Post-crisis development: is there too much finance?

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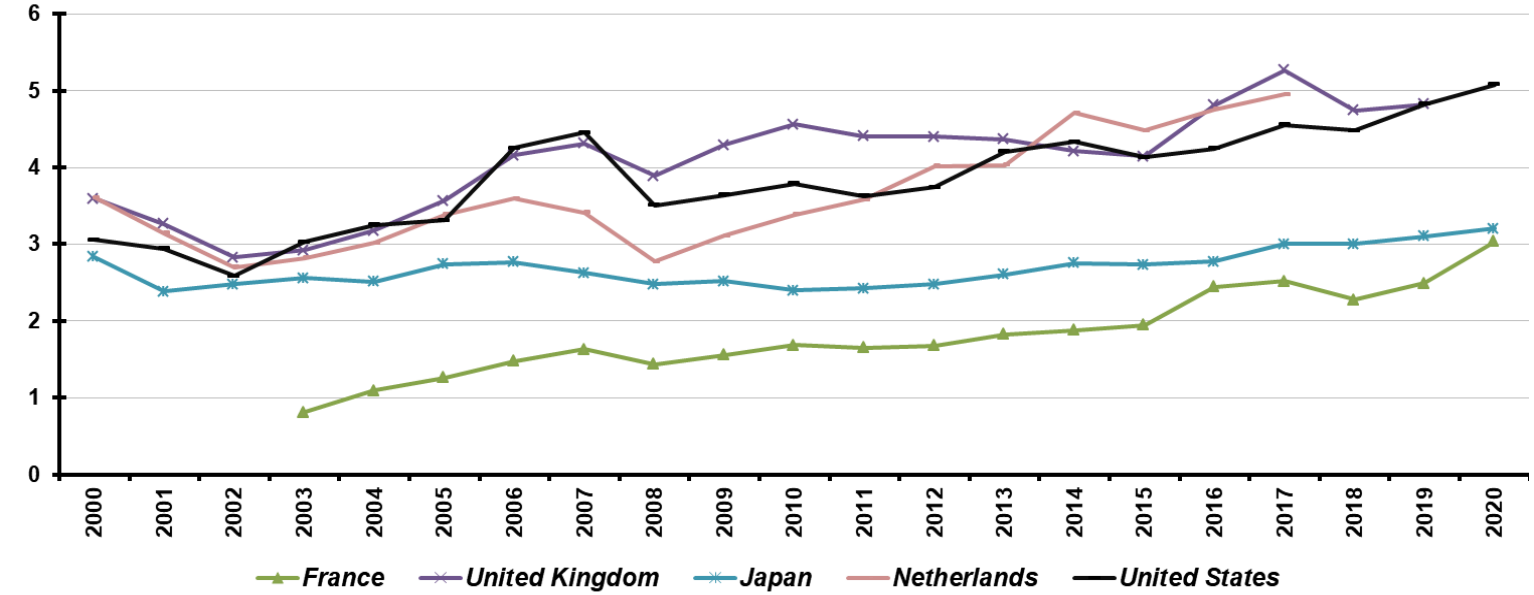
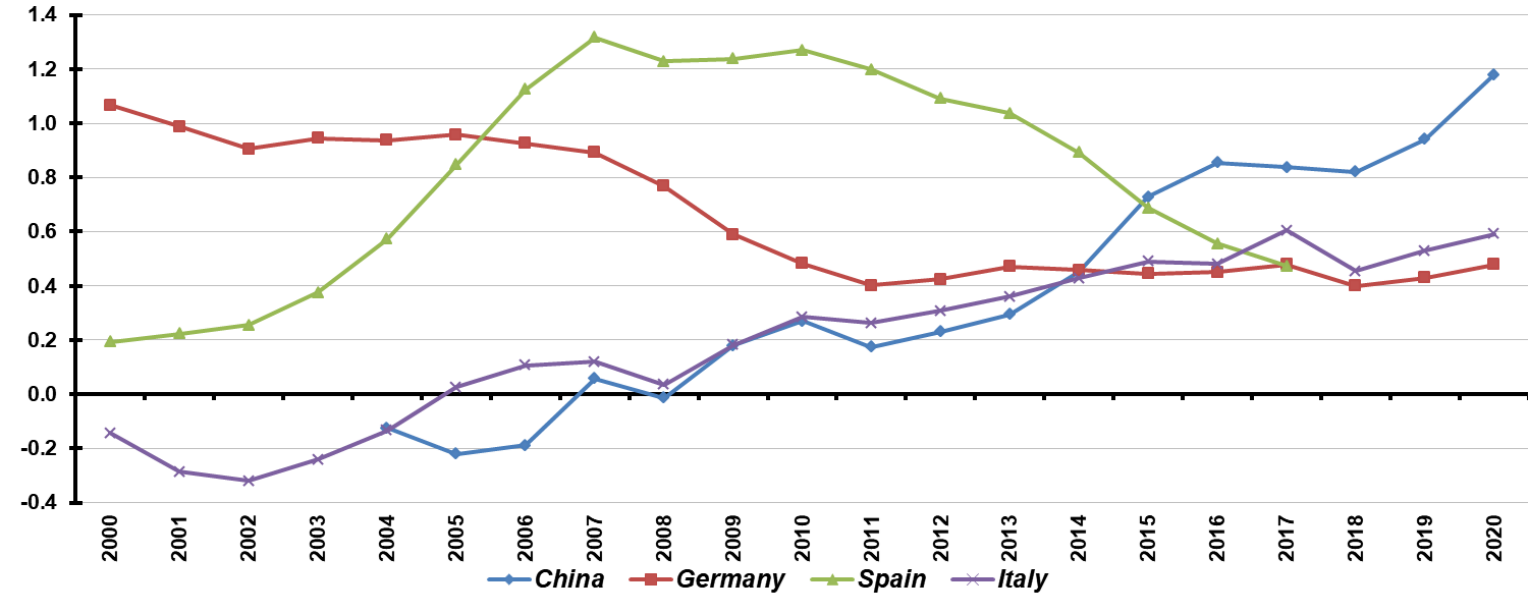
A Composite Index of Financial Development*: advanced economies & China

