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RELEGATING – THE GDP STRUCTURAL MODELLING STRATEGY, THE DYNAMICS IN TIME-SERIES DATA: SHORT-RUN SHOKS, DISEQUILIBRIUM SHOCKS AND INNOVATIVE SHOCKS TO NUISANCE

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Abstract: We argue that many confusions relating to the system of methods used in a particular area of study economics and econometrics, if we are considering in time-series forecasting might be considered as arising out of ambivalence or inconclusiveness about the error terms. Relationships between macroeconomic time series are fallacious and, inevitably, the early sentimental frocks-and-romance brigade econometricians concluded that any estimated regression equation, in statistics, an equation constructed to model the relationship between dependent and independent variables would only fit with errors. Beyond dispute, Slutsky concluded that these errors could be interpreted as shocks that constitute wherefore, force behind business cycles. On the other hand, Frisch adjudicated to dissect the errors further into two categories: stimuli, which are analogous to shocks, and irregularity. However, the theory is constraint of providing a statistical framework. Furthermore, Haavelmo interpreted the error term in equations as giving, rather the statistical groundwork for econometric models and making sense that they match up to a priori dispersal assumptions specified in structural models of the stochastic dynamic general equilibrium type, later in 80ths known as simultaneous-equations models intro SDGE approach (proposed in 1982 by Kydland & Prescott.) Because in those days economies required an interpretation in a framework with rather static theoretical models, forming part of the structure of a building simultaneous-equations relegated the dynamics in time-series data frequently to frustration. Relaunch of errors interpretation as the shocks in theoretical models came from model-consistent expectations, in that agents inside the model are assumed to "know the model" and on average take the model's predictions as valid. Forecasting of any non-stationary time-series as in our paper are intended to develop vector autoregression modeling giving freshness to the decade in which economic science and econometrics will be put to the test and obstacles. The so-called Sargent, Hansen, and Tallarini's risk-sensitive permanent income model, and one and two-country stochastic growth models, decomposes the dynamics of the modeled variable into three parts: short-run shocks, disequilibrium shocks, and innovative residuals, with only the first two of these sustaining an economic interpretation.

Key words: economic growth and aggregate productivity; the gross domestic product; innovation and communications; cross-country output convergence; prediction and forecasting methods; time series analysis and modelling; ARIMA modelling; Box–Jenkins method.

JEL Classification: C12; C14; C22; C53; D62; D84; F15; F21; F61; O10; O30

The novelty of the subject. This article reconsiders the developing of a new forecast model using the interrupted timeseries of the gross domestic product for the Republic of Moldova. The theme arises from a first need to redefine, economic growth in the context of increasing globalization but also the complexity of commercial transactions. The forecasting method used is based on ARIMA each model partly emphasizing the urgent need to redefine, the economic growth in the context of the Association Agreement (AA) with the EU, which includes a Comprehensive Free Trade Agreement (2014) but also future prospects of integration among the countries with an average degree of development. The technique used comes to bring novelty in the field of forecasting, as an alternative to the one which should be —, a simultaneous equations method and traditional VAR.

As **scientific argumentation** that are required for the research of this topic are:

- the scientific forecasting of such a complex and dynamic dimension of GDP, which according to NBS are interpreted in two classes: category of uses and category of resources, with a

wide coverage area;

- special necessity to study the theoretical and methodological foundations of of GDP forecasting and impact on the economy

- the forecasts from a random walk model are equal to the last observation, as future movements are unpredictable, and are equally likely to be up or down. Thus, the random walk model underpins naïve forecasts.

- arguing debate econometrics and its short-comings yours truly often gets the response from econometricians that “ok, maybe econometrics isn’t perfect, but you have to admit that it is a great technique for empirical testing of economic hypotheses.”;

- focusing on the strategic orientations of communication series GDP, which will determine changes in the structure of processes and attracting innovation and FDI;

- description of a scenario, which is a theoretical model with steps to be taken to establish strategic objectives, strategic investments, resources and implementation methods for sustainable growth and real convergence.

- providing forecast data for policy makers who are specialized in public policy.

The propose of research is to study and analyze GDP, category of resource,

- the problems related to communications sector, which has not represent 7.2% in total GDP, as well as the formulation of scenario path that would contribute to improving the performance of FDI input.

