

HARD BUDGET CONSTRAINTS: THEORETICAL FOUNDATIONS AND PROBLEMS OF RUSSIAN CITIES

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Key moments

Theory of the “hard” budget constraints:

- Fiscal Federalism and Decentralization;
- Taxes or grants: revenue source for local governments;
- The theory of market-preserving federalism;
- Hourglass federalism: growth of the global cities.

Practice of the “hard” budget constraints in Russia:

- Subnational budgets in Russia: key features;
- Methodology;
- Hardness budget constraint and entrepreneurship;
- Main findings;
- Recommendation.

Fiscal Federalism and Decentralization

The Decentralization Theorem:

For a public good—the consumption of which is defined over geographical subsets of the total population, and for which the costs of providing each level of output of the good in each jurisdiction are the same for the central or for the respective local government—it will always be more efficient (or at least as efficient) for local governments to provide the Pareto-efficient levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all jurisdictions (*Oates W. 1972*)

Fiscal Federalism Principles:

- Principle of subsidiarity (*Boadway & Shah, 2009; Oates, 1999*);
- Compliance principle (*Oates, 1972*);
- Economies of scale (*Oates, 1972*);
- The principle of fiscal equivalence (*Olson, 1969*);
- The principle of taxation of benefits (*Oates & Schwab, 1988*)

Taxes or grants: revenue source for local governments

The importance of own sources of funding is clear (*Blöchliger & Kim, 2016*):

- First, if the fiscal autonomy and spending power of SCGs (and thus own tax revenues) increase, the role of intergovernmental grants becomes less important. Grants do not give SCGs much freedom to decide on their spending levels;
- Second, unlike grants, own taxes increase government accountability and may affect citizens' greater involvement in budget processes. This is because most grants are earmarked for specific purposes and citizens have no impact on the allocation of these funds;
- Third, reliance on grants affects SCGs' sustainability as, unlike own taxes, grants tend to ease the budget constraint and lead to overspending.

*However that intergovernmental grants still have a role to play, as they can help reduce differences in tax raising capacity or interjurisdictional externalities. But grants can trigger the development of the **soft budget-constraint (SBC) syndrome**. SBC has some ways:*

- too-big-to-fail problem;
- too-sensitive-to-fail problem;
- too-weak-to-fail problem;
- political clout of sub-central governments.

The theory of market-preserving federalism

Market-preserving federalism seeks to provide an institutional framework to mitigate the fundamental dilemma posed by Weingast: that in order for markets to thrive, the state must be strong yet limited.

William Riker defines federalism as a hierarchy of governments in which (*William H. Riker, 1964*):

- 1) "two levels of government rule the same land and people";
- 2) each has a well-defined scope of authority;
- 3) each possesses a guarantee of autonomy within its own sphere of authority.

Weingast and his collaborators add four additional requirements for market-preserving federalism that deal specifically with the role of the state in the economy (*Montinola, Qian & Weingast, 1995*):

- 4) The subnational governments have primary authority over the economy within their jurisdictions;
- 5) The national government has the authority to police the common market and to ensure the mobility of goods and factors across subgovernment jurisdictions;
- 6) Revenue sharing among governments is limited and borrowing by governments is constrained so that all governments face hard budget constraints;
- 7) The allocation of authority and responsibility has an institutionalized degree of durability so that it cannot be altered by the national government either unilaterally or under the pressures from subnational governments.

Hourglass federalism: growth of the global cities

Hourglass Federalism is a theory about Canadian economic geography and political economy that has been promoted by Thomas J. Courchene of Queen's University

Courchene defines Hourglass Federalism as «Ottawa's use of the spending power and other instruments to fiscally starve the provinces and then to make an end run around them to deal directly with cities and citizens alike, leaving the provinces of the squeezed middle of the division-of-powers hourglass» (*Courchene, T.J. 2005*)

Courchene attributes this enhanced interest in provincial jurisdiction by the federal government to "the new economic order (globalization and the knowledge information revolution)" and accredits three changes associated with it (*Courchene T.J. 2004*):

- The first change is «the shift from a resource-based society and economy to a human-capital or knowledge-based society and economy»;
- Secondly is «the emergence of global city regions (GCRs) as the dynamic motors of the new economy»;
- Finally yet importantly, is the argument that «the essence of nation-building and electoral salience have also shifted away from resource-based mega projects and towards citizen-driven infrastructure and policies in areas like health, education and income distribution».