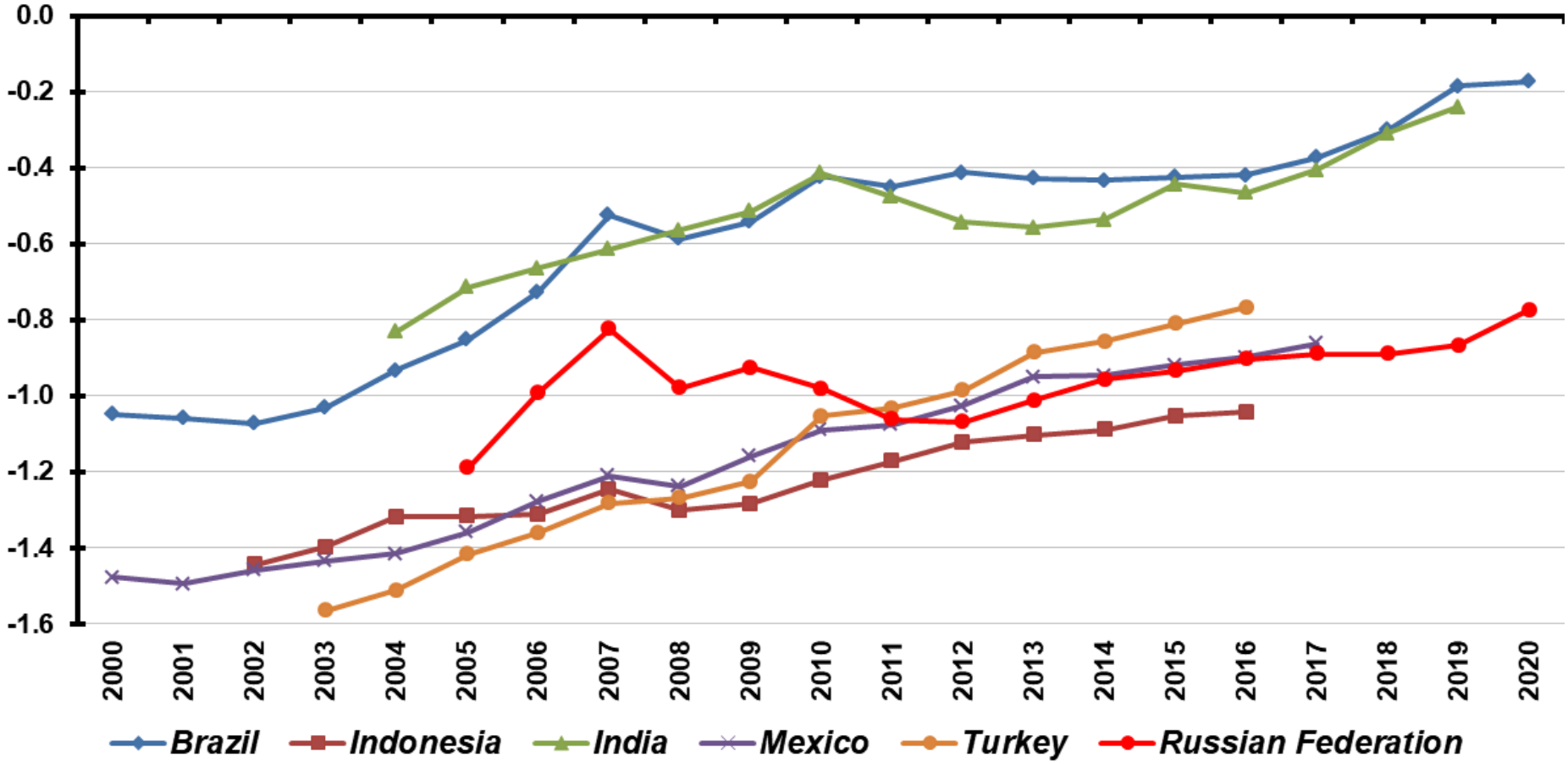




Monetary policy easing and fiscal stimuli in the wake of and especially during the COVID 19 shock contributed to a rapid increase in the depth of national financial sectors

** Based on the data on bank loans to private non-financial sector, stock market capitalization, insurance companies' assets and private pension funds' assets (% of GDP), see slide #4*

A Composite Index of Financial Development*: emerging markets



** Based on the data on bank loans to private non-financial sector, stock market capitalization, insurance companies assets and private pension funds assets (% of GDP), see slide #4*

Construction of Composite Indicator of Financial Development (FDI): Principal Component Analysis

	The first principal component	The second principal component	The third principal component	The fourth principal component
Bank loans to private non-financial sector	0.506	-0.367	-0.633	0.457
Stock market capitalization	0.555	-0.056	-0.117	-0.822
Private pension funds assets	0.496	-0.328	0.765	0.248
Insurance companies assets	0.437	0.869	0.014	0.233

The swelling of the financial sector has softened the impact of shocks on national economies and has supported economic growth.
But it was a short-term effect.
What will be the long-term consequences?

- Will this lead to financial sector instability and inflation in the future?
- Will the increase in financial depth contribute to post-crisis recovery and acceleration of the economic growth?
- Will reduction in the size of financial sector have a long-term negative effect on national economies?

A number of studies suggest a non-linear impact of financial development on economic growth

Impact of financial sector development on the economy		Studies
Positive	Developed financial sector allows to: • transform savings into investments more efficiently; • ensure the exchange of information; • eliminate weak business projects; • reallocate risks between economic agents	Goldsmith, 1969; King, Levine, 1993; Levine, Zervos, 1998; Rajan, Zingales, 1998; Beck et al., 2000; Levine et al., 2000; Rioja, Valev, 2004
Negative	The «dark side» of financial development: • financial bubbles • growing fragility of the financial system and its vulnerability to shocks	Bernanke, 1983; Kaminsky, Reinhart, 1999; Dell'Ariccia, 2001; Rajan, 2005; Schularick, Taylor, 2012
Non-linear	The optimal level of financial development	Rioja, Valev, 2004; Cecchetti, Kharroubi, 2012; Law, Singh, 2014; Sahay et al., 2015; Arcand et al., 2015

Identifying the optimal depth of financial sector: research methodology

- The following studies were used as the basis of our approach: Sahay et al. (2015), Sviridzenka et al. (2016)
- Our sample includes 63 emerging and advanced economies covering 1980 –2014 period
- Our research attempts to estimate optimal financial sector development based on 4 criteria
  - the best GDP performance, subject to
  - GDP growth stability
  - price stability
  - financial stability (our contribution as compared to the earlier studies)
- Moreover, we account for interaction effects between different financial markets