- the theoretical - methodological support of the investigative area of research is provided by the work of young scientist, who have conducted research in this field.

Relevance of the article. The research economic growth and development allowed the author to generalize certain conclusions on this topic, and as a result, to propose to introduce - technologies in information and communications throughout theory of Real Business Cycle (RBC).

Approaching the main questions. The central motivation of our theoretical-empirical analysis arises from the desire for better understanding the variations of the long-term economic growth, in the context of the high-technology businesses that target the small and medium-sized enterprises in our country. The main contribution of the study is that it explains why models based entirely on endogenous growth, change of factors, perception in business, possibility of innovation can change the saving rates and thus increase the possibilities of the production, accompanied by the development of new pattern — the art of investing and developing within innovation-development (R&D) sector. The model get started from the hypothesis of the existence the discrepancy between the economic growth rates statistically registered not only in the European regional context, but also in the specific case of the economy of the Republic of Moldova. Schumpeterian thinking from a European perspective, has a strong resemblance to the activity of (Bronwyn B., and Ziedonis R.M, 2001) when it linked economic progress with the social-economic context of the regions. As the socio-economic settings are different for the case of the Republic of Moldova, it is imperative to reflect on the comparative perspective. However, we consider that the model in its approach, can find its origin of inspiration within the Anglo-Saxon and the Nippon-Rhine approach. If we limit ourselves to the classical definition, innovation follows the theoretical definition of invention as innovation in company management (for example, Heilbroner, 1984) and organizational innovation (Hammond P., 1984), are explicitly left out of the equation. However, it should be mentioned that innovation processes are characteristic of large companies, where the first three hypotheses are drawn, namely:

- large firms are more capable than smaller firms of generating routine innovation by capturing economies of scale.

- small firms play a decisive role in creating a monopolistic competition.

- the greater, the market power is, the greater incentive to be engaged in innovation, due to the possibility of lowering costs.

Conclusions and discussions

In conclusion, a highly competitive and global business environment, does not call into

question the survival of the company itself, this factor depends directly on its ability to manage and develop its business model. Whichever model one chooses, the companies are finally forced to accept, the two ways, either with reference to the atomicity and homogeneity of the products, or the possibility of continuing the metamorphosis chain, similar to the economies in transition. In addition, there are companies that do not perceive competition as generating a function of minimum (in case of costs), and rather one of maximum (in case of profits). Narrowing the analysis of the investment-innovation process at the level of each company, Foray (2004) distinguishes knowledge-based economies as those that require continuous and rapid change due to the nature of technology and scientific discoveries, which are unexpected and unpredictable.

Data

The Republic of Moldova can be considered a small and open economy, based on digital services, high-tech products and IT; and the penetration rate of access to information of over 68% (with reference to the access of the population to the Internet). Next, we try to build a forecast model using the data obtained from the National Bureau of Statistics of the Republic of Moldova. The econometric results, including the tests revealed a potential of 10 -14% annually, and taking into account the structure in GDP (6.8 - 7%), the gross added value of the branch would generate 1. pp each year to the total growth of the gross domestic product. In the process of creating a sequential data set, the period 1967-1994, GDP calibration has been used (transforming economy GDP backward-looking starting with 95Q1, based on 4 autonomously assumptions "Ex ante" specifically:

- purchasing power of one U.S. dollar compared to 1775 Continental currency up to 2012, using Consumer Price Index for All Urban Consumers: Housing in U.S. City Average (CPIHOSSL), collected from Federal Bank of Saint Louis;

- structure of economy GDP, categories of resources, assuming that in the period 1967-1994, which is largely before the Transnistrian conflict, Republic of Moldova has been subject of a big and closed economy abbreviated to BCE (obs. not to be confused with European Central Bank, An European Authority), is an economy that participates in international trade, but is closed enough compared to its trading partners; furthermore it describing export-import sensitivity refers to its Long Run Aggregate Supply (LRAS);

- cpi, is expected to be 2-4% annually between 1967-1992;

- firms and technology, was not count significantly cause in error term or disturbance (epsilon) of the regression model, it has a limited consideration of innovative plant.

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