Methodology

1) Hypotheses:

- (1) the regional authorities of Russia are prone to instability in terms of uniform tax standards for deductions to urban districts;
- (2) the indicated instability is a criterion of “hardness” of budgetary restrictions, which affects the interest of local authorities (cities) in the development of “subordinate” territories;
- (3) local budgets in Russia have relatively low tax autonomy.

2) The construction of an index of volatility of tax standards (hardness of budget constraints) as a result of a score on the following stages:

- Scoring: 1 point was set if the standard for the current year is equal to the value for the previous year; 2 - if the standard was reduced or was canceled; 0.5 - if the current year was followed by an increase in the standard. Points were awarded for each type of tax separately;
- Summation of points: summation of points for each type of tax for 2010–2018. and finding a single weighted average of the final grade for the subject of the Russian Federation. As weights, the volumes of the corresponding types of taxes for the city districts of the subject of the Russian Federation, accumulated over 2010–2018, were used;
- Scoring: using the minimax method of rating normalization, as a result of which the subjects of the Russian Federation with the most volatile standards received values tending to 1, and the least volatile - to 0.

3) The impact of the hardness of budget constraints on the entrepreneurial activity:

- Scoring the correlation of the volatility index of the norms of deductions to urban districts and indicators of the entrepreneurial activity;
- Modeling said relationship by least squares method.

Subnational budgets in Russia: key features

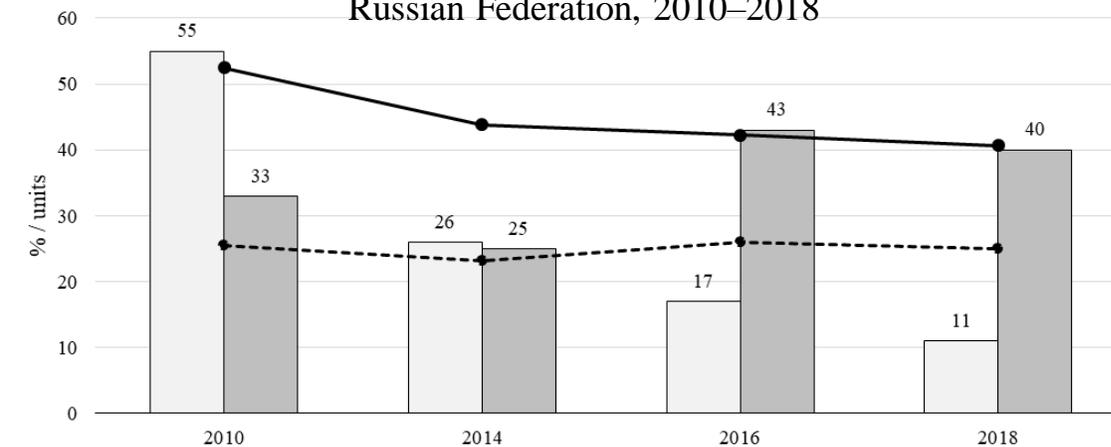
Decentralization of tax revenues in OECD countries and the Russian Federation

	The share of the budget level in tax revenues of the state, 2016 г.			The share of tax revenues, the rate and base of which was fully or partially regulated at the subnational level, 2014 г.	
	National	Regional	local	Regional	Local
OECD	84,8	17,4	10,8	77,6	81,0
OECD (FG)	74,8	17,4	7,9	77,6	84,2
OECD (UG)	88,2	-	11,8	-	77,7
Russia	55,9	38,5	5,6	50,8*	

Tax deductions that can be transferred to the local level from the level of the subject of the Russian Federation are indicated in art. 56 of the Budget Code of the Russian Federation:

- corporate income tax;
- personal income tax;
- tax on the extraction of common minerals;
- mineral extraction tax (with the exception of minerals in the form of hydrocarbons, natural diamonds and common minerals);
- tax on the extraction of minerals in the form of natural diamonds;
- fee for the use of objects of aquatic biological resources (excluding inland water bodies);
- a fee for the use of objects of aquatic biological resources (for inland water bodies);
- fee for the use of objects of the animal world;
- tax levied in connection with the application of the simplified taxation system, including the minimum tax;
- single agricultural tax (excluded in the current version of the article);
- state duty and others (including excise taxes)

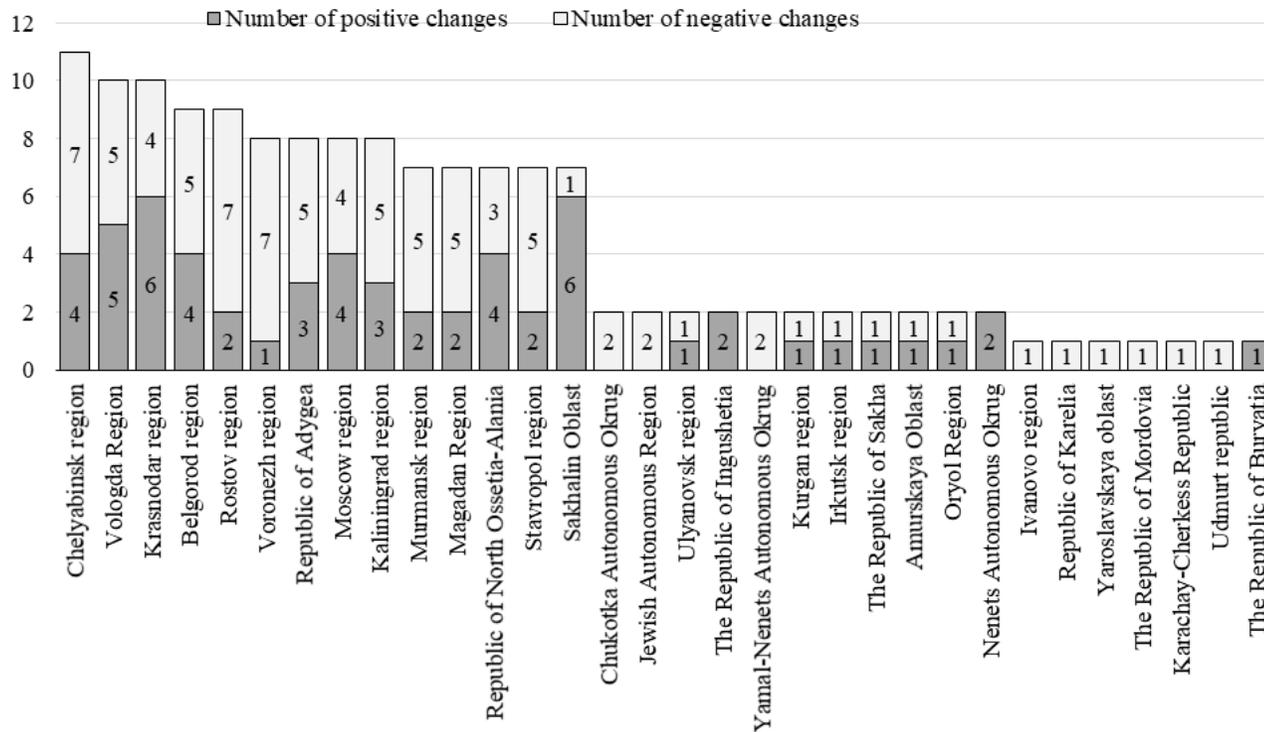
Autonomy indicators of the budgets of urban districts and municipal regions in the Russian Federation, 2010–2018