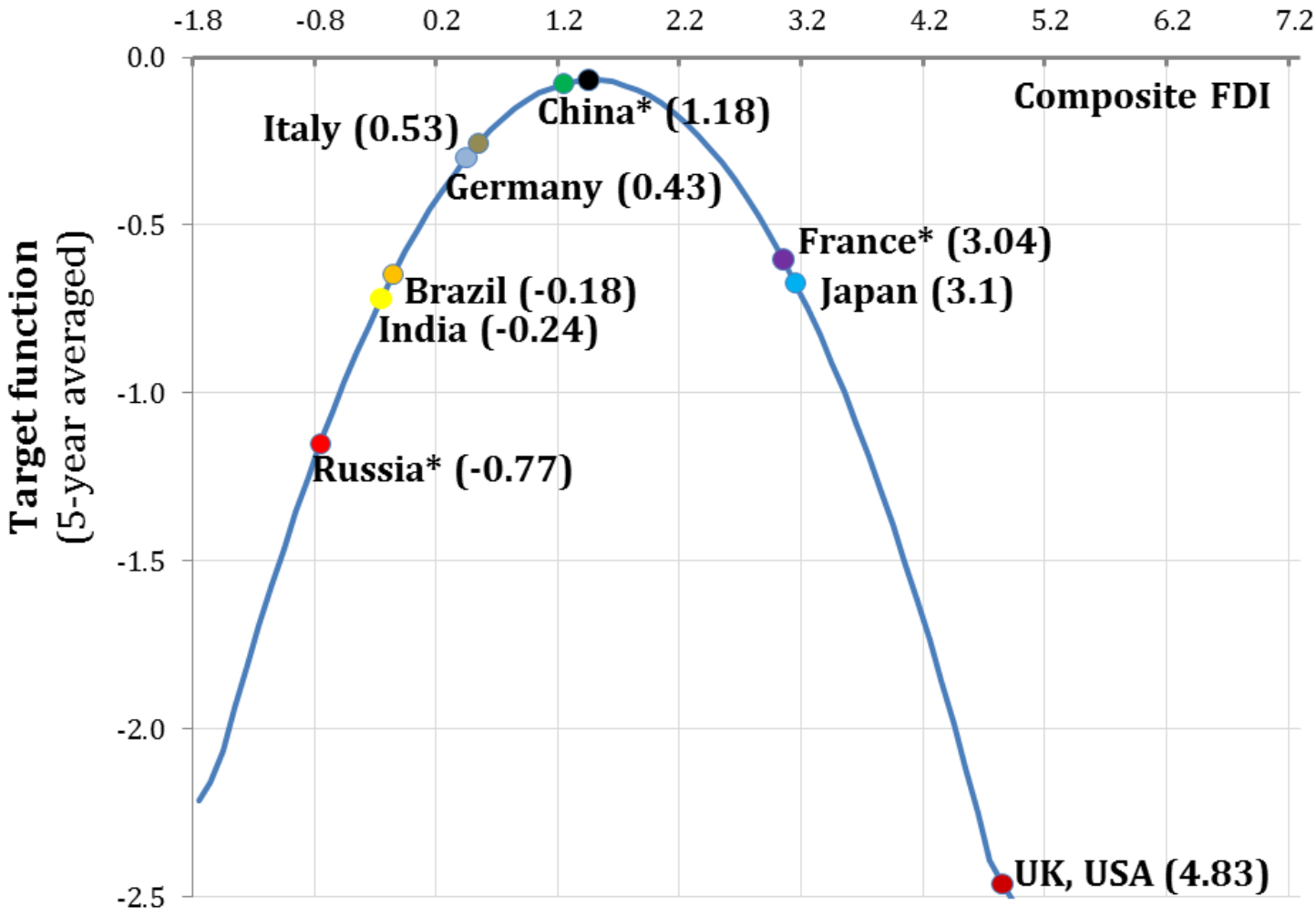
Identification of the optimal value of the Composite Index of Financial Development (FDI)

- Optimum points are computed in the case when both coefficients for the linear and quadratic components of **financial development indicator *(FDI)*** are significant and have signs agreeing with the expectations. The formula for computing the optimum points is written as: $-0.5\beta_{j,2}/\beta_{j,1}$ $(j = 1, \dots, 4)$.
- Formally, the optimization procedure can be written as follows:

$$L\left(FDI_{j,it}\right) = \mu_1 \frac{\hat{Y}_{1,it}}{\sigma_1} + \mu_2 \frac{\hat{Y}_{2,it}}{\sigma_2} + \mu_3 \frac{\hat{Y}_{3,it}}{\sigma_3} + \mu_4 \frac{\hat{Y}_{4,it}}{\sigma_4} \rightarrow max_{FDI_{j,it}} \Rightarrow FDI^*_{j,it}$$,where

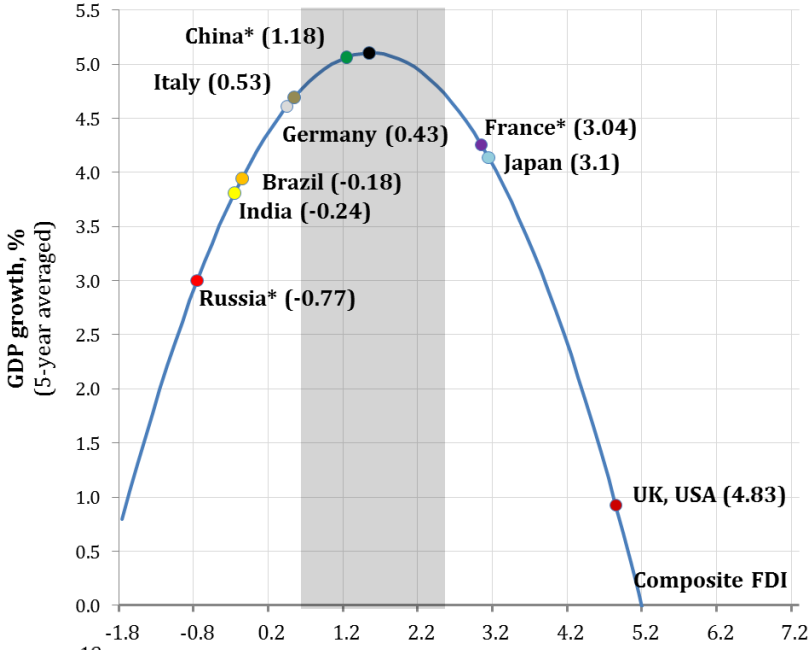
- $L()$ is the regulator's problem function with respect to the financial sector development;
- $\mu_1, \dots, \mu_4$ are the weights determining the regulator's preferences regarding goals (1)–(4). In further computations, it is assumed to be defned as $\mu_1 = \cdots = \mu_4 = 1/4$;
- $\sigma_1 \dots . \sigma_4$ are the standard deviations of variables $Y_1, \dots, Y_4$over the entire observation period (1980–2014). Normalization of the variables by their standard deviation ensures the comparability of measurements;
- $\hat{Y}_{1,it}, \dots, \hat{Y}_{4,it}$ are the fitted values of macroeconomic policy goals as nonlinear functions, which depends on financial development measures $FD_{j,it}$;
- FDI^*_{it} is the value of financial development indicator optimizing all of the four macroeconomic policy targets.

