Size of Government and Economic Growth: A Convergence Analysis of Former Soviet Union Countries from 1991 to 2018

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Abstract

There are 15 independent countries that emerged (re-emerged) from the Union of Soviet Socialist Republics since its collapse in 1991. The process of independence of the Former Soviet Union (FSU) countries was followed by massive economic, political and institutional reforms that, in most cases, sought the transition from centralised systems to market economies. This paper uses the club convergence method to analyse convergence in terms of size of government and economic growth between 1991 and 2018 for the 15 FSU countries: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. The results suggest the existence of two convergence clubs in terms of size of government. In both groups, the government spending has been reduced until 2008, followed by a stabilization process. Turkmenistan is the only non-convergent country to any club. Likewise, there are three different convergence clubs in terms of GDP per capita. Moldova is the only non-convergent country to any club. Considering that the identified clubs do not have a one to one correspondence between them, further studies will analyse causal relationship of these variables.The results can potentially have policy implications to support regional integration efforts as well as targeting international aid, development funds or economic growth policies.

Keywords

Growth, size of state, convergence, club convergence, post-soviet.

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Introduction

There are 15 independent countries that emerged (re-emerged) from the Union of Soviet Socialist Republics since its crumbling in 1991. The process of independence of the Former Soviet Union (FSU) countries was followed by massive economic, political, and institutional reforms that, in most cases, looked for transition from centralised systems to market economies.

By 1991, the FSU countries had significant differences in terms of endowments, infrastructures, institutional strengths, natural resources, literacy, productivity, and the degree of nationalisms inside each country (Black and Tarassova, 2003; Darden and Grzymala-Busse, 2006; Libman and Vinokurov, 2012; Luong, 2002; Lucan Ahmad Way and Casey, 2018). However, the post-soviet countries also experienced similar baselines, in the sense that all of them shared institutional legacies from the Soviet Union such as the currency, a common language, and even more importantly, a society conceived as a big body of bureaucracy with Moscow in its core (Gleason, 2003). Thus, after the critical juncture of 1991, the FSU needed to rethink the size, tools, strategies, and purposes of the new states.

Based on suggestions from international organizations and reformists who supported the idea of building market-oriented economies rather than state-guided ones, the FSU started massive privatization processes after 1991 (Berkowitz and DeJong, 2003; Tiits, Kattel, Kalvet, and Tamm, 2008).

This transition to market-oriented economies, guided by new public management and westernisation, was carried out with the belief that gradual convergence in both political and economic reforms will allow countries to converge towards similar GDP levels in the mid(long)-term (Randma-Liiv and Drechsler, 2019; Lucan Ahmad Way and Casey, 2018). It then becomes essential to understand, what are the trends in terms of size of government and what kind of economic outcomes have been achieved by the post-Soviet countries since 1991. Particularly, this paper suggests no general convergence neither in the size of government nor in economic growth. On the contrary, club convergence analysis identifies two clubs in terms of size of government and three clubs in terms of economic growth.

The outline of this paper is as follows. Section two sums up key political and economic transitions in the post-Soviet countries. Section three explains the data and the club convergence analysis used in this paper. Section four outlines convergence results in terms of size of government and economic growth between 1991 and 2018. Lastly, section five concludes.

1. Review of the scientific literature

Both political and economic transitions in the FSU were highly influenced by international instances such as the World Bank, the International Monetary Fund and the Washington Consensus. They tried to reform the big body of bureaucracy created during the Soviet period, in order to implement new public management and western public administration theories in the structure of the FSU states (Gleason, 2003). Thus, trade liberalization, fiscal and monetary discipline, free exchange rates and privatization of state enterprises were implemented, to various degrees, across all the post-soviet countries (Berkowitz and DeJong, 2003; Drechsler, 2005; Tiits et al., 2008). Kurtz and Barnes (2002) find non-significant effect of economic liberalization on political and economic outcomes like democracy and economic growth (Luong, 2002). In the same vein, Davis and Dombrowski (2000) argue that external assistance to FSU countries has been limited by institutional arrangements, technical competences, and political motivations of assistance providers, leading to uncertain effects of this assistance on post-Soviet countries.

These reforms also were influenced by regional instances. For example, Lucan Ahmad Way and Casey (2018) show that the structures of the post-Soviet countries has diverged considerably depending on their closeness to Europe and the opportunity of European Union membership. This “Europeanization” has had important effects on the access to markets, standardized policies and rules, investment funds, and even democracy (Karo and Kattel, 2015; Randma-Liiv and Drechsler, 2019). Furthermore, the Arab World and China have played an increasingly important role in the FSU states, by implementing non-western public administration visions such as non-secularity, centralized decision processes or “heterodox” ways of addressing corruption and transparency (Breslauer, 2019; Drechsler, 2015).

