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Bank Financial Stability and International Oil Prices: Evidence from Listed Russian Public Banks

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Based on Albuлесcu (2022), this brief investigates the impact of international oil prices on Russian public banks stability. To this end, we use a Pool Mean Group (PMG) estimator for 17 listed public banks, covering the period 2008 to 2016. We explore both the macroeconomic and financial channels of oil price fluctuations and we propose a new approach for the identification of oil price shocks, allowing to account for the oil price volatility effect over a longer period. Our unique findings show that: (i) an increase in oil prices has a long-run positive effect on the bank financial stability, and (ii) positive oil-price shocks enhance the stability in the long run, whereas the negative oil-price shocks have an opposite effect. No significant impact is recorded in the short-run.

The international oil price fluctuations challenge the bank financial stability in oil-exporting countries (Khandelwal et al., 2016). In the case of Russia, the threats to the bank stability generated by the plunge in global oil prices following the annexation of Crimea in 2014 were amplified by the strain on the state revenues, and by the Rubble depreciation (Tuzova and Qayum, 2016). Consequently, the credit risk increased, in particular for public banks.

However, the influence of international oil prices on bank financial stability is not straightforward. Indeed, we may notice a different impact in the short run, compared with the long run. Further, previous papers on this topic do not show if the positive oil-price shocks have a stronger and a different impact on the bank stability, compared with the negative ones. This question is even more important in the context of the Russo-Ukrainian War started on 24 February 2022, when Russia launched a general invasion of Ukraine, and the European Union (EU) and

the United States (US) imposed a set of financial sanctions to Russia. To shed light on these issues, we use a panel data approach for 17 Russian public banks for the period 2008-2016 and a PMG estimator (Albulescu, 2022).

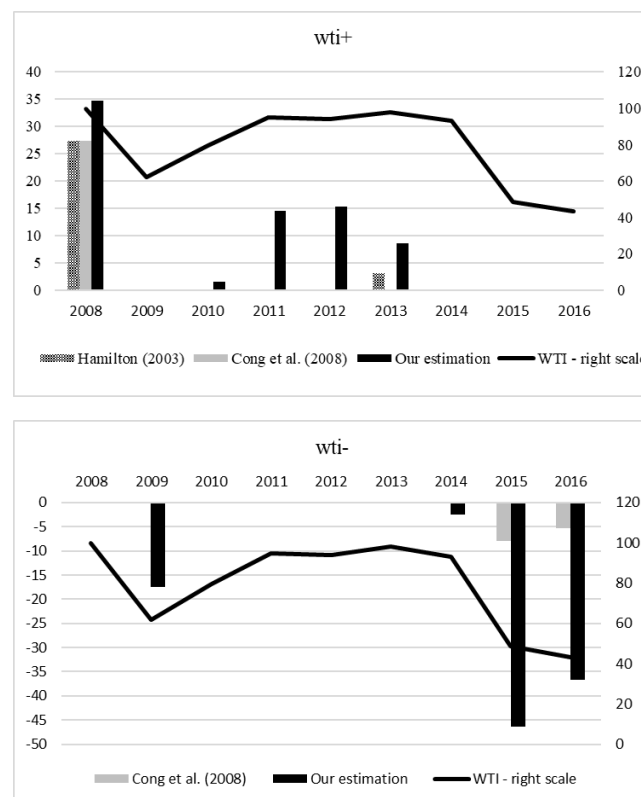
Starting with 2014, after the annexation of Crimea by Russia and the economic sanctions imposed by the western countries, the Russian banking sector recorded an increased credit risk and bad loans, favoured by a severe deterioration of large borrowers' financial condition, and of investors' expectations. These elements are associated with a drop in international oil prices, negatively affecting the Russian economy.

Two different channels explain the impact of international oil prices on bank stability in oil-exporting countries. The direct macroeconomic channel indicates that a drop of international oil prices will lead to a currency depreciation in oil-exporting countries (Beckmann and Czudaj, 2013). In addition, a deterioration of the fiscal stance forced the Russian authorities to search for alternative financing sources, including public bank loans. A part of these loans becomes doubtful in the context of the deterioration of macroeconomic conditions, threatening thus the bank financial stability. The indirect financial channel connects the oil prices with the stock market prices. That is, a decrease in international oil prices will lead to a decrease of Russian public banks' stock prices (Huang et al., 2017). As a consequence, the price to book value decreases whereas the credit activity shrinks (Yildirim and Efthyvoulou, 2018).

Against this background, we contribute to the existing literature by providing clarification to the oil price – bank stability relationship, making the distinction between the

macroeconomic and financial market channel. Second, we use different time-varying approaches to compute the Z-score (our bank stability *proxy*) relying on the "safety first" level of return and underlining the insolvency case. Third, we use a PMG estimator to differentiate between the long- and the short-run relationship, and to gain more precise estimates of average long-run parameters. Forth, different from classical methods used to compute oil price shocks (Hamilton, 2003; Cong et al., 2008), we advance an alternative approach, which allows to accommodate more shocks, and therefore to account for the effect of oil price volatility over a longer period (please refer to Figure 1).

Figure 1. Oil price positive (wti⁺) and negative (wti⁻) shocks



Note: Hamilton's (2003) approach is designed to compute positive shocks only.

We test nine different models, considering a wide set of control variables in the short-run regression, including banks' liquidity,

profitability and size. The banking sector concentration level, the regulatory framework, as well as the business cycle and perception on corruption, were equally considered as control variables.

Our results confirm the existence of a long-run relationship among bank stability, oil prices, and price to book value ratio, validating thus both the macroeconomic and financial channel of oil price pass-through bank stability. In the long run, both an increase in international oil prices and in the value of banks perceived by the investors compared to the book value, positively influence the bank stability. These findings are in agreement with those reported by Khandelwal et al. (2016). For a set of oil exporting countries, these authors state that a decline in oil prices leads to an increase in nonperforming loans, amplifying the bank instability.

Nevertheless, the short-run relationship between Russian public banks stability and international oil prices is not validated. This result can be explained by the fact that the short-run effect of oil prices might be captured by the macroeconomic variables (Khandelwal et al., 2016).

In a subsequent analysis we compare the effect of positive and negative oil price shocks on the bank stability. Whereas the positive oil price shocks contribute to Russian bank stability in the long run, their effect is less important compared to the oil price returns. These findings show that not the shock itself is important for the bank stability, but the increase in the oil price associated with a positive shock. In addition, the impact of positive oil price shocks is negative in the short run, result that explains the findings of Adetutu et al. (2020), stating that an oil price boom negatively affects the bank performances in Kazakhstan.

Further, negative oil price shocks favour bank instability in the long run, while in the short-run, they have an opposite effect. Our results confirm the findings reported by Al-Khazali and Mirzaei (2017) or Ibrahim (2019), providing support for asymmetric effects of oil price shocks on financial stability.

Our findings are supported by different robustness analyses and demonstrate the importance of the oil prices volatility for the Russian economy.

Policy Implications

International oil price fluctuations impact bank stability in oil-exporting countries. With a focus on the Russian public banks, our results show that the relationship between bank stability and oil prices is not straightforward. It is important to distangle between positive and negative oil price shocks, and between the short- and long-run time horizon. While positive oil price shocks may increase bank stability in the long run, they have a negative effect in the short run. The opposite applies for negative shocks. Consequently, the authorities from oil-exporting countries should be aware by the fact that sudden increases in oil production generates negative oil price shocks. This strategy negatively influences the domestic banking sector stability in the long run.

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