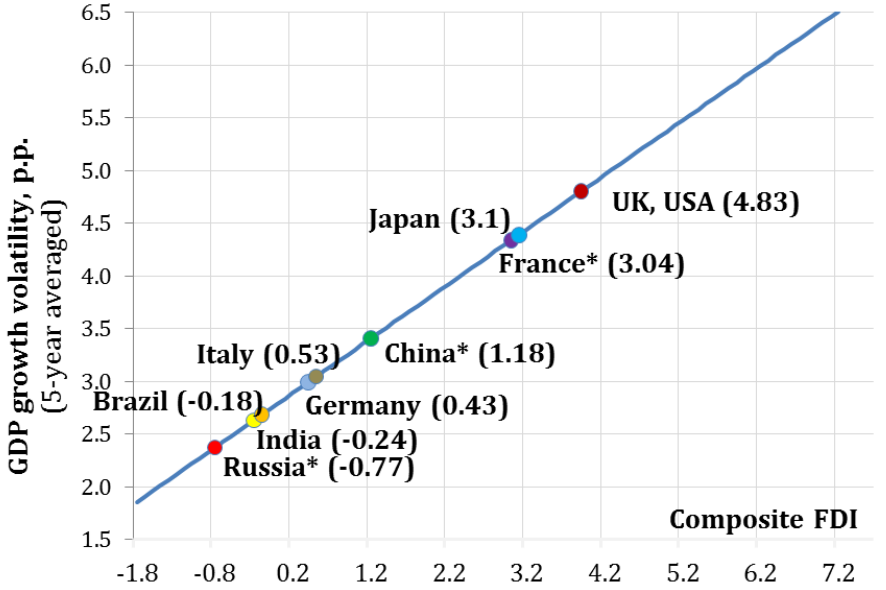
Actual and the optimal levels of financial sector development*

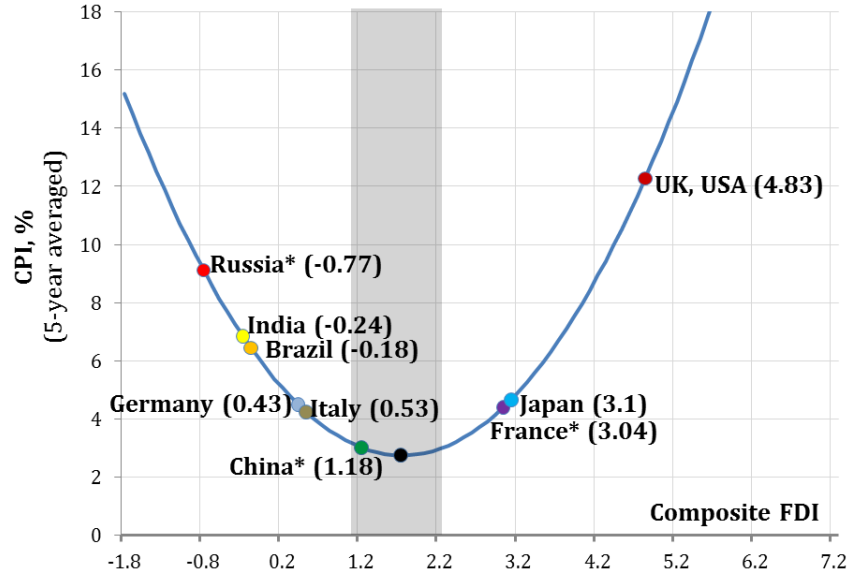


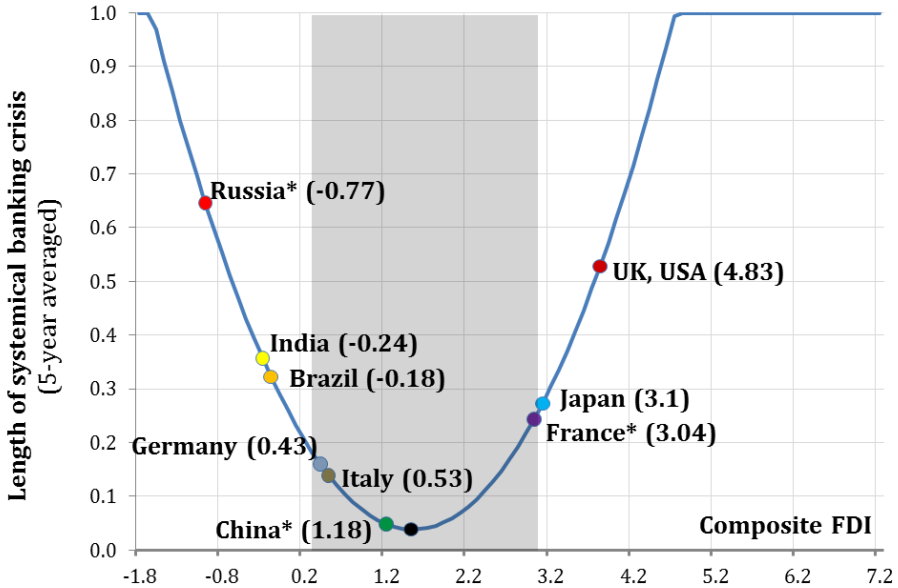
** From now on for countries marked with a star (*), the values of the Composite Index of Financial Development (FDI) are given for 2020, for the rest – for 2019.*

The impact of the Composite Index of Financial Development (FDI) on the achievement of individual macroeconomic policy targets*









