Bank of Russia

The Central Bank of the Russian Federation

Comparison of the Russian and other countries' financial sector models

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The Russian financial sector model is similar to those of most countries with developing export- and raw material-orientated economies. We call such a model 'autonomous'; the countries that have this model are characterized by a weaker financial market and higher exposure to bank crises.

With the progressing economy diversification, growing welfare, improving quality of market institutions and developing relations between domestic and foreign financial institutions, such countries may move to clusters with a higher level of financial sector development. Yet this move is usually accompanied by import of capital and competencies from abroad, closer integration with financial sectors of leading countries and a buildup of foreign debt. Nevertheless, the level of financial sector development and sustainability is rising.

Based on an analysis of panel data for 63 countries for 2004–2014, four basic financial sector models typical for countries with below above average income have been identified – Autonomous, Balanced Leaders, Overheated Leaders, Junior Partners (see Table 1, Figure 1). By 'financial sector model' of a country we mean a system of interrelated characteristics that reflect various aspects of financial development and explain basic patterns and results of the operation of financial intermediaries and markets.

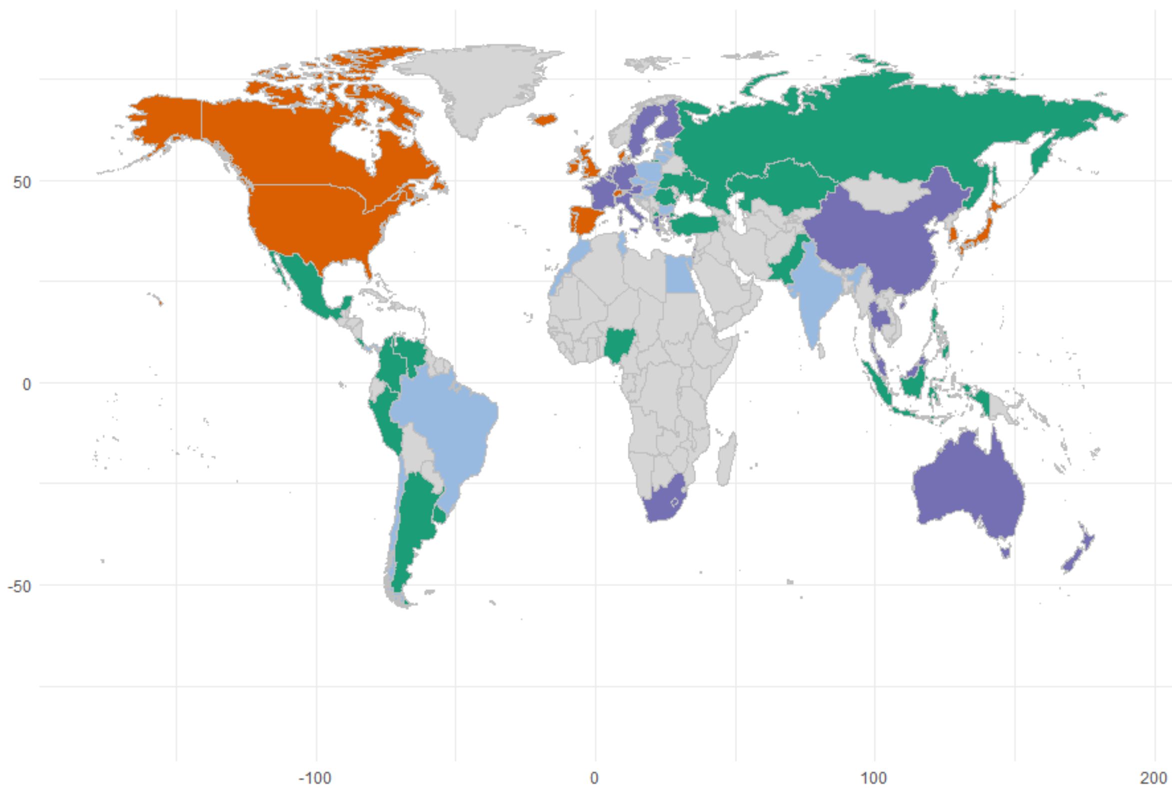
In order to identify the models, we have analyzed the following characteristics of financial sector development: the scale of financial intermediary activity; the depth of financial markets; stability of intermediaries and markets; efficiency of intermediaries and markets; economic agents access to financial services; indicators of financial sector 'quality' (competition, concentration, maturity, dollarization, etc.). For each of those characteristics, key components, or sub-indices of financial development, were derived from specific indicator data. Country clustering by sub-indices using the EM-algorithm with Bayesian extension (relative to cluster number optimization by the BIC criterion) was used for model identification. The results have been verified by the hierarchical and k-means methods.

