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Price dynamics in the Belarusian black market for foreign exchange☆

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ABSTRACT

Using unique data from an internet-based foreign-exchange trading platform, we show that the black market efficiently incorporated public information on the state of the Belarusian economy during the Balance of Payments crisis of 2011. Between May and October 2011, the government repeatedly devalued the Belarusian ruble and eventually abandoned its fixed exchange rate regime. Measures derived from black market transaction data have significant predictive power for these devaluations. The significance of these black market measures survives even when we include standard macroeconomic indicators in our forecasting model. In line with standard economic theory, activity in the black market has dried up subsequently.

1. Introduction

We empirically investigate the interplay between black market and official exchange rates in Belarus. We use information from Prokopovi.ch, an internet platform that was launched in April 2011. Prokopovi.ch allows Belarusian citizens to trade in a functioning two-way market which, as we show, incorporated publicly available information in an efficient manner. We were able to create a daily-level data set spanning a period of time which coincided with a currency crisis. An ongoing deterioration of the current account and diminishing official reserve assets in early 2011 led to increased dysfunction in the official foreign exchange market within Belarus, as banks increasingly refused to sell foreign currency at the official rates. Starting in May 2011, the Lukashenko regime repeatedly devalued the Belarusian ruble, and, in October 2011 finally abandoned fixed exchange rates that had significantly overvalued it. We use several statistical techniques to investigate how the official and black market exchange rates interacted during this period. Our data suggest that the devaluations and the transition towards a free floating regime were anticipated by the black market.

Since buying or selling currency in a black market is, by definition, illegal, the participants in the web site could have been subject to prosecution by the police and the secret service. It would also have been possible for the government to manipulate postings, for instance through artificial orders at too high a rate. However, the web site's administrators are not aware of any, even anecdotal evidence of interference by the government. This is a common feature of black markets for foreign exchange: usually, they are tolerated by governments, which is why they are often referred to as parallel markets.

The course of events we describe over half a year mirrors what Reinhart and Rogoff (2004) observe for 153 countries over the half century that followed World War II. Fixed exchange rate regimes were an integral part of the Bretton Woods system, which had been agreed upon in 1944. However, the rigidities due to the Bretton Woods system led to the emergence of black markets. Reinhart and Rogoff (2004) showed that the rates in the black markets were predictors of devaluations. Free-floating exchange rate regimes have been in place since the collapse of Bretton Woods in 1971. But through interventions in foreign exchange markets, central banks still exert great influence on foreign exchange rates. Consequently, Reinhart and Rogoff (2004) argue that the labeling of the Bretton Woods period as one with fixed exchange rate regimes and of the current period as one with free-floating foreign exchange rates is misleading.

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The official decisions to devalue and to abandon the fixed exchange rate regime may have been affected by the source of our data. Contrary to Reinhart and Rogoff (2004), some of the existing literature on black markets for foreign exchange (e.g. Dornbusch et al., 1983) treats official exchange rates and interest rates as exogenous to black market activity. In the past, in certain settings, black markets may have been small enough to assume that their economic impact was negligible. But their role may have changed. There are two reasons why the decisions of policy makers in repressive economies have become more likely to be affected by activity in black markets. First, the internet has reduced the costs of transactions in black markets, leading to an increase in activity when the official rate is pegged. Second, the internet has made black market exchange rates observable to a broader public. Shortages of foreign currency indicated that the Belarusian ruble was overvalued, but the website made market-clearing values publicly available. This increased transparency seems to have reinforced people's doubts about the sustainability of the fixed exchange rate regime.

President Alexander Lukashenko has remained in power since 1994 on his mostly delivered promise of social stability and fast economic growth, achieved in part through the aggressive use of expansionary monetary policy. Central banks in industrialized countries have long used their control over short-term interest rates to stabilize the business cycle. However, such policies create economic distortions: not only do artificially low interest rates increase the medium-term risks of inflation, but they also represent a tax on savings and a subsidy on spending, which may lead to a misallocation of capital to potentially unproductive means. In repressive economies like Belarus, expansionary policies are typically used excessively and, given the rigidities related to central planning, ineffectively (Ding and Kovtun, 2010). Korosteleva (2007) describes the aim of Belarus' central bank as "maximizing seigniorage and inflation tax." While this bank has pursued an aggressive inflationary policy, it has, at the same time, tried to keep the country's currency stable on the foreign exchange market over an extended period. The fixed exchange rate significantly overvalued the ruble and distorted Belarus's trade balance, inducing a persistent current account deficit.

Growing activity in the shadow sector is often related to citizens feeling overburdened by restrictions imposed upon them by the state (Schneider, 2005). The emergence of a black market for foreign exchange is, therefore, only a logical consequence of Belarus' exchange rate policy and the resulting shortage of foreign exchange in the official market. The launch of Prokopovi.ch was likely beneficial for Belarusians as a whole: Rogoff (1998) mentions the possibility that the use of foreign currencies like the dollar or the euro may enhance efficiency because it offers greater price stability. However, he also mentions a potentially harmful effect: the possibility that if governments cannot use seigniorage anymore, they may resort to other, potentially even more distortive forms of taxation.

