

Nowcasting GDP growth with credit data: Evidence from an emerging market economy

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Abstract

It is a well-known fact that there is a strong relationship between bank credits and economic activity. Thus, it is a reasonable question whether credit data can be used in nowcasting GDP growth. It is important for policymakers to make on-time decisions with the most available data and nowcasting is an important tool when policies in question are needed to be made based on current figures. Most macroeconomic variables are made available to public after a considerable delay; however, banking credit data may be very valuable for the early estimate of current GDP as it is available only with a few days delay. In this paper, we aim to investigate the feasibility of using credit data in explaining the variability in Turkish GDP growth and as well as nowcasting it. For this purpose, we use credit impulse and new borrowing, two measures of credit flows. We show that credit impulse and new borrowing are significant in explaining the pattern of the Turkish GDP growth and they have significant contribution to nowcasting it.

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1. Introduction

It is a well-known fact that there is a strong relationship between banking credit and economic activity. Hence, it is a reasonable question whether credit data can be used in nowcasting GDP growth. It is important for policymakers to make on-time decisions with the most available data and nowcasting is an important tool when policies in question are needed to be made based on current figures. Therefore, banking credit data may be very valuable for the early estimate of current GDP

since it is available only with a few days delay, whereas the actual GDP data arrives with 70–90 days delay.

The relation between growth of credit stock and GDP growth has been studied in the economic literature. [Calvo, Izquierdo, and Talvi \(2006\)](#) claim that after the financial crises, economic activity recovers without a growth in credit stock in emerging markets. This phenomenon came to be known as “credit-less recovery” or “Phoenix Miracle” in the literature. [Claessens, Köse, and Terrones \(2009\)](#) verify this for 21 OECD countries. On the other hand, [Biggs, Mayer, and Pick \(2009\)](#) argue that it is more relevant to investigate the relationship between the change in credit stock, called new borrowing, and GDP since they are both flow variables. They examine the correlation between the new borrowing and the change in new borrowing, called credit impulse, and GDP growth. They find that both new borrowing and credit impulse were statistically significant in explaining quarterly GDP growth in US from 1954Q4 to 2008Q4. Moreover, they show that a rebound in economic activity is closely related to a

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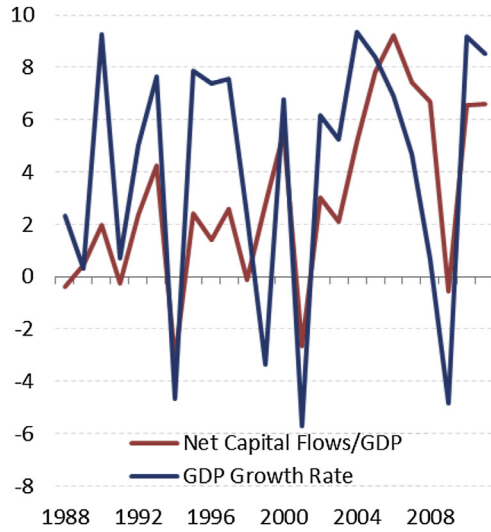


Fig. 1. Capital flows and GDP growth (percent, annual).



Fig. 2. Current account and credit growth (percent, annual).

rebound in the credit impulse, i.e. banking credit grows at accelerated speeds in US recovery periods.

Kara and Tiryaki (2013) examine the annual GDP growth and credit impulse for Turkey and they claim that the reference point of 15% nominal growth in total credit stock is compatible with the projection of 4% annual GDP growth in 2013 according to the government’s Medium Term Program. Akkoyun and Günay (2012) calculate nowcasts for quarter-on-quarter Turkish GDP growth by using Turkish Purchasing Managers’ Index (PMI)¹ as soft data (similar to Lombardi and Maier (2011)); industrial production, import and export quantity indices as hard data. They find that using PMI improves the performance of the model in nowcasting GDP growth.

In this paper, we model quarterly Turkish GDP growth using PMI as soft data and credit information as hard data. We prefer not to use other commonly used hard data, since they arrive with a long delay, at least a month or more. However, both the credit and PMI data is available with one week delay. Through the use of Turkish PMI, retail and business loan data, we aim to investigate the contribution of credit data in nowcasting GDP growth. We find that credit data contains significant information in explaining the movements of quarterly GDP growth and credit flow measures are quiet useful in nowcasting Turkish GDP. To the best of our knowledge, this is the first paper using credit data in nowcasting quarter-on-quarter Turkish GDP growth. The remainder of the paper is organized as follows. Next section details the motivation that set us to investigate the relation between banking credit and GDP. Section 3 presents the data and Section 4 shows the methodology used and empirical results and Section 5 concludes.

¹ PMI is an economic indicator derived from monthly surveys of private sector companies and is compiled by MARKIT Group. The reference point in PMI is 50, the number more than 50 represents expansion in the economy compared to the previous month and fewer than 50 represents a contraction.

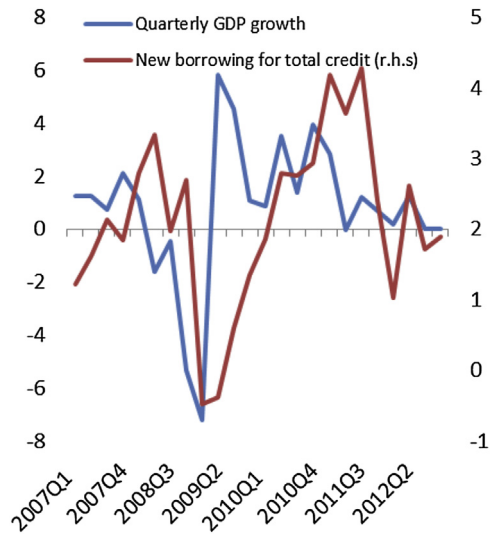


Fig. 3. New borrowing and GDP growth (percent, quarterly).

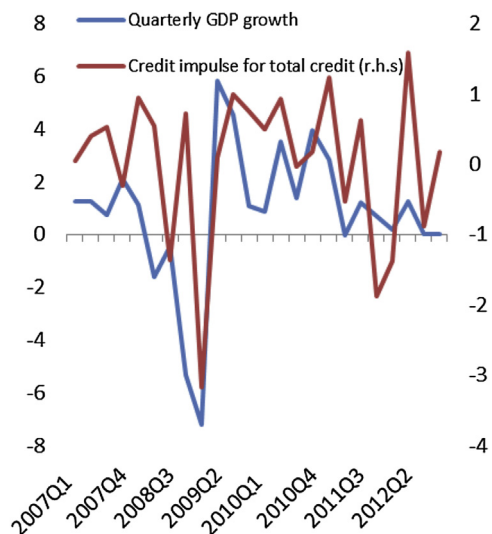


Fig. 4. Credit impulse and GDP growth (percent, quarterly).

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