

St. Petersburg State University  
Graduate School of Management

**WORKING PAPER**

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**FISCAL IMPULSE DURING THE 2008 CRISIS**

**# 7 (E)–2013**

Saint Petersburg

2013

*I. Baranov, P. C. Castro, D. Micic, G. B. Salgado.* Fiscal Impulse during the 2008 Crisis. Working Paper # 7 (E)–2013. Graduate School of Management, St. Petersburg State University: SPb, 2013.

**Keywords and phrases:** fiscal policy, procyclical, exports, financial crisis, GDP

**Abstract:** The design of optimal policy responses to global capital market turmoil has been the source of intensive debate. This debate has now assumed a different perspective after the world financial crisis of 2008. In the aftermath of the crisis, the adoption of activist “fiscal stimulus” in order to combat the risk of increasing recession and unemployment has been thoroughly advocated. This paper uses a simplified version of the empirical methodology developed by Ortiz, Ottonello, Sturzenegger and Talvi (2007) to discuss the fiscal policy measures adopted in the aftermath of the 2008 world financial crisis, and tries to find evidence of the adoption of expansionary fiscal policies right after the crisis. Then, it tries to find out what determines the capacity of countries to use fiscal impulse, by using both cross-sectional and panel data analysis.

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## 1. Introduction

The design of optimal policy responses during periods of global capital market turmoil has been the source of intensive debate, particularly after the Asian and Latin American financial crises. Should countries facing sudden stops tighten their fiscal and monetary policies, as often suggested (if not imposed) by the IMF or, on the contrary, should they relax those policies, in order to attenuate the output contraction that typically occur during these events?

This debate has now assumed a different perspective after the world financial crisis of 2008, which has followed the 2007 outburst of a US housing bubble. The aftermath of the crisis (in an environment characterized by interest rates close to the zero bound in the US, Eurozone and Japan) has seen the return of thorough advocacy of Keynesian policies. Many renowned economists (like Nobel Prize winners Paul Krugman and Joseph Stiglitz, among many others) have strongly advocated the adoption of activist “fiscal stimulus”, in order to combat the risk of increasing recession and unemployment. But did the countries affected by the crisis – in particular, developing and emerging countries – indeed adopt these policies?

The first goal of this paper is to use the empirical methodology developed by Ortiz, Ottonello, Sturzenegger and Talvi (2007) to discuss the fiscal policy measures adopted in the aftermath of the 2008 world financial crisis – in particular, by emerging and developing countries (EDC) - by adopting a similar (but much less sophisticated) version of the method developed and adopted in their research. We will try to find evidence of the adoption of countercyclical expansionary fiscal policies right after the crisis.

We begin by analyzing the fiscal impulse impact on the change in GDP

based on quarterly data and, therefore, peak and trough quarters defined for each of the countries individually. Since the sample of EDC with quarterly data available is relative small (25 countries), we proceed with an analysis based on annual data of 100 countries, including 70 EDC. Instead of peak and trough we use change in GDP over crisis as a dependent variable. We also investigate what was the impact of fiscal impulse on the gap between cyclically-adjusted trend-based GDP in 2009 and its actual value. Different indicators of economic performance of countries prior to the crisis are used as covariates.

Our second goal is to find out what determines the capacity of countries to use fiscal impulse. We use both cross-sectional and panel data analysis to explain the size of fiscal impulse in the crisis based on economic performance indicators of during the business cycle. In particular, we find a statistically and economically significant relationship between past budget behavior (following explicit or implicit fiscal rules, including counter-cyclical budget policy) and the size of the impulse.

## **2. Literature Review**

Emerging economies have been subject to abrupt reversals in capital inflows. Economic literature has shown that such reversals, known as "sudden stops" have had severely impact on domestic economies (Calvo, 1998). These reversals of flow in foreign financing force causes contractions of domestic expenditure and production, real exchange rate depreciations, and reductions in both asset prices and credit to the private sector (Arellano and Mendoza, 2002).

Talvi and Vegh (2005) pointed out that, based on a sample of 56 countries, fiscal policy of G7 countries appeared to be acyclically following Barro's

optimal smoothing rules, while fiscal policy in developing countries was procyclical. As they have shown, “procyclicality of fiscal policy does not originate in any international credit rationing during bad times.” On the contrary, it shows the inability of the government to generate large-enough surpluses during expansions. Therefore, in order to satisfy its solvency constraint, the government is forced to borrow less during recessions comparing to a full tax-smoothing rule.

Ortiz, Talvi, Otonello and Sturzenegger (2007)<sup>1</sup> studied a set of 18 external financial crisis. They found evidence that during these crises countries that have tighter monetary and fiscal policy have experienced larger output contractions. On the contrary, countries that followed a looser policy stance have experienced smaller output contractions. According to OOST, “countries that were able or willing to loosen monetary and fiscal policy during the crisis fared better than those that did not, but it doesn’t mean that countries that followed tighter policies would have done better if they followed this example.” Therefore, using loosen monetary and fiscal policy during an external financial crisis is beneficial, but this flexibility cannot be used under any circumstances.

Capistran, Cuadra and Ramos-Francia (2011) argue that “*better macroeconomic policy frameworks in a number of economies increased the level of credibility of the monetary and fiscal authorities. As a result, at the time the crisis hit these economies, policymakers enjoyed more degrees of freedom to stimulate the economy*”. In times of contraction and adverse shocks, fiscal policies can be countercyclical and trying to attenuate their effects, while central banks can either run monetary policy in the same direction or control inflation (if inflation is a problem).

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<sup>1</sup> From now on, we will refer to this article as OOST

Frankel (2010) suggests that not only fiscal policy should be used to achieve greater countercyclicality, but a combination of fiscal policy and monetary policy. He analyzed the Chile's structural budget rule as a model to be implemented.

### 3. Models

In order to assess the characteristics of the fiscal policies adopted by emerging and developing countries after the 2008 financial crisis, we must try, following OOST, to measure these fiscal policies in a way that is exogenous to their output dynamics.

As OOST point out, *“if we naively chose to characterize fiscal policy by the behavior of the observed fiscal deficits, we would have to conclude that most of those countries pursued expansionary fiscal policies (the standard recipe for a country facing severe contractionary pressures).”* However, as OOST have emphasized, this conclusion would be wrong. The fact that the observed fiscal deficit increases is not an indication of an expansionary expenditure policy. In fact it can be mostly an endogenous response of revenues as a result of the decline in output.

We define fiscal balance in period  $t$  as:

$$FB_t = R_t - G_t$$

where  $R_t$  and  $G_t$  are the fiscal revenues and fiscal expenditures in period  $t$ , expressed in percent GDP. Following OOST, we define the observed fiscal impulse  $I_t$  as:

$$I_t = FB_c - FB_t$$



where  $FB_C$  is the structural balance in the onset of the crisis (2008). A positive (negative) value of  $I_t$  indicates an expansionary (contractionary) fiscal policy.

