

The Fate of Russia's Former State Banks: Chronicle of a Restructuring Postponed and a Crisis Foretold

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TRANSITION IN CENTRAL AND EASTERN EUROPE has come a long way. One of the crucial components of a smoothly functioning market economy is an efficient and stable commercial banking system. In all countries of the former communist bloc reformers have been faced with the transformation of the inherited monobank system to a two-tier banking system with a central bank and commercial banks. The restructuring and privatisation of the existing state-owned bank institutions is one of the major challenges in this respect. It has been a long and painful process that remains incomplete in many countries.¹ For Russia and some other former Soviet republics, the literature refers to the privatisation of the former specialised banks (*spetsbanki*) as a secessionist process that ensued without previous bank restructuring. The much needed restructuring of the former *spetsbanki* has been pending ever since. The number of former *spetsbanki* in financial trouble gradually increased, until a final blow was dealt by the August 1998 crisis. The main contribution of this article is the empirical analysis of the behaviour of *spetsbanki* descendants as a group. The descendants of the former *spetsbanki* appear to have higher labour costs, poorer loan quality, higher loan rates and marginally lower capital than other banks. This cannot be explained by initial conditions as we measure at a point in time at least 3–5 years after their creation. This shows that the *spetsbanki* were reluctant to restructure and helps to explain why most of them have since failed.

The article starts with a descriptive analysis of the fate of large specialised banks (*spetsbanki*) in post-communist Russia. I then proceed with an empirical analysis that establishes new stylised facts common to all descendants of the former state banks, including the smaller ones that are less well-known. The final section summarises and concludes.

Descriptive analysis of the fate of the spetsbanki and their largest descendants

It is common knowledge that five USSR *spetsbanki* were founded, namely Agroprombank, Promstroibank, Sberbank, Vneshekonombank and Zhilsotsbank. Eliseev mentions that the decentralisation of the economy induced what he describes as 'separatist' movements in the *spetsbanki*, with as a consequence many regional

branches separating from the central body or establishing new ‘daughter’ banks. He also notes that this process started in 1988–90, well before any official policy of bank privatisation.² Tompson mentions at several instances that the *spetsbanki* essentially fragmented and privatised themselves. He refers to the process as ‘secessionist’.³ Abarbanell & Meyerdorff explain that the Central Bank of Russia (TsBR) initiated the commercialisation of the *spetsbanki* in August 1990 by transferring all the assets of Agroprombank, Promstroibank and Zhilsotsbank to the local branches of the TsBR. Branch managers were then allowed to decide independently whether to form their own small bank or to join with other branches of the former *spetsbanki*. They point out that the newly founded TsBR pressed for the transformation of Russian branches of *spetsbanki* into independent commercial banks.⁴ In the next section we will analyse the nature of the *spetsbank* descendants as a group. We continue this section with a description of the fate of the largest descendants of the former *spetsbanki*.

Agroprombank⁵ (APB) was created in 1988 as Rosselkhozbank,⁶ after the reorganisation of the USSR APB. The bank was reregistered as a public joint-stock bank in October 1991 under the name Agroprombank and became at that moment the biggest deposit bank in Russia with the exception of the TsBR-dominated Sberbank. Initially the State Property Committee held 65% of the shares in the new APB, but consecutive rounds of new share issues combined with high inflation eventually diluted the state share to not more than 1.5% in November 1996, on the eve of its acquisition by SBS.⁷ The bank however remained a representative of the Russian government. It continued to supply agricultural enterprises with preferential loans and received funds for this purpose from the budget, though often with a substantial delay.⁸ The disintegration of the USSR APB gave birth not only to the Russian APB but also to a network of smaller local and regional agricultural banks.⁹ The main Russian descendant, APB, eventually ran into serious financial trouble, precisely because it continued to be a special government agent for agricultural finance, which involved some distinctively disastrous lending policies. Specifically, the interest subsidies granted by APB to agricultural enterprises in the framework of the federal cheap loans policy were reimbursed by the government only with great delay, and the write-off, enforced by the government in 1994, of 2.5 trillion rubles of debts of agricultural enterprises to APB was only partially reimbursed in 1996.¹⁰ By then APB was in such a dire state that the government was faced with the choice of renationalising the bank or selling it off. Renationalisation was demanded by the ‘agrarian lobby’ in parliament, with the effect that El’tsin eventually issued presidential decree 1042, which urged the Ministry of Finance and the TsBR to submit a draft law to the Duma that would reinstate APB as a state agency. The management of APB itself discussed the draft law in a meeting on 15 November 1996, in the presence of the heads of the regional subsidiaries. The chairman, Yurii Trushin, expressed his clear support for APB as a state bank with a monopoly in agricultural lending, citing food safety and equivalent institutions in continental Europe as an argument.¹¹ However, it suddenly became clear that the government would not and indeed could not bear the budgetary burden of renationalising APB. With hindsight, it seems that the presidential decree was mostly for political consumption. Once El’tsin had secured his re-election as Russian President and hence the survival of his government in July 1996, the reformers

