Monetary Policy does not work in Russia's Barter Economy –
German Banking as a Solution?

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The Non-Cash Economy in Ukraine/CIS - in Quest of Policy Recommendations -
What needs to be done in order to address the phenomenon that money has vanished as a medium of exchange from the economies of the former Soviet Union? A proper answer to this question depends on an assessment of why barter has surged in the first place in the former Soviet Union (FSU) after macroeconomic stabilization has been achieved. Barter in Russia has exploded from 5 percent of GDP in 1994 to 60 percent in 1998. In Ukraine barter accounts for 51 percent of sales in 1997. Several arguments have been put forward to explain the surge of barter. Among these explanations are: soft budget constraints, delay in restructuring, tax avoidance, and the virtual economy. Delay in privatization and inefficient governance structures are seen to lead to quantity targeting rather than profit maximization. The absence of hard budget constraints leads managers and workers to avoid the costs arising from restructuring by maintaining production in inefficient activities. Barter is seen to help to conceal the true market value of output. Furthermore, barter is seen by many experts to allow to avoid paying taxes by distorting the true value of profits. There is a tax on cash payments because in many countries of the FSU the banking sector is used as a tax collection agency by transferring firm’s incoming cash on bank accounts to the state to pay for outstanding tax arrears. A payment in goods allows to circumvent paying taxes. Finally, the virtual economy argument of barter claims that barter helps to pretend that the manufacturing sector is producing value while in fact it is not. Of these explanations only the tax reason for barter is weakly supported by the data of a survey of 165 barter deals in Ukraine in 1997. The tax argument for barter can, however, not explain why barter exploded from 5 percent to 60 percent within four years. Something else and big is at work here and from our survey data in the Ukraine the following picture has emerged.

Barter is mainly driven by financial reasons. Firms lack the cash to pay for their inputs and banks refuse to provide capital at reasonable interest rates. This has led to the phenomenon of inter-firm arrears in which firms extend trade credits to each other. We argue that these firm arrears allows producers to deal with the problem of trust in the economy.

In a paper Blanchard and Kremer (1997) (henceforth BK) explain the rapid output decline in the FSU by disorganization and trust problems. Disorganization arises in a “no future” environment when old relationships break down before new ones can be established. Output

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1 For the development of barter over time see Transition Report 1997, EBRD, for a recent estimate on Russia see Commander and Mummsen 1998, and for the Ukraine Marin, Kaufmann, and Gorochowskij 1999.
2 See Marin, Kaufmann, and Gorochowskij 1999.
collapses in response to an input shortage. Input suppliers stop to deliver inputs out of the fear of being “held up” by their input buyers. Under central planning the main instrument to enforce production and delivery of goods was the coercive power of the state. Transition eliminated the central planner and thus the instrument to limit the adverse effects of the lack of trust in the economy without having created yet the institutions to deal with it that exist in the West.

Is there another mechanism than the coercive power of the state which can substitute for the absence of institutions which exist in the West by which producers can be induced to deliver inputs and can be prevented from reneging the contract? In a recent paper Marin and Schnitzer (1999) (henceforth MS) show that inter-firm arrears can play such a role. They introduce liquidity and credit constraints into the BK model. In a chain of production à la BK they assume that intermediate producers have no cash to pay for their inputs and thus require a trade credit from their input suppliers. They can repay this credit when they sell the input (after refinement) to the next buying firm. In order to make sure that their trade credit is repaid, input suppliers have to incur enforcement costs (they have to involve legal firms or the Mafia). MS then show that the fact that intermediate producers have no cash to pay for the inputs may help them to deal with the trust problem. The fact that the input supplier has to make sure to get paid when the input buyer is short of cash to pay for these inputs gives the input purchaser bargaining power. This bargaining power in turn reduces the possibility that the input supplier can exploit the input purchaser’s need for the input. More specifically, since the input buyer has no cash to pay for the input upon delivery, once the input supplier delivers the input, the bargaining power reverses and shifts to the buyer. When it comes to paying for the input after the input buyer has realized his profits from selling the input to the next firm (which the input seller is assumed to be observing), the input buyer will hold up now the input seller and will renegotiate the price for the input. He will try to lower the input price by the enforcement costs which the seller has to incur when the buyer does not pay voluntarily. In equilibrium the input seller will accept this lower price, since his alternative is to insist on the original price and to involve the Mafia. However, in anticipation of the buyer’s renegotiations of the price, the input supplier will inflate the input price in the first place to cover the enforcement costs when he delivers the input. MS then show that marking up the input price in anticipation of the future price renegotiations will be possible only at low credit enforcement costs. When these costs become sufficiently large, the buyer’s liquidity constraint will make it impossible for the supplier to pass on these costs to him. The reason is
that the most the buyer can pay for the input is the cash he himself realizes from selling the intermediate good to the next buyer. If enforcement costs are sufficiently large the input buyer’s cash from the sale to the next firm will not be enough to cover these costs. This is the circumstance when the input buyer can exploit the fact that he is liquidity constraint to shift the surplus in his favor and thus prevent to be held up by the input supplier. When credit enforcement costs become too large, however, the input supplier will refuse to participate in the deal, since he cannot expect a positive profit. We found supporting evidence for this role of arrears in the Ukraine.³