However, to appropriately characterize the fiscal policies adopted after the 2008 financial crisis, we need to extract the effect of cyclical fluctuations on fiscal accounts. This should allow us to capture discretionary components of fiscal policy.

One such way is to compute the structural fiscal balance. This work adopts a simplified version of the approach developed in OOST. First, we estimated potential revenues by simply extrapolating the tendency observed in each country for the last two decades (more precisely, from 1994 to 2008 - a period with almost complete data, with few exceptions), with minimum squares estimation.

We define structural fiscal revenue as the level of revenue (as a percentage of GDP) that would have been achieved if the tendency of the 1994/2008 period would have been observed after the onset of the crisis. Then, the structural fiscal balance in period  $t$  is defined as:

$$SFB_t = R^*_t - G_t$$

where  $R^*_t$  is the revenue (as a percentage of GDP) that would have been collected in period  $t$  if the recent tendency was observed, and  $G_t$  is the actual government expenditure (as a percentage of GDP) on period  $t$ .

Once we obtain the structural fiscal balances, we can portray the fiscal policy for a country in period  $t$  by the structural fiscal impulse. It is defined as:

$$I_t = SFB_C - SFB_t$$

where  $SFB_C$  is the structural balance in 2008. Once the effect of cyclical fluctuations in commodity prices and output is removed, the structural fiscal impulse can be interpreted as the change in fiscal policy in period  $t$ . A value (positive or negative) of  $I_t$  indicates an expansionary (contractionary) fiscal policy in year  $t$ .

We then run a cross sectional regression over the 25 pairs of country data on fall on GDP after the crisis and fiscal impulse observed in the same period.

$$\Delta GDP_i = \beta_0 + \beta_1 FI_i + \varepsilon_i$$

We proceed with a different analysis, based on annual data of 100 countries, including 70 EDC.

### ***Dependent variable***

We use annual data to confirm our outcomes on revealing the effect of the fiscal impulse on the GDP on a sample of 100 countries. In order to capture this effect, we do analysis for two different dependent variables – changes in actual and in cyclically-adjusted GDP.

We did not look for individual trough point for each of the countries in the sample because many economies actually continued to grow after the crisis began in 2008, even compared to the projected (trend-based) growth. Consequently, we use latest available data (year 2010) as a year of comparison with the pre-crisis year 2007. Picking year 2010 allows us to analyze the full effect of the crisis. Whereas many economies experienced a trough year before, it might be partly caused by short-term reasons (e.g. decline of consumption and/or production in trading partners). The effects of good budget policy are of longer-term nature and could facilitate economic recovery. For instance, reasonable

budget policy in years preceding the crisis allowed many countries to inject government spending into the economy at the end of 2008 and over 2009. Since “... the long lags between decisions to raise spending or cut taxes and the subsequent fiscal flows often meant that the stimulus occurred after the trough in the activity” (Feldstein, 2010), we believe that 2010 is a better point for measuring effects of budget behavior based on annual data.

We calculate actual change in GDP over three years of the crisis (2008-2010) relative to the pre-crisis year 2007 (in constant prices):

$$\text{Actual GDP change } (\Delta\text{ActGDP}): (\text{GDP in 2010} - \text{GDP in 2007}) / \text{GDP in 2007}$$

Then we compare our results with a change in cyclically-adjusted GDP by finding a trend in GDP change from 1992 to 2007 and projecting it for the year 2009. Here we use year 2009 since projections based on the 1992-2007 data can hardly be reliable for year 2010. Besides, cyclically-adjusted GDP makes more sense to compare with the actual one in the year of trough to estimate the effect of the crisis on GDP. Thus, we find a difference between the projected GDP and actual GDP in constant prices in 2009 relative to GDP in 2007 (all GDP information is in constant prices):

$$\text{Cyclically-adjusted GDP gap } (\Delta\text{CycGDP}): (\text{Projected} - \text{Actual GDP in 2009}) / \text{GDP in 2007}$$

### ***Independent variables***

Fiscal impulse 2009 to 2007 (FI), which is defined as a negative difference between structural balance in 2009 (SB09) and structural balance in 2007 (SB07):

$$\text{FI}_i = -(\text{SB09}_i - \text{SB07}_i).$$

We control for the following covariates:

- Cumulative budget balances in 2002-2006 in percentage to GDP in 2006 (BB);
- Average change in export during 2002-007 (EXPORT);
- Average current account balance in 2002-2007 (CA). Effectively, there's no correlation between Average current account balances and Average change in export (correlation coefficient is -0.07), so we can use both indicators as covariates;
- Average inflation in 2002-2007 (INF);
- Net debt in 2007 (DEBT);
- Dummy for Advanced Economies / Developing or Emerging Market Economies (AE);
- Dummy for resource-exporting countries (RE);
- Dummy for oil-exporting countries (OE).

We estimate two models with different dependent variables:

$$\Delta \text{ActGDP}_i = \beta_0 + \beta_1 \text{FI}_i + \beta_2 \text{BB}_i + \beta_3 \text{EXPORT}_i + \beta_4 \text{CA}_i + \beta_5 \text{INF}_i + \beta_6 \text{DEBT}_i + \beta_7 \text{AE}_i + \beta_8 \text{RE}_i + \beta_9 \text{OE}_i + \varepsilon_i$$

$$\Delta \text{CycGDP}_i = \beta_0 + \beta_1 \text{FI}_i + \beta_2 \text{BB}_i + \beta_3 \text{EXPORT}_i + \beta_4 \text{CA}_i + \beta_5 \text{INF}_i + \beta_6 \text{DEBT}_i + \beta_7 \text{AE}_i + \beta_8 \text{RE}_i + \beta_9 \text{OE}_i + \varepsilon_i$$

We can also use annual data for insights about the determinants of the structural balances in 2007 (SB07) and 2009 (SB09):

$$\text{SB09}_i = \beta_0 + \beta_1 \text{SB09}_i + \beta_2 \text{BB}_i + \beta_3 \text{EXPORT}_i + \beta_4 \text{CA}_i + \beta_5 \text{DEBT}_i + \beta_6 \text{AE}_i + \beta_7 \text{RE}_i + \beta_8 \text{OE}_i + \varepsilon_i$$

$$\text{SB07}_i = \beta_0 + \beta_1 \text{BB}_i + \beta_2 \text{EXPORT}_i + \beta_3 \text{CA}_i + \beta_4 \text{DEBT}_i + \beta_5 \text{AE}_i + \beta_6 \text{RE}_i + \beta_7 \text{OE}_i + \varepsilon_i$$

## 4. Data

For the analysis of fiscal impulses and drop in GDP, we use official data of the International Financial Statistics by the IMF. Unfortunately, quarterly data are only available for a limited number of countries. Since our research is concentrated on emerging and developing countries (EDC), we are left with 25 countries for which quarterly information is present.

Annual data are taken from the same source. Our sample includes 100 countries, 30 of them are classified as advanced economies according to the IMF definition, 27 countries as resource exporters, and 15 as oil exporters. We consider the pre-crisis year 2007 and a period of the 5 years before.