succeeded in reversing the course of events abruptly. The government committee for financial, monetary and credit policy, headed by Vladimir Potanin, proposed a tender scheme where the winner would buy 51% of the shares and would restructure the bank within 3 years, during which period 24.5% of the shares would be given in trust management to the state. Together with the existing 1.5% still managed by the State Property Committee, this proposal granted the state a 26% blocking minority.¹² The tender also implied some severe restrictions for the buyer. The most constraining conditions were: (1) the buyer had to offer APB a 1,000 bn rubles loan for 5 years at a rate 50% below the official TsBR rate; (2) APB's loan portfolio became the liability of the buyer and the buyer had to build adequate loan loss reserves within 6 months; (3) the buyer had to guarantee APB's functions as an agent for state finance of agriculture; (4) 60% of the loan portfolio had to be directed to the agricultural sector.¹³ Eventually an investment tender was organised on 22 November 1996. Only two bidders expressed interest, namely Bank Imperial and SBS (Stolychnyi Bank Sberzheniya). SBS was the happy—or perhaps the unwise—winner. SBS merged with APB to form SBS–Agro, which became one of the largest deposit banks in Russia. However, the newly merged structure inherited APB's financial problems and was opposed from the outset by the agrarian lobby, who still preferred a state structure to a private one. Kulik, *duma* representative for the Agrarian Party, argued that APB should have been nationalised and the controlling block of shares (51%) acquired by the state instead of by SBS.¹⁴ With hindsight it is abundantly clear that the SBS–Agro venture was doomed to fail. The unpleasant demise of SBS–Agro duly ensued. About a week before the August 1998 default, SBS–Agro had already failed to redeem a credit on the interbank market, revealing its illiquidity.¹⁵ The crisis in the whole banking sector that erupted just a week later was therefore in many ways a godsend for SBS–Agro. It substantially increased the readiness of the authorities to supply the bank with fresh and free liquidity. When SBS–Agro faced a bank run in summer 1998 it was classified as a bank of 'systemic importance', a Russian wording for 'too big to fail'. This resulted in several measures to sustain SBS–Agro at any cost. First, the government gave SBS–Agro depositors the option to transfer their deposits to Sberbank, albeit on not very favourable conditions. Second, in the first year after the crisis the TsBR disbursed more than 20 bn rubles to bail out big banks. The Soyuz group, successor of the SBS–Agro empire, received more than 10 bn rubles of these so-called stabilisation credits. A second stabilisation credit of 5 bn rubles was handed to the SBS–Agro group in April 1999.¹⁶ Only on 30 July did APB, which still existed as a legal entity, lose its banking licence.¹⁷ Then, in August 1999, a year after the collapse, the TsBR installed temporary administrators in SBS–Agro with instructions to carry out a special audit of the bank. Clearly, nobody could even think of compromising the summer 1999 harvest by early action. According to a report prepared by the TsBR temporary manager, the negative capital of the bank reached a record low of 33 bn rubles in November 1999.¹⁸ SBS–Agro sought the bankruptcy of its sister APB, which was declared bankrupt on 7 October 1999 by a Moscow court.¹⁹ Eventually SBS–Agro was brought under the supervision of the Agency for Restructuring of Credit Organisations (ARKO), where it still remains. Under pressure from the agricultural lobby, the government chose to re-establish a fully state-owned agricultural bank, Rosselkhozbank, in April 2000, with ARKO as