The paper is organized as follows. Section 2 describes the economic conditions in Belarus and the Belarusian foreign exchange policies during the time period under investigation. Section 3 describes the data sets used and summarizes the main features of the data. Section 4 investigates the time series properties of the underlying data and analyzes possible causal relationships between the time series. Section 5 discusses the results and concludes the paper.

2. Background

Along with fellow non-reformer Uzbekistan, Belarus was the only former Soviet economy that did not contract in the 1990s when the supply of financial resources allocated to heavy industry slowed (Shleifer and Treisman, 2005). The other transition economies of the former Soviet Union declined sharply after the collapse of the Soviet Union, although they have been expanding rapidly since around the year 2000. Belarus' centrally planned economy is still characterized by an emphasis on heavy over light industry and on industry over services (Ickes and Ofer, 2006).

The worldwide financial crisis has had a profound impact on Belarus' economy (Ding and Kovtun, 2010; Korosteleva, 2011; Ioffe and Yarashevich, 2011). After several years of rapid economic growth fueled by cheap, subsidized Russian energy imports, the country ran into severe troubles in late 2010 and early 2011. Several shocks in short order led to a currency crisis in the first half of 2011. First, following a year-long dispute over the price charged for its oil exports, Russia temporarily suspended oil shipments on Jan 1, 2011. In 2010, oil imports from Russia had to talled around 20 million tons, only seven of which were consumed domestically, while the rest was refined and sold in Western Europe, in particular to Poland and Germany at enormous profits, providing much-needed hard currency inflows. Second, as a consequence of the world-wide economic slowdown, the international demand for the heavy machinery that makes up a significant share of Belarus' exports collapsed. These economic problems were compounded by lavish public spending prior to the 2010 presidential election aimed at securing Lukashenko's reelection.

As a result foreign currency reserves fell to around $3.8 bn and the current account deficit widened to 16% of the GDP. Following this substantial loss of reserves in the beginning of 2011, a heavily depreciated black market exchange rate emerged (Husain and Arora, 2012). In May 2011, Russia decided to keep Belarus afloat with a $3 bn loan from the Eurasian Economic Community (Korosteleva, 2011), but at the cost of transferring the ownership rights to the all-important pipeline used to transport Russian gas to Western Europe, by some accounts the only strategic asset of the country. Following the disputed election of December 2010, Lukashenko's violent crackdown on protestors spoiled relationships with the U.S. and E.U., making it difficult for him to turn to them for help.

As noted by Zlotnikov (2011), in the beginning of 2011, the National Bank of the Republic of Belarus (NBB) tried to lessen public demand for foreign currency by limiting the access of private agents, and especially small- and medium-sized enterprises, to available cash. Although President Lukashenko insisted that foreign currency reserves would be sufficient to meet household demand, the broader public had begun to expect that there would be a devaluation coming. The Belarusian ruble exchange rate was maintained within 2% of its fixed value. Despite increasing expectations of devaluation, the regime announced that previously existing restrictions on foreign exchange trading would be lifted as of April 1, 2011. However, this proved infeasible. Due to the inevitable depletion of foreign exchange and gold reserves, on March 22, 2011, the NBB froze the sales of foreign currency to private agents and commercial banks. Despite the obvious shortage of foreign currency the devaluation could be avoided until May 24. On this day, Belarus devalued the ruble by 36% from 3156 to 4931 rubles per US dollar. Husain and Arora (2012) note that even after the first devaluation, a parallel (black) exchange market persisted, giving rise to a multiple exchange rate system. The first devaluation was followed by several adjustments for foreign exchange rates. The second devaluation occurred on September 21, 2011, when the ruble was brought down from 5413 to 7975. Over the preceding two weeks, the ruble had already fallen from 5220 to 5413. This second devaluation was announced two weeks in advance: on August 30, 2011, President Lukashenko said that the change would be implemented via special trading sessions at the currency exchange, which would kick off on September 12 (devaluation was, however, not allowed before September 21). The exchange rate would henceforth be "determined by supply and demand, like any other product."[1]

During the special trading sessions, banks and companies were able to buy and sell foreign currency without limitation and banks were obliged to sell foreign currency to the population at the same rate. In addition, a separate preferential rate was applied to energy payments in ordinary trading. The NBB used the special foreign exchange sessions

[1] See http://telegraf.by/en/2012/02/lukashenko-500-dollarov-eto-sovsem-nizkii-uroven-zarplat and http://www.belta.by/ru/all_news/president/Kurs-belorusskogo-rublja-budet-opredeljatsja-sprosom-i-predlozheniem—Lukashenko_i_569998.html.