** The shaded area corresponds to the confidence interval of the optimal value of the FDI*

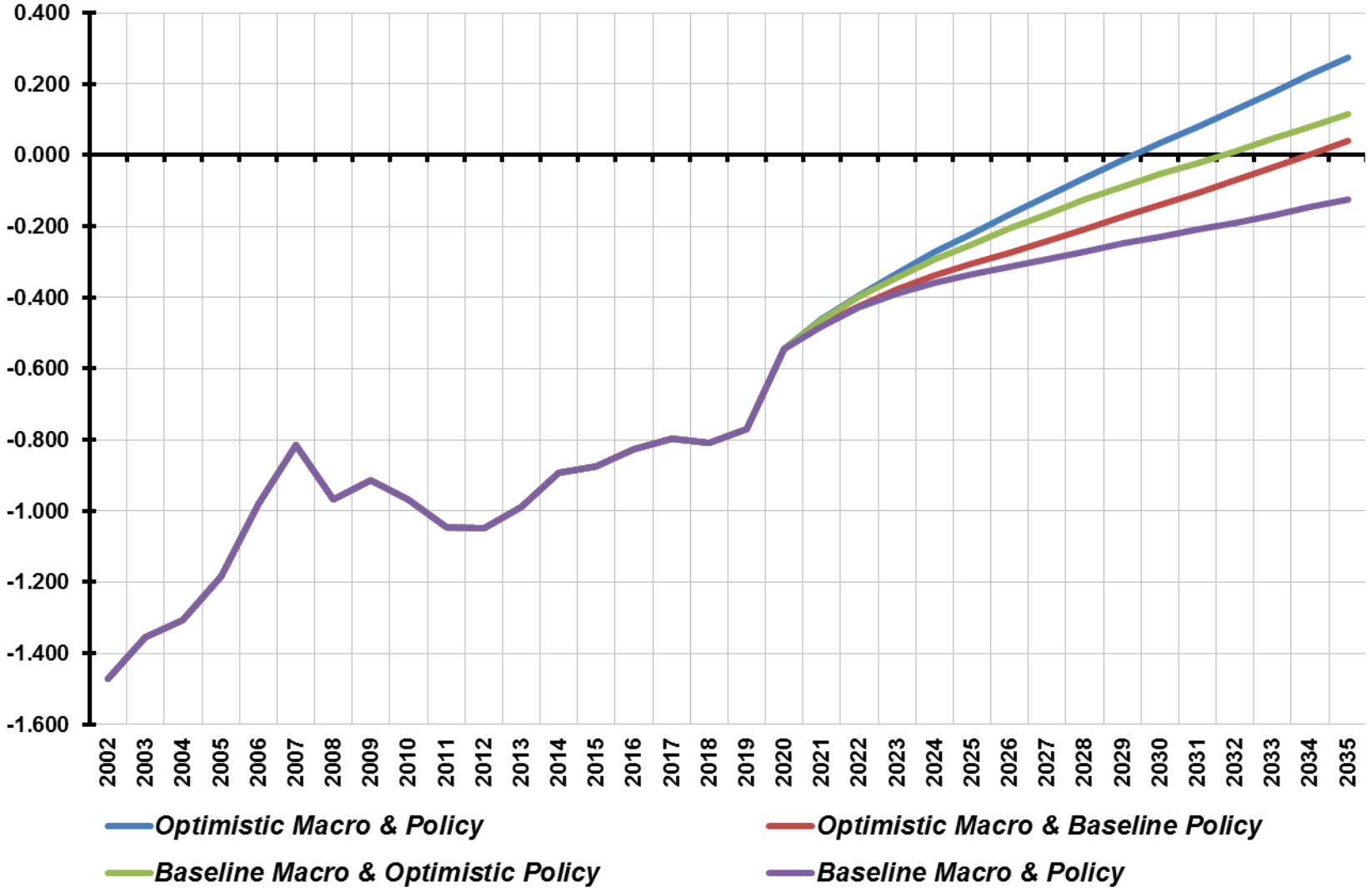
Main Conclusions

- For several large developed economies (USA, UK, Japan and France), the suboptimal financial depth effect has either emerged or intensified. For these economies, deeper financial sector (or even its present state) in the long term is fraught with increased risks of financial instability, lower economic growth and higher inflation.
- For China, Germany and Italy, a further increase in the depth of the financial sector is unlikely to have noticeable positive macroeconomic effects.
- India, Brazil and Russia are still a long way from moving into a state of suboptimal financial depth. Further increases in financial sector depth of the will contribute to improving the long-term economic growth, as well as financial and price stability of these countries. However, deepening the financial sector may increase the volatility of economic growth.
- In the long run, a group of countries with a pronounced suboptimal financial depth effect may have to move from expanding financial sectors to shrinking them. Since these countries' weight in the global economy is high, it may have a significant impact on global financial markets. However, in the long term, financial sector depth normalization in these countries will contribute to the restoration of healthy economic growth through getting rid of "zombie companies“, healing chronic financial imbalances and reduced uncertainty.