- The number of constituent entities of the Russian Federation in which the budgets of urban districts consist of more than 50% of their own income (unity)
- The number of constituent entities of the Russian Federation in which the budgets of municipal districts consist of more than 25% of their own revenues (units)
- The share of own revenues in the budgets of urban districts (%)
- - - The share of own revenues in the budgets of municipal districts (%)

Hardness budget constraint and entrepreneurship

Regions with the largest / smallest number of changes in the norms of tax deductions to the budgets of urban districts for the period 2010–2018



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Hardness budget constraint and entrepreneurship

Coefficients of correlation of the volatility index of the norms of deductions to urban districts and indicators of the development of entrepreneurial activity by subjects of the Russian Federation in 2018

Indicators of development of small and medium-sized businesses in the constituent entities of the Russian Federation	All subjects of the Russian Federation	With the exception of oil and heavily subsidized Russian Federation subjects
The number of small businesses per 1 thousand people employed in the economy of the constituent entities of the Russian Federation, units	-0,056	0,017
The ratio of the average number of workers in small enterprises to the number of employees in the economy of the constituent entities of the Russian Federation,%	-0,145	-0,056
The turnover of small businesses per capita of the constituent entities of the Russian Federation, rub. per person	-0,070	-0,042
Investments in fixed assets per capita of the constituent entities of the Russian Federation (for small businesses)	0,014	0,015
The ratio of the volume of investment in fixed capital for small businesses to the total volume of investment in fixed capital of the constituent entities of the Russian Federation,%	0,122	0,149
The turnover of medium-sized enterprises per capita of the constituent entities of the Russian Federation, rub. per person	-0,084	-0,269
Retail turnover per capita, rub. per person	-0,200	-0,184

Coefficients of correlation of the volatility index of the norms of deductions to urban districts with the dynamics of indicators of the development of entrepreneurial activity in the subjects of the Russian Federation in 2011–2018

Indicators of development of small and medium-sized businesses in the constituent entities of the Russian Federation	All subjects of the Russian Federation	With the exception of oil and heavily subsidized Russian Federation subjects
The number of small businesses per 1 thousand people employed in the economy of the constituent entities of the Russian Federation (2018 to 2011)	-0,002	0,096
Ratio of the average number of employees in small enterprises to the number of subjects of the Russian Federation employed in the economy,% (2018 to 2011)	-0,054	-0,145
The turnover of small businesses per capita of the constituent entities of the Russian Federation, rub. per person (2018 to 2011)	0,064	0,073
Investments in fixed assets per capita of the constituent entities of the Russian Federation (for small businesses) (2018 to 2011)	-0,155	-0,258
The ratio of the volume of investment in fixed capital by small businesses to the total volume of investment in fixed capital of the constituent entities of the Russian Federation,% (2018 to 2011)	-0,166	-0,190
The turnover of medium-sized enterprises per capita of the constituent entities of the Russian Federation, rub. per person (2018 to 2011)	0,021	-0,123

Hardness budget constraint and entrepreneurship

- Model (1), least squares method is used - OLS

$$\ln EA_i = \text{const} + \alpha_1 \ln Unempl_i + \alpha_2 \ln POPdensity_i + \alpha_3 \ln Citizens_i + \alpha_4 \ln ExtractIND_i + \alpha_5 \ln GRP_i + \alpha_6 \ln TestVariables_i \quad (1),$$