Both political and economic reforms were subject to internal factors and initial endowments of each country. The degree of literacy, nationalism movements, and reforms towards democracy are strongly interrelated (Darden and Grzymala-Busse, 2006; Levitsky and Way, 2002). Endowments related to the physical and human capitals such as education and technology or transport infrastructures are associated with better economic outcomes, while dependence on commodities has had negative effects in countries with extractive elites (Clark and Naito, 1998; Gleason, 2003; Lucan Ahmad Way and Casey, 2018).

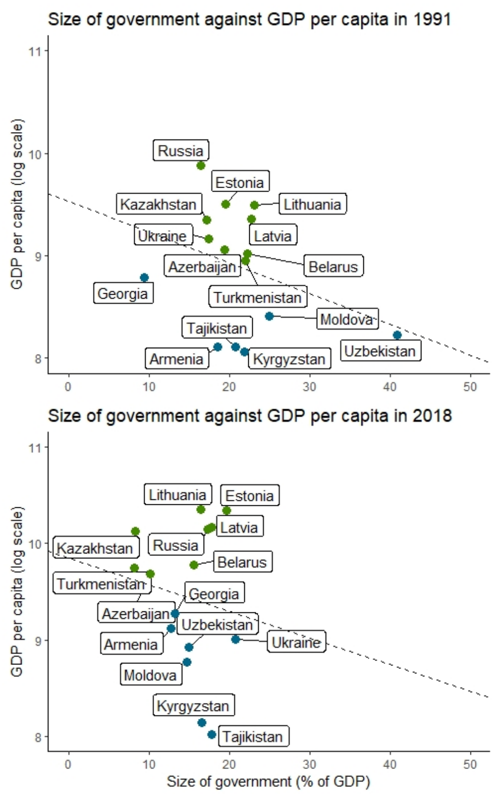
Even more important has been the institutional frameworks of the FSU countries that have shaped the success of economic and political reforms, as well as key transition points like corruption, shadow institutions, lack of participation, privatization processes, among others (Berkowitz and DeJong, 2003; Black and Tarassova, 2003; Prado and Trebilcock, 2009; Lucan A. Way, 2002). For instance, Wegren and O’Brien (2018) find that post-soviet reforms did not bring any significant life improvement for most small farmers subject to institutional weaknesses, in fact, economic exclusion and rural poverty are even worse 25 years after the emergence of post-soviet countries. This turmoil after the independence of the FSU countries also had negative impacts on land use in countries like Ukraine, Russia, and Kazakhstan. Abandonment of agricultural land after independence in Ukraine accounted for 56%, while countries with stronger institutional frameworks from Eastern Europe abandonment of agricultural land was explained in the long(mid)-term as a result of socio-economic transformation, such as urbanization and industrialization (Baumann et al., 2011; Kuemmerle et al., 2008; Meyfroidt, Schierhorn, Prishchepov, Müller, and Kuemmerle, 2016; Rakhmatullaev, Huneau, Le Coustumer, and Motelica-Haino, 2011).

As a result of the above factors, reforms in the post-Soviet countries have shaped different types of states and socioeconomic systems. The FSU countries are in diverse points between several trade-offs such as the market-oriented against the state-guiding approaches, internationally created against domestically created frameworks, or western public administration against non-western public administration systems (De Melo and Gelb, 1996; Drechsler, 2015; Mintzberg, 1996; Murrell, 1996; Randma-Liiv and Drechsler, 2019). Smart specialization, resource-based, and extractive institutions are some of the economic approaches adopted by the post-Soviet countries (Karo and Kattel, 2015; Luong, 2002; Lucan Ahmad Way and Casey, 2018).

Although the initial reforms related to political institutions focused on promoting democratization, constitutional regimes, and participation, most of the FSU countries only went half-way to these goals. This led to the development of hybrid systems between democratic and authoritarian regimes, like the competitive authoritarianism, in which key institutions and the power of the state are controlled by religion, former soviet elites or extractive interest groups (Breslauer, 2019; Levitsky and Way, 2002; Nikolova, 2016). These political hybrid systems have enabled elites to create extractive economic systems characterized by lack of competition, low productivity, and high industry concentration, thereby preventing sustainable economic growth (Coricelli, 2007; Luong, 2002).

2. Research methodology

This paper uses the club convergence method developed by Phillips and Sul (2007, 2009) to analyse convergence in terms of economic growth and size of government between 1991 and 2018 for the 15 FSU countries: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. The method has been used by many researchers in a wide range of subjects such as inequality, carbon dioxide emissions, market integration, investment, unemployment, among others (Apergis, Christou, & Miller, 2014; Apergis & Payne, 2017; Barrios, Flores, & Martínez, 2019; Carrion-i-Silvestre & German-Soto, 2009; Kim & Rous, 2012; Monfort, Ordóñez, & Sala, 2018; Panopoulou & Pantelidis, 2012).