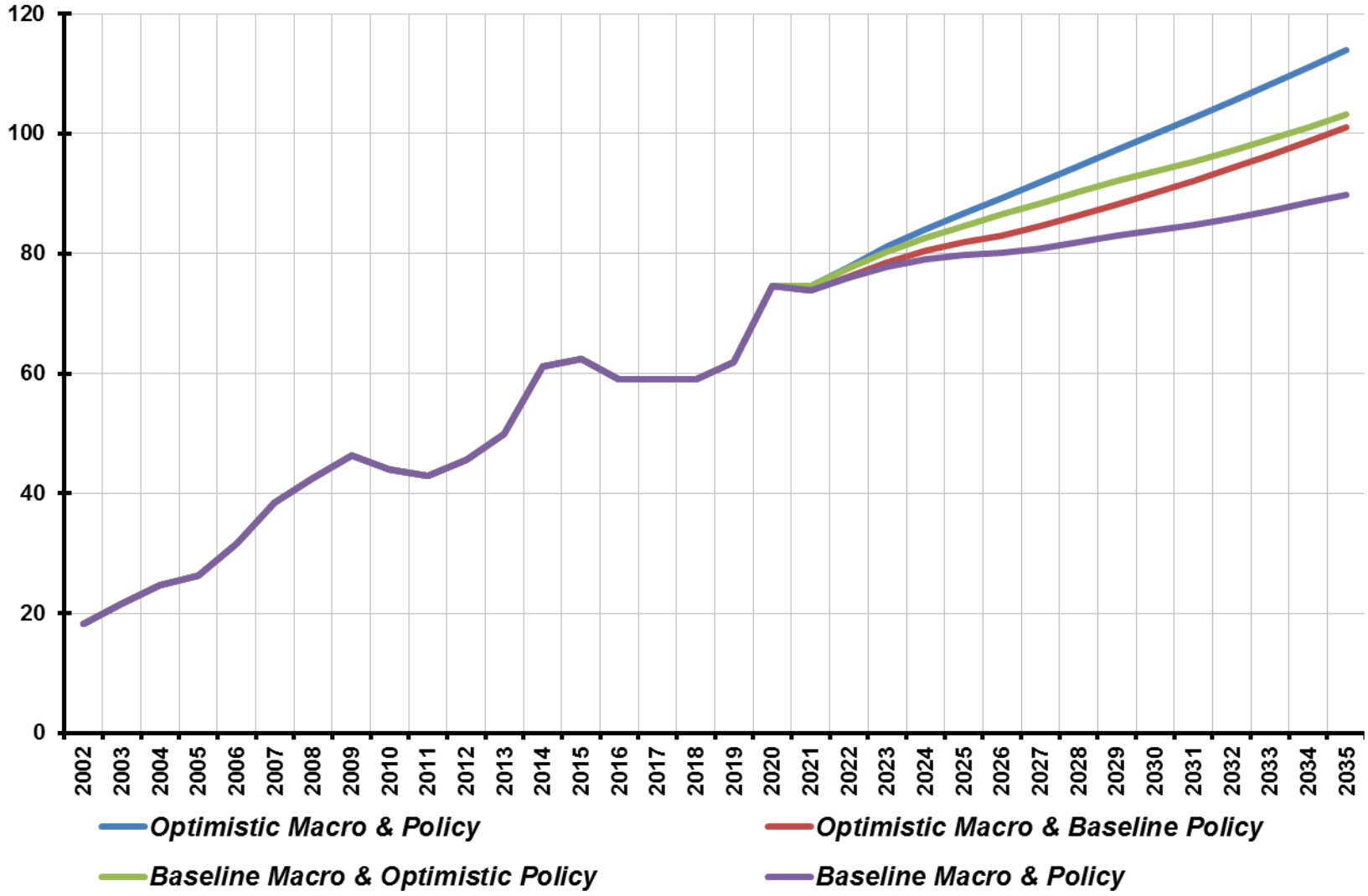
Implications for Russia

- In all scenarios considered, even at the horizon of 15 years, it is impossible to achieve optimal overall financial depth, and then face the suboptimal financial depth effect. However, it is possible for individual financial markets.
- Since there is a significant space for Russia to safely increase the long-term size of the financial sector, its growth is healthy, even if there is a reversal of the global trend in the future.
- Financial sector development in Russia will be mostly stimulated through increasing the level of property rights protection (in a broad context) and supporting competition in financial markets. Macroeconomic policies such as loose monetary policy, tax incentives or increased external openness might have a weaker impact.

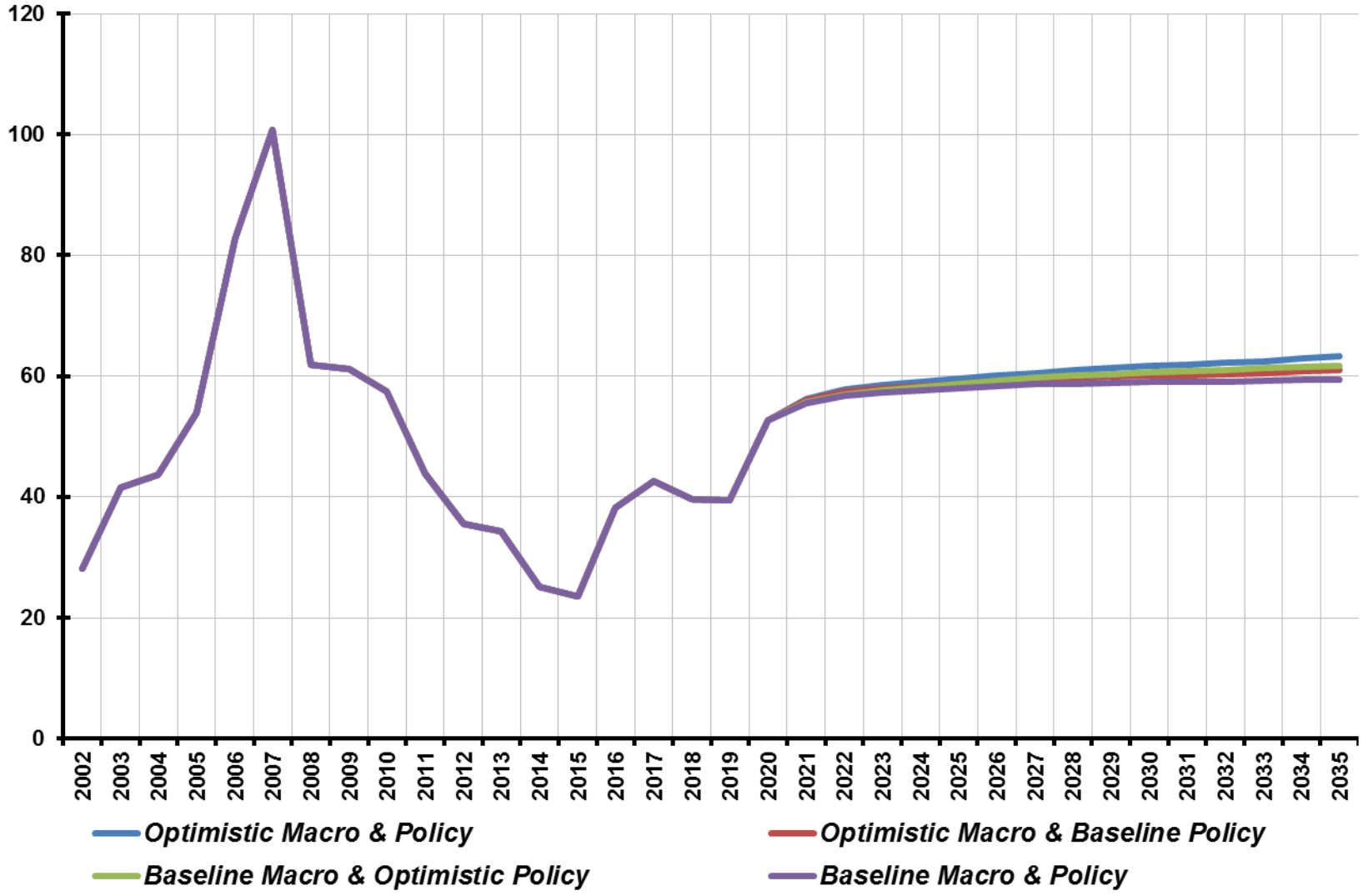
Composite Index of Financial Development for Russia: scenario forecast