Table 1 – Results of countries clustering by financial development sub-indices using EM-algorithm with Bayesian extension

Cluster 1 Autonomous	Cluster 2 Overheated Leaders	Cluster 3 Balanced Leaders	Cluster 4 Junior Partners
Nigeria	USA	Australia	Morocco
Indonesia	Canada	New Zealand	Egypt
Venezuela	South Korea	The Netherlands	Tunisia
Argentina	Ireland	Finland	Panama
Russia	Portugal	Singapore	Chile
Colombia	Spain	Italy	Brazil
Kazakhstan	Denmark	France	India
Turkey	Japan		Slovenia

Cluster 1 Autonomous	Cluster 2 Overheated Leaders	Cluster 3 Balanced Leaders	Cluster 4 Junior Partners
Peru	UK	Belgium	Slovakia
Uruguay	Switzerland	Sweden	Hungary
Costa Rica	Iceland	Germany	Bulgaria
Macedonia		Austria	Croatia
Ukraine		Greece	Czech Republic
The Philippines		Israel	Poland
Pakistan		South Africa	Estonia
Mexico		Malaysia	Latvia
Romania		Thailand	Lithuania
		China	

Figure 1 – Map of country cluster analysis results by financial development sub-indices



We established that Russia tends toward the Autonomous financial sector model, which is also typical for the financial systems of most developing countries with export- and raw material-oriented economies. In the countries of this group, companies tend to rely upon their own financial resources. Their economies are characterized by the primary role of budgetary and inter-company channels of financial resource re-distribution, an essentially bank–based financial sector, high market power, profitability and liquidity of banks, a high degree of state intervention in the financial sector, moderate foreign openness of the financial sector, moderate financial sector regulation and supervision (see Table 2).

Generally speaking, the financial sectors of the countries that follow this model are weaker. They are also more prone to banking crises compared to the countries with other financial sector models (see Figure 2).

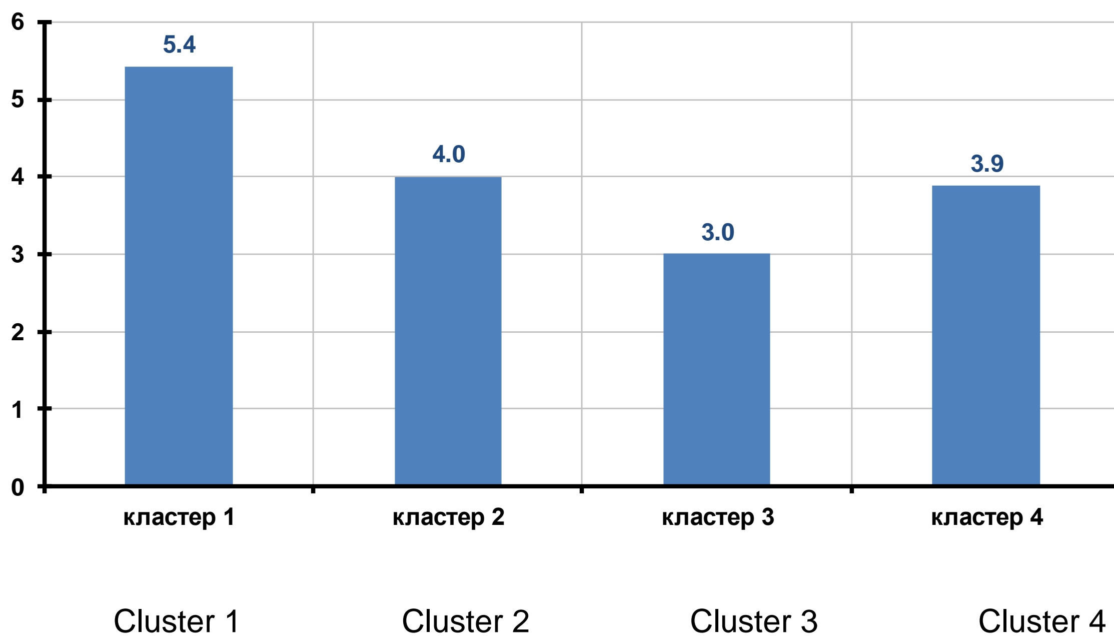
Table 2 – Summary description of financial sector models by cluster

