Title

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Abstract
Our goal is to construct a reliable measure to estimate the economic activity and financial stability risk in real time. We use a unique dataset obtained from the National Payment System (NPS) of the Bank of Russia. Dataset is updated daily and contains detailed information on money inflows and outflows to/from the sectors of Russian economy and to/from the households. We focus on industry-level data aggregation. We check the usefulness of the dataset for estimates of economic activity and financial stability risks in real time. We offer two estimates of economic activity: one is based on inflows (as a measure of revenue), another on outflows (as a measure of costs).

To construct the reliable measure of economic activity we start with the Input-Output tables available from the Russian Statistic Agency (Rosstat). We investigate its correlation with the tables constructed from a unique NPS dataset. We conduct validating experiment by comparing the performance of economic activity indicators based on NPS dataset with those reported by Rosstat. We proceed with the experiment for the latest episode of high volatility of macroeconomic variables in Russia (before the current one), that took place in 2014-2015 due to the 40% oil price drop and geopolitical tensions.

To use the data for a real-time monitoring of financial stability risks we enrich the dataset from NPS with the monthly credit registry data (bank-firm-loan level). The granular credit registry data is used to calculate the industry level debt service ratios (DSR) and to estimate debt servicing obligations for Russian private entities with the highest possible level of precision (where DSR is used to proxy the burden of servicing the debt for outside observers, not banks). Thus, by observing the upcoming debt redemptions and actual payment inflows and outflows at industry level, we can assess the ability of a particular industry to fulfill its obligations towards banks at the moment or in the nearest future (upcoming month or quarter).

We hope that this research will help the Bank of Russia to fulfill its role of providing price and financial stability during the COVID19 outbreak.

Data description
We use two unique datasets:
First dataset comprises daily information on payments available from the National Payment System (NPS) of the Bank of Russia (http://cbr.ru/eng/Psystem/). Dataset consists from the cashless settlements and payments to individuals and legal entities. For the financial privacy reasons, we use industry-level aggregation of the individual transactions. For each industry we observe the flows of payments to/from the industries and the households.
Second dataset comprises the credit registry data (bank-firm-loan level) obtained with monthly frequency form the Bank of Russia. We use granular credit registry data to estimate the burden of servicing the debt at industry level for the upcoming month or quarter.

JEL codes for the project: E37, E01, D57, C53

Key-words: Electronic Payments, Nowcasting, Debt Service Ratio, Input-Output Tables

1 The views expressed in this note are solely those of the authors and do not necessarily reflect the official position of the Bank of Russia. The Bank of Russia assumes no responsibility for the contents of the note.