the owner. The members of the board of directors would come from the Ministry for Agriculture, the TsBR, the Ministry of Finance, the Ministry of Economic Development and Trade and two other government agencies. Despite the fact that the law on bankruptcy of banks prohibits managers of bankrupt banks from holding a management function in another bank, Trushin, the former director general of the Russian APB and SBS–Agro, was chosen to head the new institution. Unfortunately the new bank was initially an empty box, as the SBS–Agro network had been transferred to other companies controlled by Aleksandr Smolensky, the SBS–Agro president, and then leased back to SBS–Agro.²⁰ The new institution will mainly distribute subsidised credits to the agro–industrial complex, just as its predecessors SBS–Agro and APB did, but it does not have a serious branch network any more and there is still a lot of discussion within the government about its function.

The main descendant of the USSR Promstroibank is its Russian branch Promstroibank (PSB). The Russian branch of Promstroibank was reorganised as a joint-stock company. Later it registered as a commercial bank in November 1991.²¹ The bank continued its predecessor's activities. In April 1992 it was granted a special status by the government: PSB became a representative of the government and continued to provide financing for programmes that were given priority by the government. The preferred sectors included agriculture, energy, transport, telecommunications and heavy industry.²² From our account of APB it should be clear that this position as a representative of the state is unequivocally positive neither for profitability nor for sustainability. During 1990–92 PSB lost control over its own structure. More than 100 local, regional or sectoral branches were privatised spontaneously and without prior consent of the central management by the branch managers. During an interview in 1995 the chief accountant of Promstroibank described the process as a complete mess.²³ The new shareholders were usually the main clients or other important regional or sectoral enterprises.²⁴ Promstroibank managed to become the main shareholder (but not always the majority shareholder) in 12 of these banks. Together with these 12 'daughters' Promstroibank founded the so-called Promstroibank Holding Group in 1992.²⁵ The majority of these new banks, however, became fully independent of what remained of Promstroibank. A large number of these banks acceded to Rossiya, the now defunct association of banks founded on the basis of the former Promstroibank.²⁶ Sometimes the successors of Promstroibank can be easily recognised by their name (Uralpromstroibank, Kuzbaspromstroibank etc.), but a large number of banks choose to hide their origin behind new and fashionable names. Among these are large and well-known banks such as Tveruniversalbank or Tokobank, both direct descendants of Promstroibank and both declared bankrupt in the meanwhile.²⁷ The TsBR withdrew PSB's banking licence in July 1999, under pressure from the IMF to proceed with bank restructuring, and PSB was ultimately declared bankrupt in 2000.²⁸ PSB went down with a lot less fuss than APB. There are several reasons for this. The government had no need for PSB any more because it could increasingly rely on other full-blown state agents to pursue its goals in industrial policy. Specifically, Sberbank and Vneshtorgbank assumed the role of providing credit for large-scale industry after the August 1998 crisis. Also, PSB lacked the support of the industrial lobby in the Duma. While the industrial lobby is well represented in the Duma, most industrial empires had long since established

there own preferred house banks or 'pocket banks'. Therefore the big industrial groups were not dependent on PSB for their financing and had no particular interest in the bank's survival. On the contrary, most business empires rationalised their own banking empires in the aftermath of the 1998 crisis. Gazprom happened to own 25% of PSB, along with 13.2% of Inkombank and 13.6% of Bank Imperial, but Gazprom chose to concentrate its banking empire mainly around its main banking assets, Gazprombank and, to a lesser extent, Natsionalnyi Rezervnyi Bank. Assets were shifted accordingly. When this process of reallocation of funds was finished, PSB (next indeed to Inkombank and Imperial) was allowed to go under. In fact bankruptcy had become rather convenient for most of the parties involved. Gazprom got rid of some liabilities, Sberbank got the remaining deposit base and the TsBR could show that it did some restructuring after all.²⁹ In March 2002 the headquarters building of Promstroibank was auctioned and bought by Gutabank, holder of the main share of Promstroibank's debt, at below market prices.³⁰

