

Gradualistic strategy of transition to market economy

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Abstract. *Following the collapse of the Soviet Union, post-Soviet countries started transition to the market economy, giving birth to various economic theories. The article presents review of Gradualistic theory of transition to the market economy and empirical research based on the economic indicators of China. In the model percentage values of savings and total investments are taken as variables indicating to the financial capabilities of the State. Empirical research demonstrated that norm for total investments and savings has direct growing relationship with the Gross Domestic Product, which is a logical outcome. Moreover, factors of government reform activities and government support have also direct growing relationship with the growth in Gross Domestic Product. Received outcomes are adequate to the theoretical model and indicate to the efficiency of Gradualistic strategy.*

Keywords: Shock Therapy, Gradualist Transformation, gross domestic product, government force.

JEL Classification: P20, P31, P40, P52.

Introduction

World wars, unification of the Federal Republic of Germany and the Democratic Republic of Germany, great depression etc. belong to the events of the particular significance of the twentieth century. Breakdown of the Soviet Union also belongs to such events, creating new challenges for the economic science. Socialist economic system, so called Grand Experiment of twentieth century, ended with the collapse. Economic growth rate of socialist countries was reducing periodically, and in 1990-ies the growth terminated. Under the initiative of and support from the world organizations and developed countries the transformation of economic system of socialist countries to the market economy started (Papava, 2011, pp. 84-85; Nikolaeva, 2001, pp. 17-18).

Based on the wide theoretical and empirical research, it became possible to establish two approaches to post-communist transformation process: so called “Shock Therapy” and Gradualist Transformation. It has to be noted that the latter can be further classified as gradualism and extreme gradualism, latter referred to as the third approach. In the twentieth century International Monetary Fund was the supporter of Shock Therapy; it was providing financial support to post-Soviet countries within the framework of application of the above strategy; the countries, themselves capable to implement reforms and finance such reforms, were considered as supporters of Gradualist approach (Papava, 2011, pp. 84-85; Kisiliová, 1996, p. 113; Kolodko, 2000, pp. 41-42).

Gradualistic Way of Transition to Market Economy (based on the example of Chinese Economy)

Gradualistic strategy for transition to the market economy considers gradual transformation of economy into the market economy. The necessary and significant pre-conditions for implementation of the above mentioned strategy are: 1) Implementation of reforms in the country, considering high level support from the government. 2) Existence of financial resources for financing the reforms (Papava, 2011, pp. 87-88). Shock therapy significantly differs from Gradualistic strategy; the shock therapy considers maximizing the number of radical transformations in the shortest period of time. For the implementation of above policy, it is necessary to liquidate budgetary deficit and to carry out strict monetary policy (control over the cash funds or exchange rate). In case, if above mentioned policy also considers regulation of revenues and prices, then it is referred to as orthodox scenario (Papava, 2011, p. 85).

The present article will discuss Gradualistic theory, based on which it is possible to develop the following type of general logical scheme, i.e. textual model:

$$\text{Gross Domestic Product (GDP) = Financial Support + Government Support and Implementation of Reforms} \quad (1)$$

In order to get to the statistical formulation of model 1 and demonstrate it in a formalized manner, it can be transformed as follows:

$$\text{GDPpercchange}_t = b_0 + b_1 \times \text{savingpercchange}_t + b_2 \times \text{investperc}_t + b_3 \times \text{governmentforce}_t + U_t \quad (2)$$

Where:

GDP perc change_t is the rate of chain type growth of Gross Domestic Product;

saving perc change_t – percentage value of savings;

invest perc_t– percentage share of total investments in the Gross Domestic Product;

and government force_t – fictitious variable for government support and reform activities;

b_k -regression coefficients; U_t -error term.

In the model 2 percentage values for savings and total investments are considered as variables indicating on the financial capabilities of the state. We can characterize financial capabilities of the country (certainly, partially and not in full) via application of savings and total investments. Empirical data of the model 2 have been reviewed for the period of 1980-2014 years. The rate of chain growth in the Gross Domestic Product is considered as a resulting variable, and percentage growth of investments and savings – are represented by percentage values of mentioned variables.

For the characterization of reforms implemented and government support, fictitious variable - *government force_t* is introduced in the model 2 (Ananiashvili, 2010, pp. 249-266; Wooldridge, 2009, pp. 353-354). For the calculation of values of the above variable, we shall review the highest rank leaders of China during the period of 1980-2014 years (see the Table 1):

Table 1. *Reform activities of presidents of China*

| The President of China | Reform Activities | Leadership Years | Variable Index |
|------------------------|-------------------|------------------|----------------|
| Ye Jianying | | 1978-1983 | 0 |
| Li Xiannian | X | 1983-1988 | 1 |
| Yang Shangkun | | 1988-1993 | 0 |
| Jiang Zemin | X | 1993-2003 | 1 |
| Hu Jintao | | 2003-2013 | 0 |
| Xi Jinping | | 2013-to date | 0 |

Source: BBC, China historic profile.

