

KNOWLEDGE AND INTERVENTION ON AGGREGATE ECONOMY

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Abstract:

2009 is in Europe the year of excellence, which should bring up a changing tool to fight back the economic crisis. In such context, we reconsider the theoretical frame of the unemployment, inflation and foreign deficit as major threatening of stability and progress. The disequilibria trade-off is based on the “New Keynesian” imperfect competition model of labor markets. This model assumes that both labor and product markets are imperfectly competitive, due to certain market imperfections – such as trade unions and oligopolistic firms. Labor can demand a bargained real wage, whilst firms can set a price-determined real wage at which they can earn over-normal profits. The firms' price-determined real wage consists of the actual value of output (as determined by the marginal product of labor) minus a profit per worker for the firm. The knowledge based economy for Romania brings significant challenges to enhance the market economy, while changing and empowering a competitive structural equilibrium.

Key words: *knowledge, labor-capital model, structural equilibrium.*

JEL classification: *E24*

INTRODUCTION

Working to raise the bid of the real economy the authorities have knowledge of the main distortions which put in jeopardy the stability of the large scale markets: inflation, unemployment and the foreign trade deficits. Upon the interaction of these phenomena, many analysis and approaches have been set up by famous specialists, obviously without much echo in the practical solution area, since we are back in a recession international context.

The paradigm frame of the unemployment-inflation trade-off started after world war two, up to the beginning of the seventies, times when the vast majority of research in economics was focused upon the essential role of the Phillips curve in explaining business fluctuations or even longer economic cycles.

DEBATE

Following an extensive empirical study which linked the growth of rate of nominal wages and the growth of the unemployment rate, in 1958, A.W. Phillips had concluded that there existed a negative relation between the two variables.

Taking for good his observation statistically grounded in the developed countries subsequent research extended the analysis: economists examined the existence of a correlation between changes in the inflation rate and changes in the gross national product and discovered a similar negative relationship between the two variables.

The most important consequence of these macroeconomic index connections was their immediate implication for economic policy: the stable relationship between inflation and output suggested that monetary authorities would be able to reduce the unemployment rate by accepting a higher inflation rate; similarly, the authorities could reduce the inflation rate at the cost of higher unemployment.

For a decade, the direction of the state intervention seemed easy and clear: it meant an option between low inflation (paying the price of high unemployment) or vice versa, low unemployment, (paying the price high inflation rates). Critics have been made upon this economic bargaining and the political cycle, which can force now the smallest unemployment in electoral purposes.

To follow up the theoretical foundation of such an easy “electoral tool” Milton Friedman and Edmund Phelps formulated in 1968 some solid theoretical arguments against such policy recommendations. Starting from microeconomic behavior assumptions, the two economists argued that this empirical relationship between inflation and unemployment would collapse if the authorities attempted to exploit it: they argued that, according to real economy observations, an artificially-sustained inflation could not have any effect on output and unemployment, because people cared about the real – and not the nominal – variables in the economy.

Thus, according to Friedman, excess demand or excess supply on the labor market does not depend on the nominal wage, but on the real wage, because economic agents are rational and they tend to adjust the wages in line with the anticipated price increase (doing what we currently call a paradoxical behavior against the state decisions).

As a consequence, the real issue underlying the Phillips curve concerns the identification of a correlation between the nominal wages growth rate – adjusted with the anticipated inflation rate – on the one hand, and the unemployment rate, on the other.

Founded on a quite different approach, Phelps’ analysis reaches a similar conclusion: the author constructs models of the labor market, where people strive to find the most advantageous terms of employment.

Depending on the information costs and other restrictions on these markets, a certain time passes between leaving a job and finding a new one, which engenders an inherent frictional unemployment.

Job seekers will accept that nominal wage which encompasses the anticipations of the price level – in real terms. If the workers’ anticipations underestimate the inflation rate, then they will be inclined either to supply more labor – in Friedman’s approach – or to reduce the search time – according to Phelps.

In essence, the explanation is the same: by anticipating an inflation rate beneath the real rate, economic agents actually overestimate the real wage. At a policy level, this reduction in unemployment is made possible by means of adopting an expansionist monetary policy; in the short run, such policy measures can indeed be effective: by determining an unexpected rise in inflation above the level anticipated by agents, they will lead to a temporary decrease in unemployment.

In this manner, only in short-run horizon, agents can be “fooled” by the monetary illusion, and only temporarily, because economic agents will revise their expectations to accommodate the unexpected inflation, in no time. As information is disseminated and agents’ perceptions are corrected, the gap between the real inflation rate and the anticipated rate will gradually diminish, and unemployment will return to its previous, higher level. Hence follows that monetary authorities will only manage to reduce unemployment temporarily; moreover, they will be confronted with ever higher inflation rates, which will be more difficult and costly to control.

In other words, the negative relationship postulated by the Phillips curve is only valid in the short run; over the medium and long term, this relationship does not hold, meaning that the long-run Phillips curve is vertical.

