigh the downsides. Identifying and studying the process of restructuring proves more imperative in transitioning economies due to the fact that the changes were implemented abruptly and the consequences were typically accelerated and far lasting.

While in terms of output distribution the Romanian economy can be considered as having successfully completed its transitioning from a central planned system to that of a modern market economy, when considering the results of labor distribution, the lack of efficiency is evident, as the agricultural sector, while comprising around 30% of the workforce, contributes to the GDP with approximately 10%. Thus, the process of modernization and restructuring should be viewed as an ongoing struggle towards the creation of productive and sustainable activities in all sectors of the economy.

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