Description of Econometric Analysis Variables

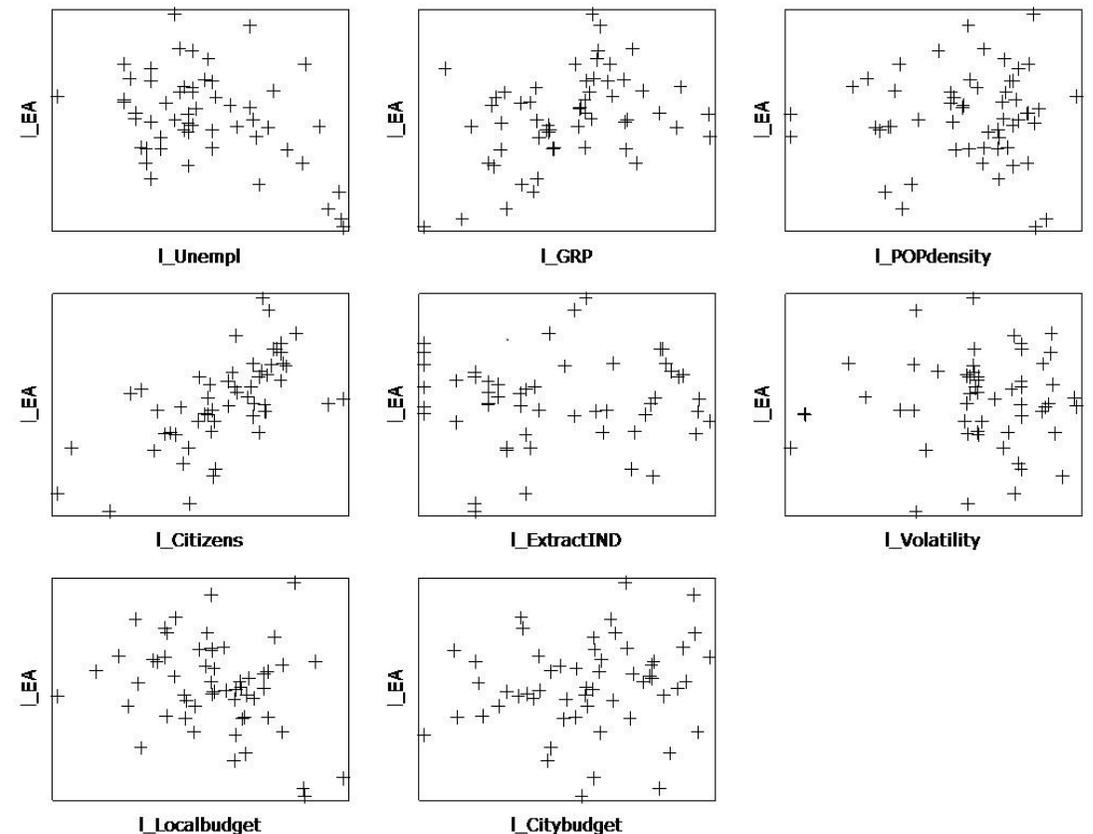
Factors	Variable	Indicator	Data source
Dependent variable			
Entrepreneurial activity	EA	The number of small (including micro) enterprises in the region per 1,000 economically active population (labor) of the constituent entities of the Russian Federation	Authors' calculations based on Rosstat data for 2018
Control variables			
The availability of human capital	Unempl	The unemployment rate according to the methodology of the International Labor Organization (ILO) on average for the year, %	Rosstat, 2018
Level of economic development	GRP	GRP (taking into account the inter-regional price index) to the population, rubles / person	Rosstat, 2017
Agglomeration effects	POPdensity	Population density, people per 1 km ²	Rosstat, 2018
	Citizens	The proportion of urban population in the total population, %	Rosstat, 2018
Features of the structure of the economy	ExtractIND	The share of mining in GRP, %	Rosstat, 2017
Test variables			
"Hardness" of budget constraints	Volatility	Volatility Index of deductions from regional and federal taxes in urban districts by constituent entities of the Russian Federation	Authors' assessment for the period 2010–2018 based on the requested data, also available in the legal entities of the Russian Federation
Importance of local budgets (level of decentralization)	Localbudget	Share in own revenues of the consolidated budgets of the constituent entities of the Russian Federation of own revenues of local budgets	Russian Treasury, 2018
Tax independence of cities (autonomy)	Citybudget	The share of own revenues in the budgets of urban districts of the subject of the Russian Federation	Russian Treasury, 2018

Hardness budget constraint and entrepreneurship

Correlation matrix for all constituent entities of the Russian Federation (lower left), as well as with the exception of oil and gas producing and highly subsidized constituent entities of the Russian Federation (upper right)