Panel data are presented for the same sample of countries, but for a longer time period. Again, there's a lack of data prior 1992 for a majority of countries, so we use this year as a starting point (for few countries data are available from 1993 or 1995). Summary statistics for data is presented in Table 1.

## 5. Discussion

### *5.1. Explaining the dynamics of GDP in the crisis: the role of the fiscal impulse*

#### *5.1.1. Analysis based on quarterly data*

We used a sample of 25 developing and emerging market countries, which were chosen simply by taking into consideration the availability of sufficient information about quarterly GDP and governmental revenues and expenditures. The observed fiscal impulses after the 2008 crisis are illustrated in Figure 1, which depicts the change in the fiscal deficit from the onset of the world crisis (defined as the third quarter of 2008) to the year when the lowest quarterly GDP after that moment was observed.

The observed values showed that the fiscal impulse was expansionary in approximately 92 percent of the countries in our sample during period that followed the crisis.

Figure 2 shows the behavior of fiscal policies after the crisis, as measured by the structural fiscal impulse from the onset of the crisis to the output trough of each country.

Contrary to what was shown in Figure 1, our structural fiscal impulse measure shows that about 24 percent of the countries in our sample followed a contractionary fiscal policy through the observed period. It is this relatively exogenous measure of fiscal policy that we compare with output performance.

We have then computed the impact of fiscal policies during the period that goes from the third quarter of 2008 to the end of 2011, by running a regression between output performance and fiscal impulse. We first computed as the dependent variable the output performance after the crisis, which is portrayed by the peak to trough variations. We then relate our measures of fiscal policy to the output performance by performing a simple OLS regression.

Our results show that larger output contractions are associated with expansionary fiscal policies after the crisis, as we can infer from the negative value of the coefficient of  $I_t$ . Figure 3 shows the cross plots between fiscal impulse and differences in output for the 25 countries.

This result suggests that, in the aftermath of the crisis, the countries in our sample reacted to the fall in output, as measured by (constant value, seasonably adjusted) quarterly GDP, with a decrease in their structural surpluses. The coefficient is significant at the 95% level, as shown in Table 2. We reject the hypothesis that the coefficient of fiscal impulse is equal to zero at the 1 percent level of significance.

The model is not successful in explaining output contractions in terms of the adjusted R<sup>2</sup> of 0.34. This is due, of course, to the absence of other predictably important explanatory variables, like a measure of monetary policy, as adopted by OOST.

### *5.1.2. Analysis based on annual data*

We ran regressions with different specifications of the models (different sets of independent variables). In Table 3 we report the specification best fitted for explaining variations in dependent variables (those that result in the highest adjusted R-square). Fiscal impulse variable is significant in explaining the dynamics of actual GDP at 99% level for the whole sample and at 90% for emerging and developing countries only. The reported coefficients can be interpreted as structural fiscal multipliers: an increase in fiscal impulse by 1% leads, on average in the sampled countries, to the growth of GDP by 0.91% (0.87% for EDC), other things equal. The size of the multiplier is, therefore, below 1.0, a value comparable with actual national fiscal multipliers calculated recently<sup>2</sup>.

Budget balances, average change in export and average current account balance all have a positive and statistically significant relationship with the actual GDP dynamics: the higher had been these indicators before the crisis, the better, on average, was a country's performance in crisis. Net debt coefficient also has positive sign: countries that were able to borrow before the crisis could, probably, recover faster. Finally, we see that the recent crisis was mostly related to the developed world (negative indicator variable for advanced economies).

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<sup>2</sup> Economists are far from consensus about the size of fiscal multiplier in the developed economies, but majority of them argued for values around or below 1.0 in the recent discussion of the issue.

Overall, this model explains 57.4% of variation in actual GDP change, leaving the rest to other factors, such as monetary policy during the crisis, GDP dynamics in trading partners, etc. Note that average inflation in 2002-2007 is insignificant in any regression specification, whereas resource-exporting or oil-exporting statuses are insignificant in most specifications. We can also see that fiscal impulse matters less for EDC (both in terms of statistical significance and the percentage of actual GDP variation explained), for an obvious reasons: only 27 out of 70 EDC in our sample experienced decline in GDP in the crisis (compared to 29 out of 30 advanced economies), and in most of them had very limited fiscal stimulus programs.

Coefficients in the regression with cyclically-adjusted GDP gap as a dependent variable have predictable signs. Fiscal impulse leads to the narrowing the gap between projected (trend-based) and actual GDP (impulse of 1% GDP squeezes the gap by 0.66%), but matters mostly for advanced economies. Better economic performance in the years prior to the crisis also leads to a smaller gap between cyclically-adjusted and actual GDP in the year of global GDP trough.

## ***5.2. Fiscal Impulse in the Crisis and Preceding Budget Performance***

As we demonstrated above, fiscal impulse mattered for GDP dynamics in the crisis. But what determines the capacity of national governments to implement stimulus plans?

### ***5.2.1. Cross-sectional analysis***

We start our analysis by considering two components of fiscal impulse, namely structural balances in 2009 and 2007.

The most economically significant predictors of SB in 2009 are budget behavior in the pre-crisis year (SB in 2007) and advanced economy status (see



Table 4). The latter variable has a negative sign, confirming once again our conclusion about the Great Recession as predominately the developed world crisis. Belonging to the club of advanced nations leads, on average, to lower SB in 2009 by 3.79%. Lower SB can be a result of downward in trend in structural revenue, but we believe this is rather a reflection of a growing government expenditure on stimulus plans.

Negative sign of budget balances indicates that higher balances in the pre-crisis years may provide better opportunity for government spending growth in crisis time, and, therefore, a squeeze in SB. The sign of the export variable may be interpreted in a similar way. We should also note similarity between advanced economies and EDC in direction relationships (sign) and their relative importance (value of coefficients).

Determinants of the structural balance in 2007 might have a different interpretation. For instance, a positive sign for budget balances can be explained by a simple suggestion that in boom period good budget performance (control over expenditure) along with higher structural revenue lead to higher SB.

Finally, the variation in fiscal impulse can be explained by budget balances in 2002-2006 and average change in export in 2002-2007, with all other variables are insignificant. Higher budget balances in prior years lead to greater capacity of governments to use the impulse. Higher average change in export may put a pressure on governments to maintain export by providing support through stimulus programs, a well-documented phenomenon in China, Russia and some other countries.

### *5.2.2. Panel data analysis*

As we found in the previous paragraph, capacity of governments to use fiscal impulse explains primarily by budget balances in years previous to the crisis. We argued that positive budget balance is an indicator of following, explicitly or implicitly, a fiscal rule (or rules). Panel data analysis allows us to identify determinants of budget balances, while controlling for fixed effects for each country. Revealing these factors helps to analyze specific rules used in different countries (their classification is provided in Section 2) as well as estimate their potential impact on budget balances (e.g. to what extent export-related rules might be effective in producing a positive balance?).