Notes: Regression lines are calculated by an Ordinary Least Squared (OLS) Regression taking GDP per capita as Y variable and size of government as X variable, regression outputs are presented in the appendix A.

Figure no. 1. Size of government against gdp per capita in fsu, 1991 to 2018 comparison

Source: Data from The World Bank (2020a, 2020b).

The size of government refers to the general government expenditure as percentage of GDP. Economic growth is measured by GDP per capita, purchasing power parity (PPP), in 2011 constant international dollars. The variable of economic growth is subject to a logarithmic transformation. Then, both size of government and economic growth variables are filtered using *pfilter* command in Stata in order to wipe out the cyclical component (Du, 2017; Phillips and Sul, 2009). All the data come from The World Bank (2020b, 2020a).

Phillips and Sul (2007) propose an approach to test for the existence of convergence clubs supported by a nonlinear time-varying factor model. It allows to analyse heterogeneous agent behaviour and its evolution. Club convergence is also robust to the stationarity property of the series. Even more importantly, in order to group individuals into clubs that are similar within them but diverse between them, club convergence clusters individuals into clubs with similar transitions paths. Thus, it is no longer needed to pre-divide individuals into subgroups to test convergence hypothesis on each subgroup (Du, 2017).

The relative convergence of X_{it} requires:

$$\lim_{t\to\infty}\frac{X_{it}}{X_{jt}} = 1,\ for\ every\ i \text{ and } j \qquad (1)$$

Consider a set of observable series X_{it} of an individual i such that:

$$X_{it} = \delta_{it}\theta_t \qquad (2)$$

Where θ_t is the only common component and δ_{it} captures the deviation of an individual i from the common path defined by θ_t. The regression t test for the null hypothesis of convergence for all i takes the form of:

$$Ho:\ \delta_i = \delta \text{ for } \alpha\ \geq 0 \qquad (3)$$

Against the alternative hypothesis $\delta_i \neq \delta$ for $\alpha < 0$

3. Results and discussion

Club convergence analysis has identified two clubs in terms of size of government and three clubs in terms of economic growth (Table 1). These clubs do not have a one to one correspondence between them, suggesting, thus, a complex relationship between the analysed variables. They also suggest that there is no general convergence neither in the size of government nor in economic growth. Appendix C presents the complete results of the club convergence analysis and, especially, shows that the clubs identified in Table 1 cannot be merged.

Table no. 1. Identification of clubs

Log(t)		**Club 1**	**Club 2**	**Club 3**
Size of Government	Coefficient	0.145	2.749	NA
	T-stat	2.692*	2.338*	NA
Economic Growth	Coefficient	0.453	0.594	0.970
	T-stat	3.262*	14.926*	4.912*

Notes: Results with the psecta command in Stata. It implements club convergence analysis using the algorithm proposed by Phillips and Sul (2007). *The critical value of the Log(t) regression is -1.65. If the Log(t) is greater than -1.65, then a subgroup (club) is formed with those individuals (Du, 2017).

Source: Own calculations using data from The World Bank (2020a, 2020b)

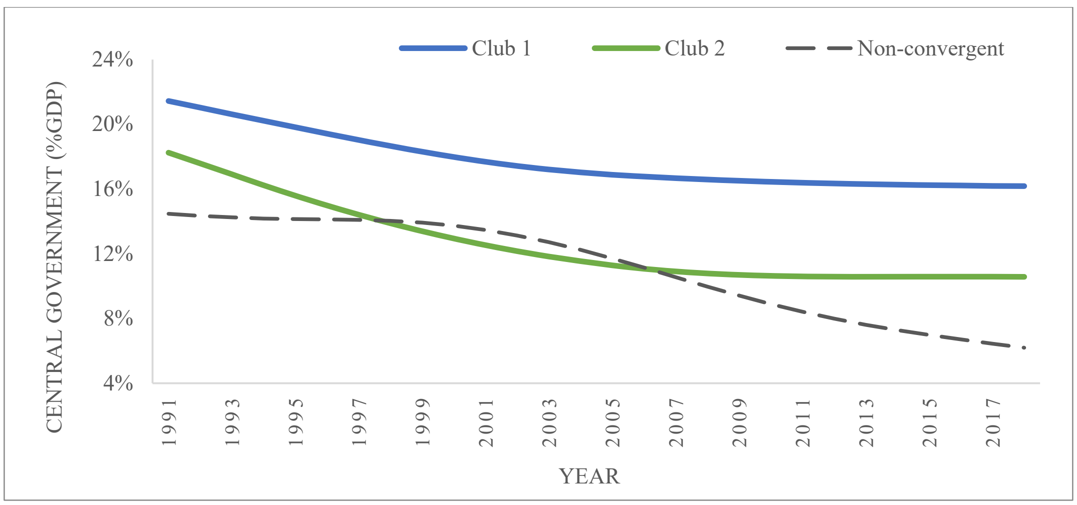
The convergence analysis (table 2) suggests the existence of two clubs in terms of the size of government. In both groups, the government spending has been reduced until 2008, followed by a stabilization process. Turkmenistan is the only non-convergent country to any club. These results confirm a clear trend during the first decade of analysis toward liberalisation and deregulation promoted by the westernisation (Drechsler, 2015; Karo and Kattel, 2015; Luong, 2002; Randma-Liiv and Drechsler, 2019).