The subsequent economic events came to confirm the theories of Friedman and Phelps: during the seventies, inflation rose constantly, without a permanent reduction in unemployment.

The central message of this line of reasoning is pragmatic in nature and has an immediate practical corollary: monetary authorities will never be able to influence unemployment over the medium and long term, because the unemployment rate tends towards a so-called "natural level", a term coined by Milton Friedman in 1968 in his Presidential Address to the American Economic Association.

The **natural rate of unemployment** is the equilibrium level of unemployment to which the economy tends, as defined by Milton Friedman's misperception model of labor markets. This model assumes that, in the long-run, on labor markets, supply of and demand for labor equal at a single wage rate and level of employment.

The actual level of the natural rate itself is determined by the inherent characteristics of the labor market, such as any market imperfections or informational problems.

From this view, this paradigm is following the Keynesian unemployment equilibrium theory, and what is more interesting, as Keynes did, no certain level of index in the correlation were not given for good.

In Friedman's own words, the natural rate of unemployment designates "the level which would be ground out by the Walrasian system of general equilibrium equations, labor and commodity markets, including market imperfections, stochastic variability in demands and supplies, the cost of gathering information about job vacancies and labor availabilities, the costs of mobility and so on."

Friedman's approach shows that labor market equilibrium and the natural rate do not depend on the growth rate of the money supply, but on the labor supply and labor demand, the optimal search times, as well as other microeconomic considerations.

Many researchers attempted to formalize Friedman's definition and to identify the determinants of the natural rate of unemployment, but the knowledge progress in this field did not bring a practical tool to stop the crisis effects of raising unemployment, as we currently record.

Starting from the natural rate hypothesis – as initially defined by Friedman – macroeconomic research has further extended the analyses, so that today economists speak of the existence and estimation of NAIRU; the acronym NAIRU stands for Non-Accelerating Inflation Rate of Unemployment and reflects that level of unemployment consistent with stable inflation. Note however, that there are certain differences between the original concept of Friedman and the NAIRU.

The NAIRU hypothesis is based on the "New Keynesian" imperfect competition model of labor markets. This model assumes that both labor and product markets are imperfectly competitive, due to certain market imperfections – such as trade unions and oligopolistic firms. Labor (through the process of collective bargaining) can demand a **bargained real wage**, whilst firms can set a **price-determined real wage** at which they can earn over-normal profits. The firms' **price-determined real wage** consists of the actual value of output (as determined by the marginal product of labor) minus a profit per worker for the firm.

In the NAIRU model, labors **bargained real wage** increases with the level of employment. This is because increased employment means that there are fewer unemployed workers looking for jobs, so labor markets become tighter and the bargaining power of labor increases. Unemployment "disciplines" the employed ones.

The **price-determined real wage** remains fixed at a set wage rate, on the other hand. This is because it represents the claims of firms on output per worker (estimated productivity).

The wage rate and level of employment at which the **bargained real wage** and the **price-determined real wage** are equal is known as the NAIRU.

This is the wage rate and level of employment at which the competing claims of labor (the workers) and capital (the firms) are satisfied (IS-LM constrains).

The natural rate debate is focused on two ideas: primarily, the labor market is a market with a high level of traffic, with large flows of workers who have either lost their jobs or are looking for better ones, and this assumption naturally implies the existence of some classic, **frictional** unemployment; secondly, the nature of the relations between workers and firms leads to a **wage setting process** which often departs from **the competitive wage setting**, situation which creates a level (share) of “extra-unemployment” which differs and exceeds from the “efficient” frictional level.

Specialists do not question the existence of a natural rate, and the debates evolve around two series of questions: could we determine the precise level of the natural rate and what are the appropriate techniques for an accurate estimation? and how does the natural rate change over time and what are the factors that influence it?

These are crucial issues related to the practical importance of the natural rate: if there exists such a natural rate, but we cannot measure it precisely, then the concept is of no use for policy purposes, but remains a mere theoretical notion, a situation that we assist at.

If the natural rate is not constant, but changes over time under the influence of certain factors, then we must be able to estimate it effectively at all times, in order to use it in the formulation of economic policy.

This brings into discussion the possible use of quantitative methods based on old-fashioned mathematical or natural sciences principles.

Empirical knowledge still lags behind, in spite of studies and research which have been worked out, and a certain quantitative understanding of the determinants and variability of the natural rate is not in progress: this leaves the unemployment-inflation trade-off into the sphere of theoretical hypothesis, and not in the field of innovating new adequate tools to decrease their negative effects.

Several potential factors have been put forward, but economists are still in need for precise answers.

However, a major barrier in this direction is the lack in financing of the theoretical research of macroeconomists.

The poorly financed theoretical research has important consequences for the construction of economic policy: governments' analyses are deficient in assessing the policy implications of the NAIRU hypothesis, thus hindering its incorporation into economic policy. Therefore, despite the knowledge progress, public authorities have not significantly changed the way they analyze the economy.