GDP growth may lead to higher revenues and calls for higher expenditure, but if a country follows counter-cyclical policy (fiscal rules), government may suppress growth in expenditure and produce a higher budget balance. Note that this variable is insignificant for EDC – a signal that countercyclical policy might not work in these countries on average. This observation is consistent with the IMF report on implementation of fiscal rules around the world. Our conclusion can be confirmed by a sign and value of unemployment variable coefficient. Negative sign means counter-cyclical policy (a decrease in budget balance with an increase in unemployment), but again, this coefficient is 3 times smaller and less significant for emerging and developing countries.

## 6. Conclusion

Based on cross-sectional analysis of seasonally-adjusted quarterly data and annual information, we found that, in the aftermath of the crisis, emerging and developing countries reacted to the fall in output with a decrease in their structural surpluses, as to say, fiscal policy was indeed adopted. When analyzing annual data we also included in our models some covariates that reflect the economic and budgetary performance of the countries in our sample, and we found that effects of fiscal impulse on GDP were less significant for emerging and developing economies, probably reflecting the nature of the crisis that hit advanced economies more badly.

We also found that the capacity of governments to use fiscal impulse in the crisis depended on the budgetary performance prior to the crisis. For advanced economies we found evidence of counter-cyclical fiscal policy. This effect is much less observable in emerging and developing countries.

The substantial limitation of our analysis is that we considered only effects of budgetary policy on GDP and didn't include variables reflecting monetary policy or other potential covariates of changes in GDP. Therefore, the values of the regression coefficients must be interpreted with care, but their signs are as expected and reflect the traditional expansionary view of the effects of fiscal stimulus.

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## Appendix I. Tables

### Summary Statistics

Variable	Number of observations	Mean	Standard Deviation	Minimum	Maximum
<b>Quarterly Data</b>					
Fall in GDP	25	0.05	0.05	-0.19	0.00
Fiscal Impulse	25	1.57	2.75	-3.09	8.49
<b>Annual Data</b>					
Actual GDP change	100	8.21	10.62	-15.53	53.64
Cyclically-adjusted GDP gap	100	-3.71	10.20	-42.77	17.81
Budget balances in 2002-2006	100	-1.05	24.10	-36.58	121.81
Average change in export in 2002-2007	99	6.80	6.27	-11.41	27.54
Average current account balance in 2002-2007	100	.46	9.71	-16.79	45.32
Net debt in 2007	59	25.53	44.14	-138.85	139.33
Fiscal impulse 2009 to 2007	100	-3.08	4.40	-26.97	7.82
<b>Panel Data</b>					
GDPGrowth	1886	3.92	6.07	-30.9	149.97
Import	1852	6.92	15.60	-82.83	129.99
Export	1853	7.10	24.07	-89.71	632.38
OilExport	1736	7.37	20.93	0	281.41
Unemploy	1312	7.98	4.72	.1	29.5
NetDebt	944	37.60	46.07	-165.27	218.13
CAbalance	1892	-.92	10.28	-124.56	50.15
BB	1816	-1.60	6.20	-49.58	43.3

### GDP Dynamics After Third Quarter of 2008 and Fiscal Impulse

Variable	$\Delta$ GDP
	$\ln(\text{minGDPafter3Q2008}) - \ln(\text{GDP3Q2008})$
Fiscal impulse	-.0111244 (-3.65)
Adjusted R <sup>2</sup>	0.3393

## The Factors of GDP Dynamics after 2007

Variable	(1) Actual GDP change in 2008-2010		(2) Cyclically-adjusted GDP gap in 2009	
	(GDP in 2010 – GDP in 2007) / GDP in 2007		(Projected – Actual GDP in 2009) / GDP in 2007	
	All countries	EDC	All countries	EDC
Fiscal impulse	.910*** (3.22)	.870* (1.94)	-.666** (-2.56)	-.643 (-1.58)
Budget balances, 2002-2006	.267*** (3.36)	.283** (2.42)	-.252*** (-3.43)	-.271** (-2.55)
Average change in export, in 2002-2007	.383** (2.11)	.492* (1.87)	-.514*** (-3.43)	-.646** (-2.71)
Average current account balance, 2002-2007	.383*** (2.77)	.421* (1.84)	-.267** (-2.10)	-.254 (-1.23)
Net debt, 2007	.096*** (2.85)	.127* (2.03)	-.093*** (-2.97)	-.109* (-1.93)
Dummy for advanced economies	-10.121*** (-4.46)	-	11.925*** (5.71)	-
Adjusted R <sup>2</sup>	.574	.230	.622	.250

\*\*\* - variable is significant at 99% level,

\*\* - variable is significant at 95% level,

\* - variable is significant at 90% level t-statistic is reported in the parentheses

## Fiscal Impulse and Structural Fiscal Balance

Variable	Structural balance, 2009		Structural balance, 2007		Fiscal impulse, 2009 to 2007	
	All countries	EDC	All countries	EDC	All countries	EDC
Structural balance, 2007	.996*** (11.00)	.978*** (9.38)	-		-	-
Budget balances, 2002-2006	-.092*** (-3.24)	- .099*** (-2.92)	.176*** (5.07)	.176*** (3.99)	.093*** (6.55)	.105*** (6.51)
Average change in export, in 2002-2007	-.150*** (-2.70)	-.152** (-2.41)	-.136 (-1.50)	-.215* (-1.70)	.150*** (2.74)	.150** (2.44)
Average current account balance, 2002-2007	-	-	.127* (1.71)	.119 (1.00)	-	-
Net debt, 2007	-	-	-.008 (-0.48)	-.023 (-0.74)	-	-
Dummy for advanced economies	-3.790*** (-5.01)	-	1.676 (1.46)		3.794 (5.10)	-
Dummy for resource-exporting economies	-	-	2.642* (1.86)	2.275 (1.18)	-	-
Adjusted R <sup>2</sup>	.761	.769	.658	.626	.412	.400

\*\*\* - variable is significant at 99% level,

\*\* - variable is significant at 95% level,

\* - variable is significant at 90% level t-statistic is reported in the parentheses.