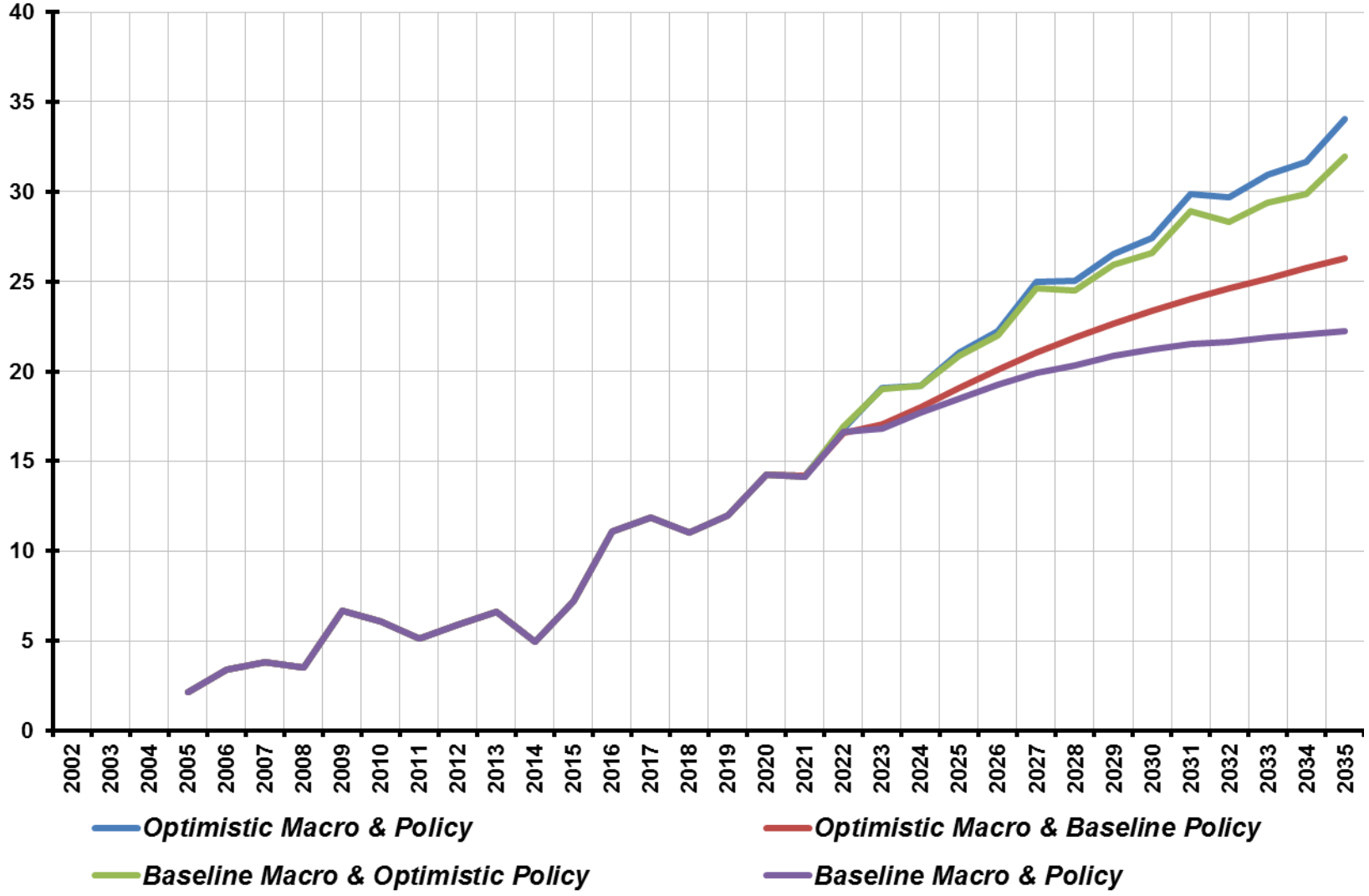
Volume of bank loans to private non-financial sector (% GDP) for Russia: scenario forecast