Fictitious values of variable are determined in accordance with the years of governance of reformer presidents; not only their power is used in defining of values of variable, but also the existence of reformism.

For the empirical realization of an image it is important to check the time series for statistical stationarity. Via the unit root test it is determined that percentage values of total investments are an integrating process of first line, and the percentage increase of gross domestic product (GDP) and percentage values of savings represent the stationary lines. Through transferring to the first line differences of percentage values of total investments and determining the trend from percentage increase of gross domestic product and percentage values of savings, it is possible to build up the linear regression, which will have the following form:

$$\text{GDP perc change det}_t = 0.448 \times \text{saving perc change det}_t + 0.6 \times \text{dif invest perc}_t + 1.768 \times \text{government force}_t + U_t \quad (3)$$

Where:

GDP perc change det_t is de-trended value of chain growth rate of gross domestic product;

dif invest perc $_t$ – the first line differences of percentage share of investment in the gross domestic product;

government force $_t$ – the fictitious variable of reformism and support of Chinese leaders.

The estimated values of relevant criteria for evaluation of represented model 2 are given below:

Table 2. *Regression results of model (2)*

Dependent Variable: GDP_PER_CH_DETR

Method: Least Squares

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Sample (adjusted): 1981 2014

Included observations: 34 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|------------------------|-------------|----------|
| DINV_PROC | 0.600540 | 0.167288 | 3.589852 | 0.0011 |
| SOC | 1.176784 | 0.546974 | 2.151443 | 0.0393 |
| SAVING_DETR | 0.447887 | 0.127902 | 3.501800 | 0.0014 |
| R-squared | 0.486837 | Mean dependent var | | 0.055647 |
| Adjusted R-squared | 0.453730 | S.D. dependent var | | 2.743772 |
| S.E. of regression | 2.027924 | Akaike info criterion | | 4.336000 |
| Sum squared resid | 127.4868 | Schwarz criterion | | 4.470679 |
| Log likelihood | -70.71200 | Hannan-Quinn criterion | | 4.381929 |
| Durbin-Watson stat | 1.261949 | | | |

During empirical realization of presented model 3, it is determined that, statistically, free member is not significant, and significance level for the rest of ratios is 5% and the model is valid in statistical terms.

The residual members are normally distributed in the image and, in accordance with 1% significance level of White's test, the heteroscedasticity problem is not observed. In this case, the Durbin Watson's test cannot be used for checking the autocorrelation, since the model does not contain the free member, which represents one of the assumptions for use of test. In addition, in accordance with the Breusch-Godfrey test, for the residual members zero hypothesis (H_0) on non-existence of autocorrelation is applied (Breusch, 1978, pp. 334-355; Godfrey, 1978, pp. 1293-1301; Ananiashvili, 2014, pp. 9-18).

It is possible to make conclusions of theoretical and practical nature based on the mentioned outcomes:

- Based on the example of Chinese economy, gradualist approach is effective that is demonstrated by usefulness of the model.

- It is desirable to include other factorial variables, in line with values of determination and corrected determination ($R^2=0.49$, $R_{cor}^2=0.45$) in the model, which are not determined under the present model.
- Total investments and savings norm are in growing relationship with gross domestic product, which is logical outcome. Total investments and savings norms represent the source for financial support, which has been mentioned prior to model development. The government reform activities and support factors are also in growing relationship with growth in gross domestic product. The results are adequate to the theoretical model and indicate to the efficiency of gradualist strategy.

Not so high determination ratio ($R^2=0.49$) of a model can be conditioned by an attempt of imaging of variables of theoretical model (by using of substitute variables), or by non-inclusion of important (essential) factors in the model.

Conclusions

Our research has defined that the gradualist strategy of transition to the market economy is efficient based on the example of China. In particular, reforms and strong financial support give an opportunity to the country to pursue the way of transition to the market economy under the conditions of macroeconomic stability.

The strategy of Shock Therapy could also fit Chinese economy, which would also bring effective outcomes. However, the clear argument on which strategy had to be chosen by the country, does not exist. In addition, it is worth to note the following fact of principle significance: in the event of application of gradualist approach the country does not face the drastic changes and macroeconomic fluctuations, as it is typical during implementation of shock therapy. Taking into consideration the above mentioned, we consider the gradualist theory for transition to the market economy as preferential approach.

It should be noted that the research conducted for the example of China did not enable us to make straightforward conclusions, whether the model would work based on the example of other gradualist countries and how efficient was the strategy chosen by those countries. It is necessary to conduct additional empirical researches in this direction, which would be based on the specific characteristics of each country, in order to reveal the correctness and preference of the choice.

It is theoretically as well as practically expedient and interesting to empirically analyze the strategies of post-Soviet gradualist countries and to compare the results with China, which could generate new theories and new directions of the research. It is also important to conduct empirical research of economies of those countries, which have chosen the Shock Therapy.

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