## Determinants of Budget Balances

Variable	Budget Balance, 1992-2010	
	All countries	EDC
GDP growth	.095** (2.09)	-.010 (-0.18)
Import	.096*** (8.38)	.099*** (7.30)
Export	-.085*** (-12.14)	-.079*** (-9.86)
Oil export	.021** (2.23)	.038*** (3.22)
Unemployment	-.381*** (-6.58)	-.136* (-1.74)
Current account balance	.383*** (13.15)	.414*** (11.55)
R <sup>2</sup>		
Within	0.336	.397
Between	0.309	.314
Overall	0.295	.312

\*\*\* - variable is significant at 99% level,

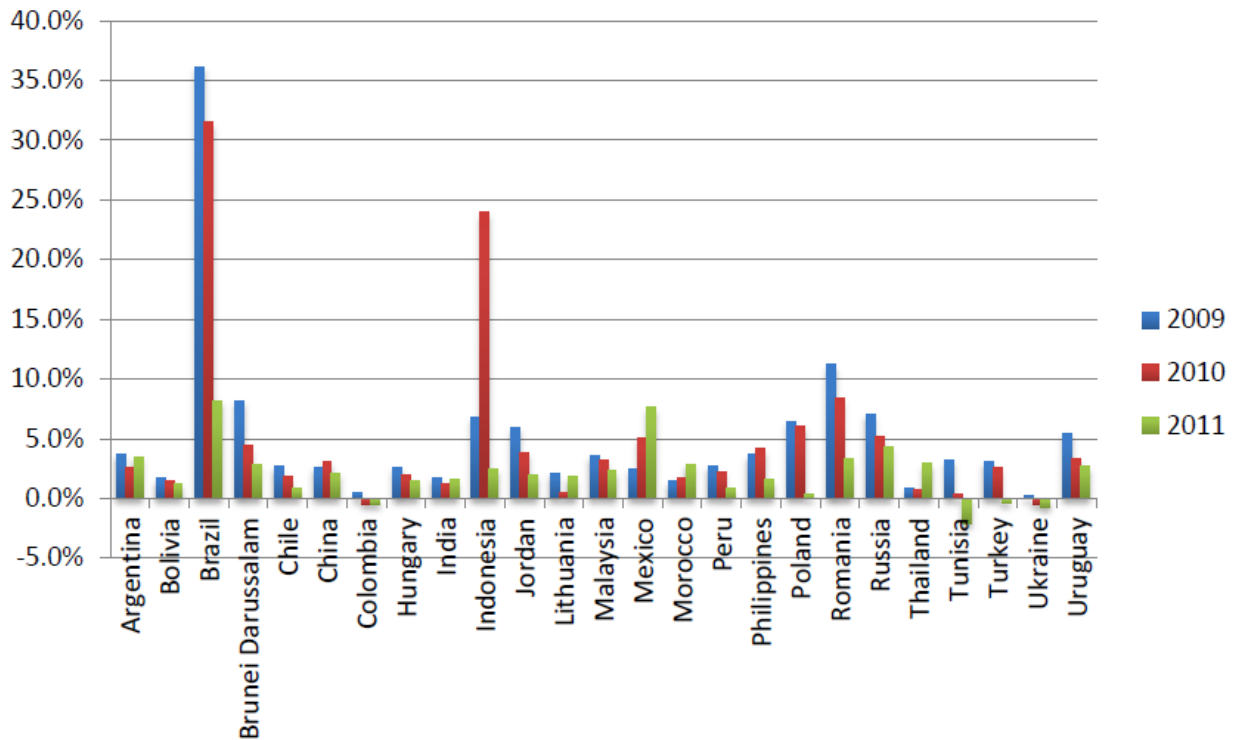
\*\* - variable is significant at 95% level,

\* - variable is significant at 90% level t-statistic is reported in the parentheses.