Mosbiznesbank, the main successor of Zhilsotsbank, was set up on the foundations of the old head office. Zhilsotsbank was reorganised as a joint-stock company in 1990, when Gosstrakh USSR, the state insurance fund, was the bank's major shareholder. The second largest shareholder was the Moscow city administration. The old head office joined with a large number of branches (11 Moscow city branches and 15 branches from seven regions) and became independent under the name Mosbiznesbank. The genesis and early development of Mosbiznesbank has been analysed in detail by Abarbanell & Meyerdorff.³¹ Next to Mosbiznesbank, more than 100 different banks have been created on the ruins of Zhilsotsbank.³² Among the descendants some have names that refer to their genesis (Kostromasotsbank, Chuvashsotsbank, Sakhsotsbank, Yarsotsbank) but some do not (Mosstroiekonombank, Novatsiya, Pervyi investitsionnyi bank, Pyatigorsk, Velikie Luki-bank, Vladbank, Zabaikalsky, Interprogressbank etc.). Many of the smaller regional descendants ran into severe trouble or were liquidated before August 1998.³³ Here we shall concentrate on the role of Mosbiznesbank, which was supported by the Moscow city administration. How is it possible that Mosbiznesbank, backed by the substantial political and financial clout of the Moscow city government, was allowed to go bankrupt. Again the answer is that it was rather convenient for all parties. The Moscow city government had no further need of Mosbiznesbank because it had founded its own municipal housebank, the Bank of Moscow (BoM), on 7 March 1995. At the time of the foundation Mosbiznesbank held 51% of Bank of Moscow's shares, while Bank of Moscow held 40% of Mosbiznesbank's shares. The city government controlled directly and indirectly (through its share of 40% in Mosbiznesbank) the majority of Bank of Moscow, but only 40% of Mosbiznesbank.³⁴ By 1998 BoM already handled about 70% of Moscow city budget funds and hence the name house bank is justified. Mosbiznesbank's major remaining asset was the branch network it largely inherited from Zhilsotsbank. But this asset was stripped away when the Bank of Moscow acquired the Mosbiznesbank branch network at a symbolic cost.³⁵ In addition, Mosbiznesbank's deposits had largely been transferred to Sberbank in the aftermath of the August 1998 crisis. Hence nobody had an interest in the survival of Mosbiznesbank any more. The TsBR, owner of Sberbank, could demonstrate a seemingly tough stance on bank restructuring by taking away the licence. The

Moscow city government had already put its eggs in another basket (Bank of Moscow) and managed in addition to snatch the Mosbiznesbank branch network away. In short, by mid-1999 the bank had become all but an empty shell most interested parties wanted to dispose of. No wonder then that the bank lost its banking licence in July 1999 and was declared bankrupt in January 2000 by the Moscow Arbitration Court.³⁶