Description	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Model	Autonomous	Overheated Leaders	Balanced Leaders	Junior Partners
General description	Relying upon own financial resources, typically, revenues from raw materials exports. Primary role of budgetary and inter-company channels of financial resource re-distribution, limited need for re-distribution via intermediaries	Certain prevalence of markets over intermediaries; extremely intense integration into global capital markets, strong national financial institutions and financial markets; 'bubbles' on the mortgage and real estate market on the eve of the Great Recession	A certain prevalence of intermediaries over markets; well-balanced integration into global capital markets, strong national financial institutions and financial markets	Relying upon imports of long-term foreign resources and high public trust in banks that enables them to get closer to the indicators of the leading countries
Financial	Market power,	'Ultra-depth' of	Depth and	Long maturity of

Description	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Model	Autonomous	Overheated Leaders	Balanced Leaders	Junior Partners
development indicators that determine the cluster profile	profitability and liquidity of banks, indicators of access to financial services	institutions and markets	relative stability of institutions and markets	bank loans and deposits, share of foreign banks on the market
Financial sector structure	Predominantly bank-based	Efficient intermediation and market functioning as a key criterion (R. Merton and Z. Bodie approach)	Efficient intermediation and market functioning as a key criterion (R. Merton and Z. Bodie approach)	Bank-based
Legal origins reflecting the principles of financial sector regulation	French	British, Scandinavian, German	British, French, German	German, socialist legal origin in CEE countries; certain influence of the French legal origin
Degree of state intervention in the financial sector	Strong	Noticeable (consequence of overcoming the crisis)	Limited	Significant
Degree of	Moderate	Very high	High	Rather high

Description	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Model	Autonomous	Overheated Leaders	Balanced Leaders	Junior Partners
financial openness				
Degree of integration of financial sector regulation and supervision	Moderate	Very high	High	Rather high

Figure 2 – Average number of crisis years during the period under consideration in each country (as per the L. Laeven and F. Valencia banking crisis classification)



Cluster 1 Cluster 2 Cluster 3 Cluster 4

Diversification of the economy, a rising welfare level, improving quality of market institutions and evolution of relations between national and foreign financial institutions enable the countries to move to clusters with higher levels of financial sector development.

Step by step determination of each country's belonging to a certain cluster has demonstrated that 17 countries moved from the Autonomous Cluster to more developed clusters (mostly to Junior Partners, see Table 3) in 2004–2014. Specifically, this is true

for Brazil, Mexico, Turkey, India, Poland, Hungary and Romania. Such a move was accompanied by an expansion of capital inflow, import of institutions and competencies from abroad and closer integration of national financial sectors with the financial sectors of leading countries. This was typically followed by a growth of foreign debt and, in some cases, by increased dollarization of assets and liabilities. Yet the level of financial sector development and its resilience to shocks generally went up.

There were also some cases of Junior Partner countries moving to the Balanced Leaders Group; in such cases, the country's dependence on foreign capital inflow, on the contrary, went down.

Table 3 – Number of countries that moved from one cluster to the other in 2004–2014 (of 63 countries considered).

Donors (2004) / *Recipients (2014)*	Cluster 1 (Autonomous)	Cluster 2 (Overheated Leaders)	Cluster 3 (Balanced Leaders)	Cluster 4 (Junior Partners)
Cluster 1 (Autonomous)	–	0	0	1
Cluster 2 (Overheated Leaders)	1	–	6	0
Cluster 3 (Balanced Leaders)	0	0	–	3
Cluster 4 (Junior Partners)	16	0	1	–

A country may move from the Autonomous Cluster to a cluster with a higher financial development level (Junior Partners or Balanced Leaders) by virtue of considerable mutual boosting of dynamics of the following financial sector segments: Independent Pension Funds – Long-term Retail Loans; Life Insurance – Stock Market.

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