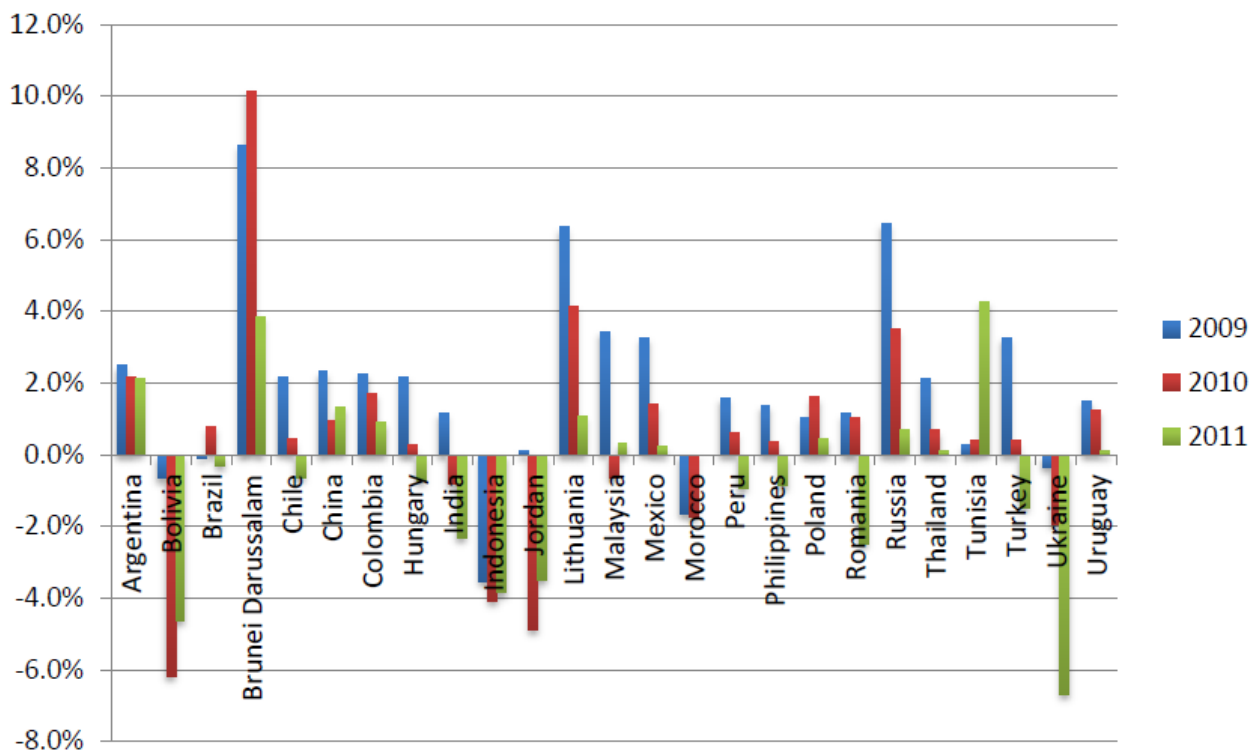


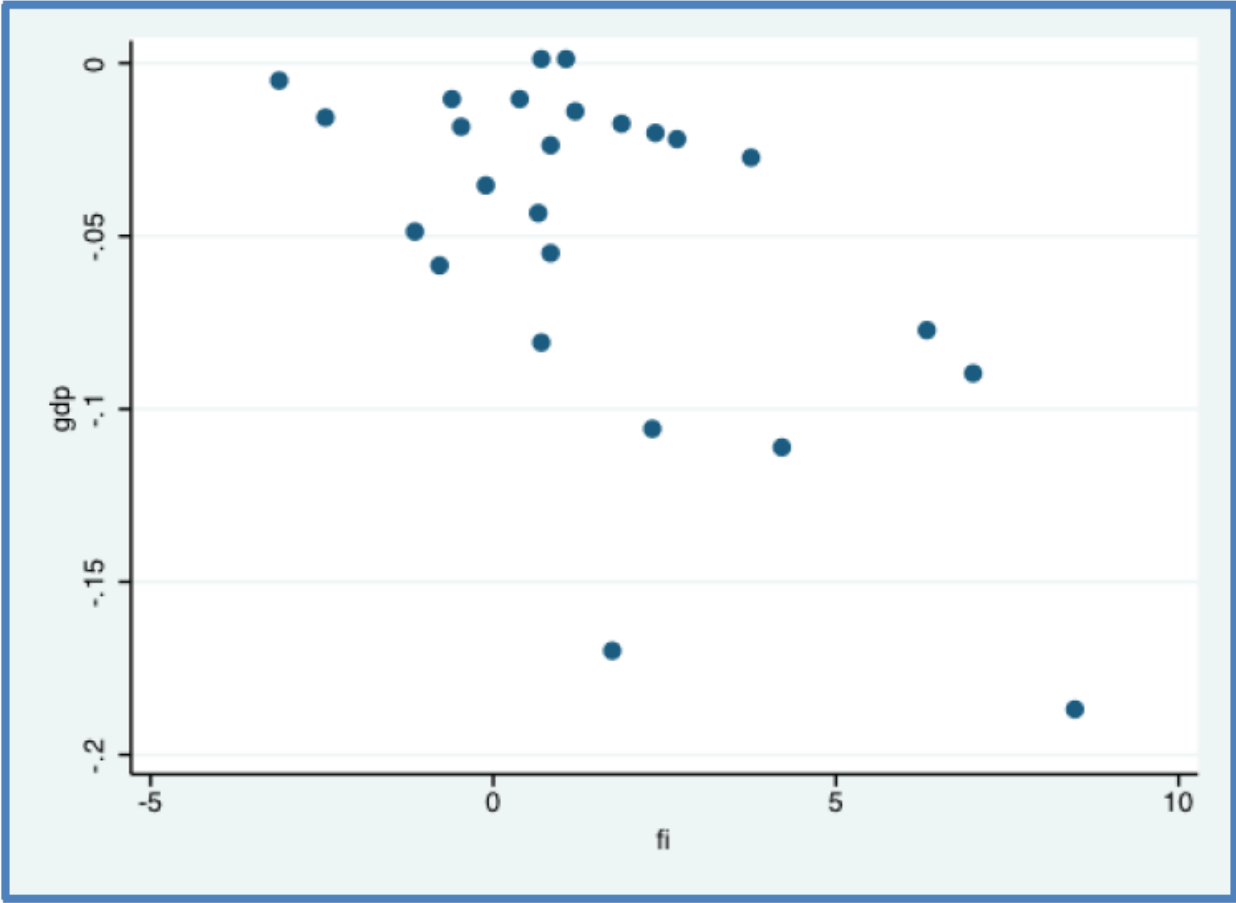
<b>Country</b>	<b>Δ in GDP (Trough)</b>
Argentina	-9,60%
Bolivia	-8,68%
Brazil	-10,33%
Brunei	-12,37%
Chile	-1,39%
China	-9,20%
Colombia	-0,88%
Hungary	-18,95%
India	-2,69%
Indonesia	-3,64%
Jordan	-8,68%
Lithuania	-30,98%
Malaysia	-11,68%
Mexico	-11,10%
Morocco	-0,49%
Peru	-4,43%
Philippines	-4,02%
Poland	-3,41%
Romania	-50,66%
Russia	-24,89%
Thailand	-5,45%
Tunisia	-0,01%
Turkey	-29,55%
Ukraine	-44,72%
Uruguay	-3,52%

### Nominal Fiscal Impulse



### Structural Fiscal Impulse





## Опубликованные научные доклады

№ 1 (R)–2005	А. В. Бухвалов Д. Л. Волков	Фундаментальная ценность собственного капитала: использование в управлении компанией
№ 2 (R)–2005	В. М. Полтерович О. Ю. Старков	Создание массовой ипотеки в России: проблема трансплантации
# 1 (E)–2006	I. S. Merkuryeva	The Structure and Determinants of Informal Employment in Russia: Evidence From NOBUS Data
№ 2 (R)–2006	Т. Е. Андреева В. А. Чайка	Динамические способности фирмы: что необходимо, чтобы они были динамическими?
№ 3 (R)–2006	Д. Л. Волков И. В. Березинец	Управление ценностью: анализ основанных на бухгалтерских показателях моделей оценки
№ 4 (R)–2006	С. А. Вавилов К. Ю. Ермоленко	Управление инвестиционным портфелем на финансовых рынках в рамках подхода, альтернативного стратегии самофинансирования
№ 5 (R)–2006	Г. В. Широкова	Стратегии российских компаний на разных стадиях жизненного цикла: попытка эмпирического анализа
№ 6 (R)–2006	Д. В. Овсянко В. А. Чайка	Особенности организации процесса непрерывного улучшения качества в российских компаниях и его связь с процессами стратегического поведения
№ 7 (R)–2006	А. Н. Козырев	Экономика интеллектуального капитала
№ 8 (R)–2006	Н. А. Зенкевич, Л. А. Петросян	Проблема временной состоятельности кооперативных решений
№ 9 (R)–2006	Е. А. Дорофеев, О. А. Лапшина	Облигации с переменным купоном: принципы ценообразования
# 10 (E)–2006	Т. Е. Andreeva V. A. Chaika	Dynamic Capabilities: what they need to be dynamic?
№ 11 (E)–2006	G. V. Shirokova	Strategies of Russian Companies at Different Stages of Organizational Life Cycle: an Attempt of Empirical Analysis
№ 12 (R)–2006	А. Е. Лукьянова, Т. Г. Тумарова	Хеджевые фонды как инструменты снижения рисков и роста ценности компании
№ 13 (R)–2006	Л. Н. Богомолова	Применение этнографических методов для изучения процессов принятия потребительских решений

№ 14 (R)–2006	Е. К. Завьялова	Особенности профессионально-личностного потенциала и развития карьеры линейных менеджеров отечественных производственных предприятий
№ 15 (R)–2006	С. В. Кошелева	Удовлетворенность трудом как комплексный диагностический показатель организационных проблем в управлении персоналом
№ 16 (R)–2006	А. А. Румянцев, Ю. В. Федотов	Экономико-статистический анализ результатов инновационной деятельности в промышленности Санкт-Петербурга
№ 17 (R)–2006	Е. К. Завьялова	Взаимосвязь организационной культуры и систем мотивации и стимулирования персонала
№ 18 (R)–2006	А. Д. Чанько	Алгебра и гармония HR-менеджмента. Эффективность обучения персонала и диагностика организационной культуры
№ 19 (E)–2006	T. E. Andreeva	Organizational change in Russian companies: findings from research project
# 20 (E)–2006	N. E. Zenkevich, L. A. Petrosjan	Time-consistency of Cooperative Solutions
№ 21 (R)–2006	Т. Е. Андреева	Организационные изменения в российских компаниях: результаты эмпирического исследования
№ 22 (R)–2006	Д. Л. Волков, Т. А. Гаранина	Оценивание интеллектуального капитала российских компаний
№ 23 (R)–2006	А. В. Бухвалов, Ю. Б. Ильина, О. В. Бандалюк	Электронное корпоративное управление и проблемы раскрытия информации: сравнительное пилотное исследование
№ 24 (R)–2006	С. В. Кошелева	Особенности командно-ролевого взаимодействия менеджеров среднего и высшего звена международной и российских компаний
№ 25 (R)–2006	Ю. В. Федотов, Н. В. Хованов	Методы построения сводных оценок эффективности деятельности сложных производственных систем
# 26 (E)–2006	S. Kouchtch, M. Smirnova, K. Krotov, A. Starkov	Managing Relationships in Russian Companies: Results of an Empirical Study
№ 27 (R)–2006	А. Н. Андреева	Портфельный подход к управлению люксовыми брендами в фэшн-бизнесе: базовые концепции, ретроспектива и возможные сценарии