The Russian branch of the USSR Sberbank was reformed into the independent Savings Bank of the Russian Federation (Sberbank) and registered as a joint-stock company in 1991.³⁷ Sberbank (SB) was the only one of the *spetsbanki* that succeeded in maintaining its integrity and keeping at bay separatist tendencies and internal feuds. There are several reasons for this. SB has always been a relatively centralised institution, with little discretionary power for local branches. Also, the bank's main asset is its reputation of absolute trustworthiness, a very scarce good in Russia indeed, and this depends in turn on its status as a state bank. Lastly, SB's managers were less likely to have established close relationships with corporate clients, because of the repetitive and simple nature of its operations.³⁸ Together these factors ensured that the bank kept its integrity. The managers were less tempted to break away because this would imply the loss of their main asset, namely the trust of depositors, without this being compensated by good established connections with big corporates that could provide the capital for the breakaway. SB also remained firmly under the control of the state through the majority ownership of the TsBR, although there were several attempts to release the grip of the state and the TsBR on SB.³⁹ All these attempts were unsuccessful. Not only did SB remain a state institution, but it also succeeded in regaining its stranglehold on the Russian deposit market. The share of SB in ruble household deposits demonstrates the sad failure of commercial banks to conquer the deposit market in the 1990s. In the Soviet era the share held by SB was around 90%. It then gradually fell to a low of under 42.5% in mid-1994, which is presumably explained by the largely negative real deposit rates paid by SB in the period 1992–93⁴⁰ and its refusal to compensate depositors for inflation losses. After the financial scandals in the second half of 1994 (Sergei Mavrodi and his MMM pyramid) and the exchange rate crisis in October 1994,⁴¹ SB's share of the household deposit market started to rise steadily. By the end of 1994 Sberbank's share had risen to 58.6%.⁴² Every additional financial crisis was clearly marked by an additional jump in SB's share of the deposit market.⁴³ The August 1998 crisis brought another boost in SB's market share of more than 10%. Households trust SB mainly because of its government guarantee, and rightly so. On the occasion of the August 1998 crisis SB lost half of its net assets in the government default on GKO's, but the government confirmed its guarantee and offered depositors of large bankrupt banks the option to shift their deposits to SB. Among the banks that had their deposit base transferred to SB in the first half of 1999 were, not surprisingly, Promstroibank, SBS–Agro and Mosbiznesbank and a bit later also Kuzbassprombank, all fellow *spetsbank* descendants.⁴⁴ Only Vneshtorgbank, the other TsBR-owned bank with a state guarantee on its deposits, managed to keep its deposit base and in fact its banking licence. As a result SB held between 85% and 90% of the ruble household deposit market by the end of 2001.⁴⁵

SB's status as a state savings bank yielded many benefits for the bank other than

the state guarantee on deposits. The bank had special beneficial arrangements for reserve requirements on ruble deposits until 1999. It was also exempted from some of the TsBR norms of prudential control, such as the 'N11' (*norma 11*) requirement that a bank's retail deposits do not exceed its paid-up capital.⁴⁶ Together with the state guarantee, these privileges helped SB to regain its dominant position in the ruble deposit market. One wonders why the TsBR or the government needed all these cash rubles. The answer is simple. In the period from 1994 to summer 1998 SB was the largest single investor in government debt, absorbing as much as 30–50% of the T-bill market.⁴⁷ The share of Sberbank in the GKO market increased from around 25% in the first half of 1995 to more than 30% by the end of 1995, more than 40% by mid-1996 and around 50% in 1997.⁴⁸ Clearly, financing for the government deficit was in great and increasing demand. After the 1998 crisis the TsBR and the government have increasingly used Sberbank to finance their priority sectors, as a substitute for its now defunct federal agents Promstroibank, Mosbiznesbank and SBS–Agro. It is indeed quite worrying that Sberbank increased its corporate operations after the crisis. The bank now handles around 20% of all enterprises' settlement and clearing accounts. Much of the rest is handled by Vneshtorgbank and foremost by large pocket banks. SB also began to finance other commercial banks, cooperatives, agricultural units and large corporates. The share of SB in total credits to the economy increased from 10% in early 1998 to 22% by the end of 1999 and has remained between 20 and 25% ever since.⁴⁹ Hence SB is not only the largest deposit bank but also dominates the markets for corporate payment settlement and corporate lending.