If inter-firm arrears – the intermediate producer’s liquidity constraint – is alleviating the trust problem, what is then the role of barter? Barter becomes important when credit enforcement becomes so costly that input suppliers will refuse to participate in the deal. Thus, if the input buyer has no cash to pay for the input and requires a trade credit from the input supplier and the legal system to enforce payment is poorly developed output collapses due to the lack of credit. Under these circumstances barter can help to maintain production. Barter introduces a hostage, a commitment devise that prevents the buyer from fully exploiting his bargaining power. More specifically, when credit enforcement becomes prohibitively costly for the input supplier to participate in the deal, introducing a second profitable deal in the form of a goods payment allows the input buyer to commit not to exploit his bargaining power and to shift some of the profit back to the input supplier to make him participate in the deal. Thus, barter comes into play when arrears become so critically large that firms will refuse to extend further trade credits to their buyers out of the worry of not being paid. Barter then allows the debtor firm to make a commitment to repay the loan and thus restores the problem of creditworthiness for one specific deal rather than for the firms overall. Barter is a self enforcing arrangement which makes the input buyer to loose from reneging the contract. This way barter helps to cope with the trust problem of the economy without relying on the legal system. We found supporting evidence for this role of barter as a response to a capital market imperfection.⁴

The view of barter as a substitute for a banking failure suggests the following explanation for the evolution of barter over time:⁵ The arrears crisis in Russia evolved in 1992 while barter started to rise in 1994. Barter started to rise in 1994 because around this time arrears reached a

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⁴ See Marin/Schnitzer (1999) and Marin, Kaufmann, Gorochowskij (1999).
⁵ For an explanation of barter across 20 transition countries see Kaufmann and Marin (1999).
critical level at which production was unsustainable. Our data suggest that this critical level was reached when arrears were around 30 to 40 percent of firm’s sales. At this point firms refused to extend further credit to each other. Barter then stepped in as the only way to maintain production. At this point barter started to substitute for the non active banking sector as well as for trade credits in cash which explains the explosive increase.

Given this story of the role of barter in the FSU what follows for policy? Barter seems to have established itself as an economic institution to deal with the banking failure and capital markets imperfections in transition economies. We have argued that barter has produced short term benefits by allowing these economies to maintain production without a functioning banking sector. However, the short term efficiency gain might come at the costs of long term efficiency losses. Barter might have established itself as an institution which hinders the banking sector from developing. This transition trap might arise because banks will not have an incentive to enter the market given the existence of barter. A major challenge in the transition to a market system is the substitution of a centralized credit system with decentralized financial discipline. We argue elsewhere that a decentralized banking system creates a coordination problem that a multi-banking system cannot handle. Creditors are more likely to finance credit-constraint firms under a relationship-based financial system because it allows these creditors to solve the coordination problem. We suggest, therefore, for the FSU to reintroduce the central planner in the form of a German type banking system to avoid such a transition trap.6

Reforming the banking sector in the FSU in order to remonetize their economies is urgent since expansionary monetary policy to overcome the liquidity shortage in these economies might as well make matters worse. In a barter economy a monetary expansion has perverse effects. The reason is that reducing arrears by fusing liquidity into the economy will eliminate input buyer’s bargaining power thereby robing them of their instrument to deal with disorganization and the trust problem of the economy. This leads to less rather than more output. Thus, in a distorted economy like Russia’s eliminating one distortion – arrears through a monetary expansion – without removing the other distortion – the trust problem in the economy – will not lead to desired outcomes. Monetary policy will lead either to lower output, because production breaks down due to the trust problem or to higher inflation, because input suppliers will inflate their inputs to exploit their bargaining power when the

6 For the argument see Huang, Marin, Xu (1999).
trust problem is not too large. In other words, a monetary expansion in a barter economy works like introducing partial reform in an overall distorted economy.  

References:


7 For the argument why partial reform might make things worse in an overall distorted economy see Murphy, Shleifer, and Vishny (1992).