№ 28 (R)–2006	Н. В. Хованов, Ю. В. Федотов	Модели учета неопределенности при построении сводных показателей эффективности деятельности сложных производственных систем
№ 29 (R)–2006	Е. В. Соколова, Ю. В. Федотов, Н. В. Хованов.	Построение сводной оценки эффективности комплексов мероприятий по повышению надежности функционирования объектов электроэнергетики
# 30 (E)–2006	M. Smirnova	Managing Buyer-Seller Relationships in Industrial Markets: A Value Creation Perspective
№ 31 (R)–2006	С. П. Куш, М. М. Смирнова	Управление взаимоотношениями в российских компаниях: разработка концептуальной модели исследования
№ 32 (R)–2006	М. О. Латуха, В. А. Чайка, А. И. Шаталов	Влияние «жестких» и «мягких» факторов на успешность внедрения системы менеджмента качества: опыт российских компаний
№ 33 (R)–2006	А. К. Казанцев, Л. С. Серова, Е. Г. Серова, Е. А. Руденко	Индикаторы мониторинга информационно-технологических ресурсов регионов России
№ 34 (R)–2006	Т. Е. Андреева, Е. Е. Юртайкин, Т. А. Солтицкая	Практики развития персонала как инструмент привлечения, мотивации и удержания интеллектуальных работников
# 35 (E)–2006	T. Andreeva, E. Yurtaikin, T. Soltitskaya	Human resources development practices as a key tool to attract, motivate and retain knowledge workers
№ 36 (R)–2006	А. В. Бухвалов, В. Л. Окулов.	Классические модели ценообразования на капитальные активы и российский финансовый рынок. Часть 1. Эмпирическая проверка модели CAPM. Часть 2. Возможность применения вариантов модели CAPM
№ 37 (R)–2006	Е. Л. Шекова	Развитие корпоративной социальной ответственности в России: позиция бизнеса (на примере благотворительной деятельности компаний Северо-Западного региона)
№ 38 (R)–2006	Н. А. Зенкевич, Л. А. Петросян	Дифференциальные игры в менеджменте

№ 39 (R)–2006	В. Г. Беляков, О. Р. Верховская, В. К. Дерманов, М. Н. Румянцева	Глобальный мониторинг предпринимательской активности Россия: итоги 2006 года
№ 40 (R)–2006	В. А. Чайка, А. В. Куликов	Динамические способности компании: введение в проблему
№ 41 (R)–2006	Ю. Е. Благов	Институционализация менеджмента заинтересованных сторон в российских компаниях: проблемы и перспективы использования модели «Арктурус»
№ 42 (R)–2006	И. С. Меркурьева, Е. Н. Парамонова, Ю. М. Битина, В. Л. Гильченко	Экономический анализ на основе связанных данных по занятым и работодателям: методология сбора и использования данных
# 43 (E)–2006	I. Merkurueva, E. Paramonova, J. Bitina, V. Gilchenok	Economic Analysis Based on Matched Employer-Employee Data: Methodology of Data Collection and Research
№ 44 (R)–2006	Н. П. Дроздова	Российская «артельность» — мифологема или реальность' (Артельные формы хозяйства в России в XIX — начале XX в.: историко-институциональный анализ)
№ 1 (R)–2007	Е. В. Соколова	Бенчмаркинг в инфраструктурных отраслях: анализ методологии и практики применения (на примере электроэнергетики)
№ 2 (R)–2007	С. П. Кущ, М. М. Смирнова	Управление поставками в российских компаниях: стратегия или тактика
№ 3 (R)–2007	Т. М. Скляр	Проблема ленивой монополии в российском здравоохранении
№ 4 (R)–2007	Т. Е. Андреева	Индивидуальные предпочтения работников к созданию и обмену знаниями: первые результаты исследования
№ 5 (R)–2007	А. А. Голубева	Оценка порталов органов государственного управления на основе концепции общественной ценности
№ 6 (R)–2007	С. П. Кущ, М. М. Смирнова	Механизм координации процессов управления взаимоотношениями компании с партнерами
# 7 (E)–2007	D. Volkov, I. Berezinets	Accounting-based valuations and market prices of equity: case of Russian market

№ 8 (R)–2007	М. Н. Барышников	Баланс интересов в структуре собственности и управления российской фирмы в XIX – начале XX века
# 9 (E)–2007	D. Volkov, T. Garanina	Intellectual capital valuation: case of Russian companies
№ 10 (R)–2007	К. В. Кротов	Управление цепями поставок: изучение концепции в контексте теории стратегического управления и маркетинга.
№ 11 (R)–2007	Г. В. Широкова, А. И. Шаталов	Характеристики компаний на ранних стадиях жизненного цикла: анализ факторов, влияющих на показатели результативности их деятельности
№ 12 (R)–2007	А. Е. Иванов	Размещение государственного заказа как задача разработки и принятия управленческого решения
№ 13 (R)-2007	О. М. Удовиченко	Понятие, классификация, измерение и оценка нематериальных активов (объектов) компании: подходы к проблеме
№ 14 (R)–2007	Г. В. Широкова, Д. М. Кнатько	Влияние основателя на развитие организации: сравнительный анализ компаний управляемых основателями и наемными менеджерами
# 15 (E)–2007	G. Shirokova, A. Shatalov	Characteristics of companies at the early stages of the lifecycle: analysis of factors influencing new venture performance in Russia
# 16 (E)–2007	N. Drozdova	Russian “Artel’nost” — Myth or Reality? Artel’ as an Organizational Form in the XIX — Early XX Century Russian Economy: Comparative and Historical Institutional Analysis
# 1 (E)–2008	S. Commander, J. Svejnar, K. Tinn	Explaining the Performance of Firms and Countries: What Does the Business Environment Play'
№ 1 (R)–2008	Г. В. Широкова, В. А. Сарычева, Е. Ю. Благоев, А. В. Куликов	Внутрифирменное предпринимательство: подходы к изучению вопроса
№ 1A(R)–2008	Г. В. Широкова, А. И. Шаталов, Д. М. Кнатько	Факторы, влияющие на принятие решения основателем компании о передаче полномочий профессиональному менеджеру: опыт стран СНГ и Центральной и Восточной Европы