The “IS-LM” Keynesian model, sometimes accompanied by the so-called modern version of the Phillips curve is still the best framework for the formulation and implementation of economic policy. Governments and international entities use analysis and forecasting, but the crisis continues to surprise everybody and to find authorities without efficient measures in order to stop unemployment and inflation.

Moreover, the inflation-unemployment trade-off must be correlated with the foreign trade-deficits, by the tool of policy-mix instruments.

The only valid solution for our country is the accession of the “European Dream” concerning the knowledge based economy, an economy where the science industry owes the core-role in development and macroeconomic harmonization and equilibrium.

Romania inherited and has a poor situation in the mechanism of protecting its achievements from the monde-crisis impact, because the domestic market economy is not very strong, since a lot of resources have been sold to foreign companies.

In other words, using the presence of the foreign companies in our countries, other states could send a mediate influence in one way or another to the internal economic situation, while the government has not many protectionist legal tools to fight back the economic aggression (coming disguised as global competition).

Moreover, the economic weaknesses explain a poor innovation tradition in Romania's business sector.

Meanwhile, the lack of internal financial resources draws to a relatively limited use of high technologies and the predominance of low-cost labor, incomplete economic restructuring and poor implementation of government innovation policies.

Such aspects determine a type of small business which is not competitive in the long run and could bring disequilibria in the foreign trade.

As part of the Romanian national efforts to diminish the gap to EU countries, and in compliance with the objectives established within Chapter 17 "Science and research", negotiated with the European Union during the accession negotiations, public funding should be increased in the following years up to 1% of GDP.

There are regulation means of public support for research and development activities, such as fiscal incentives, subsidies and patent rights.

Such aid is however limited by state aid regulations, which have been transposed from the "Communitarian Acquis".

In this line, in 2002, the Competition Council adopted a specific regulation on State aid for research and development.

The regulation contains provisions on research and development aid related to the Law 143/1999 on State Aid and makes a distinction between fundamental research, industrial research and pre-competitive development activity.

The lack of funds leads to outdated scientific infrastructure and science industry requires a permanent financing in order to update its results; also, Romania is among the last places in Europe at the number of patents, because the prices and the bureaucracy is high for a common researcher or for a small research firm.

From the financial perspective, large companies could have better access to bank financing, and could afford to assume risks derived from research, development and innovation activities. On the other hand, small firms could be more flexible, and faster adapt to demand changes.

Still, under the financial restrictions of today market-mechanisms, we begin to wonder if indeed small firms, owing less inertia, even though they are more dependent on financing and infrastructure, they really play a key role as innovation drivers, because according to a credible survey, "The European Innovation Scoreboard" (2005), a low number of small Romanian enterprises are a "change factor" in national economy; this survey shows an overwhelming majority of non-innovator firms (over 80%, the highest percentage of non-innovator firms among all countries examined), about 10% of intermittent innovator firms, about 3% strategic innovator firms, and a very small percentage of adopter and modifier firms.

Similarly, the 2003 Innovation Survey carried out by the Romanian National Institute of Statistics for 2000-2002 according to the "Eurostat" methodology (CIS 3) revealed that innovative firms account for 17% of the total number of active firms in the country, about 16% of the workforce and about 42% of the total turnover of active firms.

Innovative firms were predominantly the small and medium sized enterprises (83.4%) and operate mainly in industry (73%), while the rest were active in services (trade, real estate, transport and communications).

CONCLUSIONS

Although the above official figures present a situation from the past years, we must take in consideration the fact that from 2000 to 2008 Romania benefited from a high economic growth (6%-even 8%), but for 2009, estimations trend to zero growth.

To conclude, the science industry should be engaged in a substantial manner, to deliver for the business and markets the required products of a changing European demand.

The so called “driver” to the growing economy must be helped and supported to change most of the market merchandise and services offer in all Europe and in each member-state, in a common production of innovation.

The knowledge based economy for Romania brings significant challenges to enhance the market economy, while changing and empowering a competitive structural equilibrium.

Nevertheless, this effort needs to be undertaken because a knowledge based economy may be Romania’s chance to add more value to its products and services in the medium and long run.

BIBLIOGRAPHY

1. Daianu D.(coord.), “Romania and the Lisbon Agenda - EU accession and economic competitiveness”, Comania Printing House, 2004.
2. Friedman, M., “The Role of Monetary Policy”, American Economic Review, 58, 1968.
3. Phelps, E., “Money-Wage Dynamics and Labor Market Equilibrium”, “Journal of Political Economy”, 1968, 76.
4. Phillips, A.W., “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom 1861-1957”, “Econometrica”, 1958.
5. Sarbovan, Marina, Luminita, “ New Foundations of the Contemporary Economic Dynamics”, “Eurobit” Printing House, Timisoara, 2009.
6. *** <http://trendchart.cordis.lu/scoreboards/>European Commission, “European Trend Chart on Innovation- Annual Innovation Policy Trends and Appraisal Report ROMANIA 2004-2005”, 2005
7. *** The Agency for Governmental Strategies, “Romania, your business partner”, 2003