

Russian manufacturing production capacity: Primary trends and structural characteristics[☆]

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Abstract

This paper estimates the capacity utilization rate for Russian manufacturing. We also propose a way to build continuous production capacity time series and indicators to describe the basic characteristics of production capacity. The data come from form 1-natura-BM of the Russian Federal State Statistics Service. Our findings on the trends and structural characteristics of production capacity are shown to be significant for economic policy since we found that in recent years capacities utilization rate in Russian manufacturing industry has been not extremely high and that there is a strong correlation not only between capacities utilization rate and inflation rate but between capacities utilization rate and capacities commissioning intensity as well.

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1. Introduction

This paper investigates the opportunities and industry structure for non-capital-intensive industrial production growth in Russia and the utilization and structural characteristics of production capacities (PC) in the manufacturing industry. We

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will formulate proposals for monetary policy and industry priorities for stimulating structural policy and for improving the industry statistics.

This paper's relevance follows from a lack of detailed post-Soviet estimates of manufacturing industry modernization by the expert community and public agencies, the fragmented nature of the basic concepts for measuring production potential, and insufficient investigation into the real utilization of PC. At the same time, the level of capacity utilization is directly or indirectly referred to (through the output gap estimates) by those discussing the optimal parameters for monetary policy.

2. International experience

In reviewing global practice, detailed analyses of PC trends and characteristics are usually made for individual products as part of specific industrial sector research. Meanwhile, there is a lack of cross-sectoral industrial capacities analysis. The main reason for the current state of affairs is apparently the lack of comparable data gathered across a wide range of sectors using a single methodology.¹ At the same time, direct and indirect estimates of production capacity utilization rates have been widely used for many years as a significant business cycle indicator.

Three main approaches to measuring PC² utilization are typically used according to global practice.

The first approach is based on *surveying* managers who estimate company's capacity utilization as a percentage of a given level. This is a common approach used by many countries and international organizations for promptly monitoring the economic "health" of the manufacturing sector. For example, in surveys by the U.S. Census Bureau, the respondent must measure a company's production output by fully utilizing the PC but without changing the working mode (Federal Reserve, 2016). In European Commission surveys (European Commission, 2016, p. 28), respondents specified PC utilization as a percentage of the maximum level. In the OECD surveys (OECD, 2003), the PC utilization rate is measured as a percentage of "normal" utilization rate.

The second approach is focused on measuring PC utilization for specific products as ratio of actual and maximum levels where maximum level is determined by characteristics of the equipment used ("engineering" approach). For example, the U.S. Federal Reserve uses both the Census Bureau surveys and PC utilization data in physical terms (for individual industries), gathered by industry associations and institutions. Similar production capacity estimates are also used in Japan (METI, 2015) and India (Reserve Bank of India, 2011).

¹ An additional recent factor has apparently been the relocation of production facilities from developed to developing countries, which had an additional negative impact on the availability of standardized data and deviated researches in developed countries from the issues of industrial development.

² Two main approaches to estimating maximum output produced with certain PC should be mentioned: the "engineering" approach interprets it as the maximum output achieved at a fixed capital supply and at no limitations on variable factors (labor, etc.); the "economic" approach—as the optimal and economically justified output where, over a short term, a firm cannot improve its position (in any sense) by increasing the intensity of capital utilization.

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