№ 2 (R)–2008	Г. В. Широкова, А. И. Шаталов	Факторы роста российских предпринимательских фирм: результаты эмпирического анализа
№ 1 (R)–2009	Н. А. Зенкевич	Моделирование устойчивого совместного предприятия
№ 2 (R)–2009	Г. В. Широкова, И. В. Березинец, А. И. Шаталов	Влияние организационных изменений на рост фирмы
№ 3 (R)–2009	Г. В. Широкова, М. Ю. Молодцова, М. А. Арепьева	Влияние социальных сетей на разных этапах развития предпринимательской фирмы: результаты анализа данных Глобального мониторинга предпринимательства в России
# 4 (E)–2009	N. Drozdova	Russian Artel Revisited through the Lens of the New Institutional Economics
№ 5 (R)–2009	Л. Е. Шепелёв	Проблемы организации нефтяного производства в дореволюционной России
№ 6 (R)–2009	Е. В. Соколова	Влияние государственной политики на инновационность рынков: постановка проблемы
№ 7 (R)–2009	А. А. Голубева, Е. В. Соколова	Инновации в общественном секторе: введение в проблему
# 8 (E)–2009	A. Damodaran	Climate Financing Approaches and Systems: An Emerging Country Perspective
№ 1 (R)–2010	И. Н. Баранов	Конкуренция в сфере здравоохранения
№ 2 (R)–2010	Т. А. Пустовалова	Построение модели оценки кредитного риска кредитного портфеля коммерческого банка (на основе методологии VAR)
№ 3 (R)–2010	Ю. В. Лаптев	Влияние кризиса на стратегии развития российских МНК
№ 4 (R)–2010	А. В. Куликов, Г. В. Широкова	Внутрифирменные ориентации и их влияние на рост: опыт российских малых и средних предприятий
# 5 (E)–2010	M. Storchevoy	A General Theory of the Firm: From Knight to Relationship Marketing
№ 6 (R)–2010	А. А. Семенов	Появление систем научного менеджмента в России
# 7 (E)–2010	D. Ivanov	An optimal-control based integrated model of supply chain scheduling
№ 8 (R)–2010	Н. П. Дроздова, И. Г. Кормилицына	Экономическая политика государства и формирование инвестиционного климата: опыт России конца XIX — начала XX вв.

№ 9 (R)–2010	Д. В. Овсянко	Направления применения компонентов менеджмента качества в стратегическом управлении компаниями
# 10 (E)–2010	V. Cherenkov	Toward the General Theory of Marketing: The State of the Art and One More Approach
№ 11 (R)–2010	В. Н. Тишков	Экономические реформы и деловая среда: опыт Китая
№ 12 (R)–2010	Т. Н. Клёмина	Исследовательские школы в организационной теории: факторы формирования и развития
№ 13 (R)–2010	И. Я. Чуракова	Направления использования методик выявления аномальных наблюдений при решении задач операционного менеджмента
№ 14 (R)–2010	К. В. Кротов	Направления развития концепции управления цепями поставок
№ 15 (R)–2010	А. Г. Медведев	Стратегические роли дочерних предприятий многонациональных корпораций в России
№ 16 (R)–2010	А. Н. Андреева	Влияние печатной рекламы на восприятие бренда Shalimar (1925 – 2010)
№ 17 (R)–2010	В. Л. Окулов	Ценность хеджирования для корпорации и рыночные ожидания
№ 1 (R)–2011	А. А. Муравьев	О российской экономической науке сквозь призму публикаций российских ученых в отечественных и зарубежных журналах за 2000–2009 гг.
№ 2 (R)–2011	С. И. Кирюков	Становление и развитие теории управления маркетинговыми каналами
№ 3 (R)–2011	Д. И. Баркан	Общая теория продаж в контексте дихотомии «развитие – рост»
# 4 (E)–2011	К. V. Krotov, R. N. Germain	A Contingency Perspective on Centralization of Supply Chain Decision-making and its Role in the Transformation of Process R&D into Financial Performance
№ 5 (R)–2011	А. В. Зятчин	Сильные равновесия в теоретико-игровых моделях и их приложения
№ 6 (R)–2011	В. А. Ребязина	Формирование портфеля взаимоотношений компании с партнерами на промышленных рынках
№ 1 (R)–2012	А. Л. Замулин	Лидерство в эпоху знаний

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№ 3 (R)–2012	Л. С. Серова	Микро-предприятия в экономике России: состояние и тенденции развития
# 4 (E)–2012	G. V. Shirokova, D. M. Knatko, G. Vega	Separation of Management and Control in SMEs from Emerging Markets: The Role of Institutions
№ 5 (R)–2012	Г. В. Широкова, М. А. Сторчевой	Влияние социальных сетей на выход на зарубежные рынки: из опыта трех российских предпринимательских фирм
№ 6 (R)–2012	А. К. Казанцев	Инновационное развитие университетов: аналитический обзор ведущих российских вузов
№ 7 (R)–2012	Д. В. Муравский, М. М. Смирнова, О. Н. Алканова	Капитал бренда в современной теории маркетинга
# 8 (E)–2012	E. B. Samuylova, D. V. Muravskii, M. M. Smirnova, O. N. Alkanova	The role of brand characteristics in brand alliance engagement with different types of partners: an exploratory study
№ 9 (R)–2012	Е. Ю. Благоев	Факторы ценообразования многосторонних платформ: современное состояние и перспективы исследований
# 10 (E)–2012	E. K. Zavyalova, S. V. Kosheleva	Assessing the efficiency of HRD technologies in knowledge-intensive firms
# 11 (E)–2012	E. K. Zavyalova, S. V. Kosheleva	Human potential as a factor of developing national competitiveness of Brazil, Russia, India and China
# 12 (E)–2012	D. M. Muravskii, S. A. Yablonsky	Determining disruptive innovation potential of multi-sided platforms: case of digital books
№ 13 (R)–2012	В. Ю. Аршавский, В. Л. Окулов	Контролируемый эксперимент по принятию решений в условиях неопределенности и риска
№ 14 (R)–2012	А. А. Муравьев	К вопросу о классификации российских журналов по экономике и смежным дисциплинам
№ 1 (E)–2013	G. V. Shirokova, L. S. Sokolova	Exploring the Antecedents of Entrepreneurial Orientation in Russian SMEs: The Role of Institutional Environment

№ 2 (R)–2013	А.Ф. Денисов	Не упустить детали, или что может усложнить жизнь специалисту по УЧР
# 3 (E)–2013	A. Muravyev, I. Berezinets, Y. Ilina	The Structure of Corporate Boards and Private Benefits of Control: Evidence from the Russian Stock Exchange.
№ 4 (R)–2013	Т.М. Складь, Е.В. Соколова	Организационно-управленческие инновации в здравоохранении
# 5 (E)–2013	A. Sergeeva, T. Andreeva	Knowledge Sharing in Public Sector Organizations: Do Knowledge Management Practices Matter?
№ 6 (R)–2013	Е.В. Соколова, А.С. Коноваленков	Может ли общественный транспорт спасти город: к вопросу о развитии транспортной инфраструктуры города (на примере Санкт-Петербурга)