	EA	Unempl	GRP	POPdensity	Citizens	ExtractIND	Volatility	Localbudget	Citybudget
EA	1,000	-0,349	0,264	0,018	0,571	-0,026	0,031	-0,205	0,178
Unempl	-0,434	1,000	-0,271	-0,242	-0,355	0,121	-0,004	0,298	0,046
GRP	-0,092	-0,162	1,000	-0,190	0,478	0,717	0,052	-0,581	-0,009
POPdensity	-0,063	0,204	-0,235	1,000	-0,105	-0,345	0,000	0,325	0,074
Citizens	0,523	-0,517	0,280	-0,163	1,000	0,203	0,071	-0,359	0,097
ExtractIND	-0,136	-0,092	0,770	-0,380	0,307	1,000	0,057	-0,484	-0,092
Volatility	-0,062	0,040	-0,114	0,025	-0,011	0,002	1,000	-0,035	-0,235
Localbudget	-0,085	0,343	-0,603	0,235	-0,511	-0,614	0,053	1,000	0,211
Citybudget	0,164	0,184	0,174	0,187	0,091	-0,057	-0,305	-0,012	1,000

Scattering diagrams of the studied variables



Hardness budget constraint and entrepreneurship

The results of the assessment of factors of entrepreneurial activity in the constituent entities of the Russian Federation (n = 52)
(the least squares method is used - OLS)

Dependent variable l_EA	Model 1	Model 2	Model 3	Model 4
const	-3,200 (2,475)	-3,129 (2,552)	-2,645 (3,146)	-2,758 (3,153)
l_Unempl	-0,1865 (0,1709)	-0,1906 (0,1772)	-0,1845 (0,1804)	-0,1908 (0,1808)
l_GRP	0,1197 (0,1761)	0,1152 (0,1797)	0,09912 (0,1913)	0,07675 (0,1931)
l_POPdensity	0,03068 (0,03658)	0,02692 (0,03847)	0,02827 (0,03919)	0,02527 (0,03938)
l_Citizens	1,216*** (0,3023)	1,220*** (0,3167)	1,213*** (0,3210)	1,174*** (0,3242)
l_ExtractIND	-0,003625 (0,02892)	-0,004522 (0,02976)	-0,005489 (0,03029)	-0,008075 (0,03046)
Research factors				
l_Volatility	-	0,01364 (0,08621)	0,01161 (0,08744)	0,02452 (0,08866)
l_Localbudget	-	-	-0,08605 (0,3203)	-0,2013 (0,3438)
l_Citybudget	-	-	-	0,2546 (0,2735)
Model Quality Criteria				
R_{adj}^2	0,4031	0,3913	0,3785	0,3766
cr. Akaike	16,9238	19,5262	21,4410	22,4029

Main findings

- The hypothesis of the absence of “hard” budgetary constraints, demonstrated in the empirical part of this study using the example of deductions in urban districts, was confirmed by showing that the regional authorities of the Russian Federation are prone to instability;
- In particular, such instability in accordance with uniform standards has led to a decrease in the tax independence of urban districts in a number of constituent entities of the Russian Federation;
- In the context of the presented theories and the growth of global economic competition, such tendencies for a decrease in the role of cities can negatively affect the economic development of the whole country;
- In our empirical observations, significant and stable relationships between the development of entrepreneurial activity and the stability of the standards for tax deductions in urban districts were not revealed. This may be due to both the weak level of development of political institutions and the low tax independence of local budgets, whose share in the consolidated budget of the Russian Federation is almost two times lower than the average for OECD countries.

Recommendations

- to eliminate the lack of independence of municipalities in regulating the tax base, which, combined with “soft” budget constraints when providing inter-budget transfers and budget loans;
- to increase the share of budgets of municipalities, including with the possibility of implementing asymmetric decentralization approaches, according to which urban districts will be the most financially independent;
- to transfer tax payments to local budgets mainly on the basis of uniform standards, the stability of which should be guaranteed by the constituent entities of the Russian Federation for at least five years;
- to solve the complex problem of "rigidity" of budgetary restrictions and weak independence of the tax policy of municipalities in the long term.