Libman and Vinokurov (2012) suggest the existence of three clusters in relation to the macroeconomic variables of the speed and efficiency of post-Soviet reforms. Furthermore, it is important to note that answers to the 2008 crisis were different between the FSU countries and the worldwide trend. Some Central Asian countries and the Baltic states implemented austerity plans instead of Keynesian approaches to tackle the 2008 crisis (Karo and Kattel, 2015; Kattel, 2010). Figure 3 corresponds to Libman and Vinokurov´s (2012) results by showing that club convergence exists rather than general convergence and, after 2008, the size of the government in the post-Soviet countries remains roughly the same.

Table no. 2. Clubs of size of government in FSU

CLUSTERS	COUNTRIES
Club 1	Armenia, Belarus, Estonia, Georgia, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Ukraine, and Uzbekistan
Club 2	Azerbaijan and Kazakhstan
Non-convergent	Turkmenistan

Source: Own calculations using data from The World Bank (2020b)



Notes: Club convergence trends depicted in Figure 2 are calculated as a simple mean of trend components in terms of size of government of all countries within each club.

Figure no. 2. Club convergence analysis of size of government in the FSU
Source: Own calculations using data from The World Bank (2020b)

There are three convergence clubs in terms of economic growth, whereas Moldova is the only non-convergent country to any club (table 3). Club 1 can be classified as the most successful case of the sample, reaching a significantly higher level than the other FSU countries. The Baltic states, all of them EU members, are part of this best performed club. However, there are still concerns with respect to the rising inequality as well as the kind of growth and the economic risks taken by the best performed cluster (club 1) in terms of economic growth (Black and Tarassova, 2003; Kattel, 2010; Tiits et al., 2008).

Club 2, and even Moldova, can be classified as cases of some degree of success since the beginning of the 21st century, while Club 3, formed by Kyrgyzstan and Tajikistan, has failed to significantly raise GDP per capita level since 1991 (figure 3). This claim about economic stagnation over one to two decades (lost decade) after the collapse of the Soviet Union has been widely discussed in academia, mainly suggesting structural weaknesses to create institutional frameworks to steer sustainable growth (Acemoglu and Robinson, 2012; Gleason, 2003; Luong, 2002; Prado and Trebilcock, 2009; Lucan A. Way, 2002).

Table no. 3. Clubs of economic growth in FSU

CLUSTERS	COUNTRIES
Club 1	Azerbaijan, Belarus, Estonia, Kazakhstan, Latvia, Lithuania, Russia, and Turkmenistan
Club 2	Armenia, Georgia, Ukraine, and Uzbekistan
Club 3	Kyrgyzstan and Tajikistan
Non-convergent	Moldova

Source: Own calculations using data from The World Bank (2020a)

Notes: Club convergence trends depicted in Figure 3 are calculated as a simple mean of trend components in terms of economic growth of all countries within each club.

Figure 3. Club convergence analysis of economic growth in the FSU

Source: Own calculations using data from The World Bank (2020a)

Conclusions

This research has identified two convergence clubs in terms of size of government and three convergence clubs in economic growth in the FSU countries, thus indicating no existence of general convergence neither in the size of government nor in economic growth in the post-Soviet states. The results can potentially have policy implications to support regional integration efforts as well as targeting international aid, development funds or economic growth policies. From an academic point of view, this research uses a holistic approach, in terms of analysis period, countries included and potential comparability, in order to describe and analyse the paths of post-Soviet countries in terms of size of government and economic growth. Considering that the identified clubs do not have a one to one correspondence between them, further studies will analyse causal relationship of these variables. In addition, case study analysis and further convergence analysis of other key variables as well as other post-communist and Eurasian countries must be made in order to understand, analyse and propose better transitions from centralised economies.

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