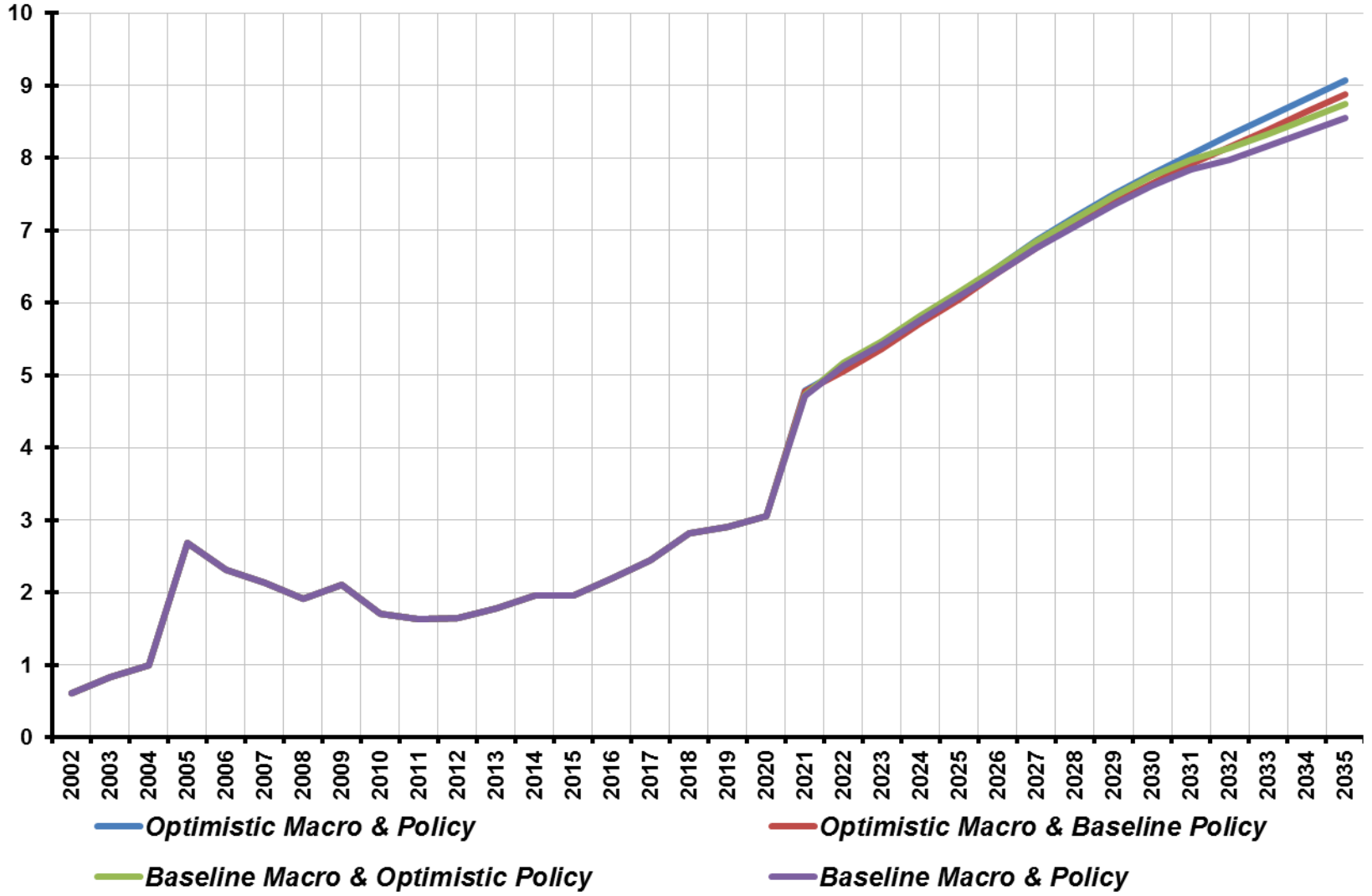
Stock market capitalization (% GDP) for Russia: scenario forecast



Volume of corporate domestic bonds (% GDP) for Russia: scenario forecast

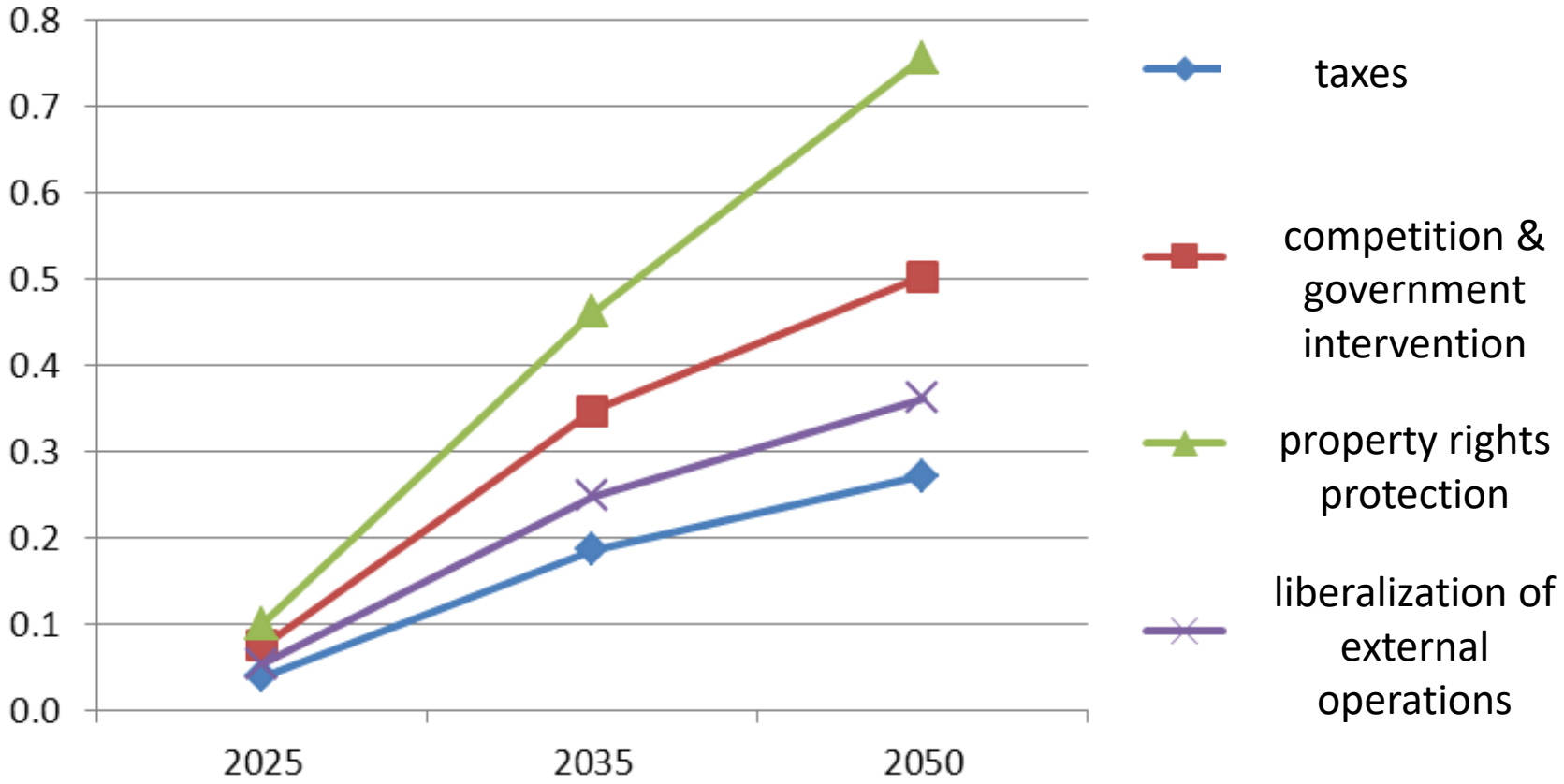


Insurance companies assets (% GDP) for Russia: scenario forecast



The potential impact of different government policies on composite indicator of financial development: for Russia *

(cumulatively since 2019)



** In the context of the baseline Macro scenario*

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Thank you for attention!

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