Journal of Development Economics
Vol. 67 (2002) 275–307

JOURNAL OF Development ECONOMICS

www.elsevier.com/locate/econbase

Determinants of barter in Russia: an empirical analysis

Simon Commander [a,b,*], Irina Dolinskaya [c], Christian Mumssen [c]

[a] *EBRD, One Exchange Square, London EC2A 2JN, UK*
[b] *London Business School, Regent's Park, London NW1 4NS, UK*
[c] *IMF, 700 19th Street, NW, Washington, DC 20431, USA*

Received 1 September 2000; accepted 1 May 2001

Abstract

This paper analyzes the causes and consequences of non-monetary transactions in Russia, drawing on a large enterprise survey. We show that barter and offsets are linked to liquidity problems at the level of the firm and to arrears in particular. We find evidence that the state has channeled implicit subsidies to enterprises in the form of tax and utility offsets. The findings help explain the rise of non-monetary transactions during much of the 1990s. We show that non-monetary transactions inhibit enterprise restructuring. Our findings suggest that a policy solution to the non-cash problem would require the state and public utilities to phase out arrears and offsets.

JEL classification: D43; G3; H25; L14; P31; P35
Keywords: Barter; Tax offsets; Non-monetary transactions; Arrears; Trade credit; Russia; Transition; Subsidies; Restructuring

1. Introduction

Among the most puzzling aspects of the transition process in Russia has been the steady growth of barter and other non-monetary transactions (NMTs).[1] The Russian

* Corresponding author. EBRD, One Exchange Square, London EC2A 2JN, UK.
E-mail addresses: commands@ebrd.com (S. Commander), idolinskaya@imf.org (I. Dolinskaya), cmumssen@imf.org (C. Mumssen).

[1] In this paper, we shall use the acronym NMTs to signify the full range of non-monetary transactions, not just barter. Where appropriate, we will specify the precise transactional form.

PII: S0304-3878(01)00192-4

Economic Barometer panel of industrial firms indicates that between 1992 and 1998, the share of NMTs in industrial sales rose from under 10% to over 50%.[2] This includes four types of exchange. First, there is "pure" barter where goods are exchanged for goods, either bilaterally or in chains. Second, there are offsets or *zachety*, where debt is settled with goods or services. Offsets have commonly been used to clear obligations among groups of firms or between firms and the government. Third, there are money surrogates such as promissory notes or *veksels* issued by enterprises, banks or government. Fourth, there are debt swaps and cross-cancellations of debt.

What explains the proliferation in non-monetary transactions? As barter requires mutual coincidence of wants, it generally involves large search and transactions costs, especially in multilateral deals. Moreover, there are likely to be substantial negative externalities associated with NMTs, namely the loss of transparency in transactions, the associated spur to corruption, and constraints on enterprise restructuring. While there are a host of alternative explanations—reviewed below in Section 3—no explanation can be complete without accounting for why NMTs have grown so persistently until the Russian crisis in 1998 and why it has been confined to a number of CIS countries, without playing an important role in other transition economies.

In this paper, we argue that the trigger for NMTs can be traced to two crucial factors affecting industrial enterprises: liquidity and credit problems on the one hand, and non-monetary payments of tax and utility bills on the other hand. We see the growth in non-monetary transactions in Russia as being driven primarily by a liquidity and credit squeeze on the industrial sector, which occurred alongside an expansion of implicit subsidies in the form of tax and utility offsets. The provision of such subsidies can be seen as a reaction to the squeeze on enterprise cash flows, and thus as the state's attempt to cope with the underlying lack of financial viability of many industrial firms.

We test our hypotheses using a large survey of Russian firms that was conducted in late 1998. The paper is organized as follows: Section 2 provides a short description of the data set. Section 3 then gives a brief overview of the different explanations for NMTs in Russia and outlines the hypotheses that we intend to test. Section 4 uses the data to investigate the reasons for the recourse to NMTs, focusing on the relationship between liquidity, arrears and the use of non-money, as well as analyzing the role of the state. Section 5 looks at the impact of non-monetary transactions on restructuring, as well as network and performance implications. Section 6 sums up and draws a number of policy conclusions.

2. Data description

This paper is based on a survey of Russian manufacturing and service sector firms. A total of 350 firms were surveyed in 34 *oblasts* or regions of Russia in a 4-week period stretching from mid-October through mid-November 1998. All firms sampled

[2] See Aukutsionek (1998).