Vneshekonombank was split into Vneshekonombank and Rosvneshtorgbank,⁵⁰ now commonly referred to as Vneshtorgbank. The new Vneshekonombank lost a lot of its responsibilities but continued to exist as a part of the central bank system of the union, later of the CIS. According to the debt agreement among eight former republics and the G-7 in November 1991, Vneshekonombank became the debt manager for all foreign debts of the (former) Union.⁵¹ Moreover, the institution was to manage all new Russian government debt and procure state guarantees for state projects. On 13 January 1992 the president of the Russian parliament signed a decree stating that Vneshekonombank had to respond to the TsBR. This confirms that Vneshekonombank became part of the central bank system. It lost all its functions as the state bank for foreign economic activities. Vneshtorgbank, originally founded in 1922 and liquidated at the end of 1987, was recreated in January 1992. The institution assumed all the responsibilities of the old Vneshekonombank in its function as the bank for foreign economic transactions.⁵² The TsBR is the majority shareholder of Vneshtorgbank. Some of its regional branches were re-established by their largest customers as independent commercial banks. However, unlike Promstroibank, Zhilsotsbank and Agroprombank, Vneshtorgbank managed to retain or regain majority ownership in most of the separatist banks. In many cases Vneshtorgbank itself took the initiative to register branches as independent banks with Vneshtorgbank as the majority owner. Examples of such Vneshtorgbank-dominated banks are Zevsap-kombank, Tikheookeansky Vneshtorgbank, Vneshtorgbank ATR, Bank Volgo-Oksky, Dalvneshtorgbank and Magadanvneshtorgbank. In 1994–98 several of these Vneshtorgbank-dominated banks gained independence from the parent bank through several

rounds of capital injections that diluted the share of the uninterested Vneshtorgbank. Uralvneshtorgbank is one example of such a Vneshtorgbank satellite turned independent.⁵³ The new owners were often big local enterprises and local individuals. In the aftermath of the 1998 default active state support was provided to Vneshtorgbank, which flirted with illiquidity in September 1999. In the autumn of 2000 Vneshtorgbank was given the branch network of Mostbank (another failed bank that got its leading personnel from the former Vneshekonombank USSR and Promstroibank USSR) and began accumulating capital.⁵⁴ Notwithstanding the serious financial troubles the bank encountered, the unconditional support of the TsBR allowed Vneshtorgbank to expand its activities. As a result, Vneshtorgbank and Sberbank together came to dominate about one-third of the sector of corporate payment settlement and corporate lending.⁵⁵ This is due to change, however, since Vneshtorgbank is scheduled for privatisation. Indeed the budget proposal for 2003, announced on 6 June 2002, implies that the government will privatise Vneshtorgbank in 2003. This would be the first act of controlled bank privatisation in Russia and certainly has the potential to contribute to competition and restructuring in the sector. Talks have already been held with potential buyers, namely the EBRD, IFC and Citibank.⁵⁶ Clearly there are no plans so far to exclude foreigners from this privatisation.

To summarise this descriptive analysis, three *spetsbanki* were split, commercialised and spontaneously privatised, namely Agroprombank, Promstroibank and Zhilsotsbank. Vneshtorgbank remained a state bank with the TsBR as majority shareholder, but some branches split off and became independent. Sberbank, also majority owned by the TsBR, was the only *spetsbank* to keep its structure entirely intact. In 1994 there were five descendants of *spetsbanki* among the 10 biggest banks in Russia, namely Agroprombank,⁵⁷ Mosbiznesbank, Promstroibank, Sberbank and Vneshtorgbank.⁵⁸ It would seem that this domination has all but faltered with the demise of Promstroibank, Mosbiznesbank and SBS–Agro. The remaining Sberbank and Vneshtorgbank dominate the banking market more than ever and they are both firmly under TsBR control. Vneshtorgbank and Sberbank, both owned by the TsBR, together handle most deposits and roughly one-third of corporate settlement accounts and one-third of corporate lending.⁵⁹ This domination of the banking market by public ownership would look even more impressive if we included the banks owned by the TsBR indirectly, through Sberbank and Vneshtorgbank. This is only reinforced by the proliferation of banks dominated by local authorities. Indeed, many Russian cities and regions have their own pocket bank.⁶⁰ The domination of public ownership in the Russian banking sector is truly worrying in the light of the need to create an efficient and competitive Russian commercial banking system. Clearly this has the potential to become one of the thorny issues in Russia's accession process to the WTO. The Russian government has however decided in June 2002 to proceed with the privatisation of Vneshtorgbank. This seems to be an important step in the right direction. This leaves Russia with the challenge of freeing the Russian banking market from Sberbank domination. The introduction of deposit insurance for all banks would be an important step to creating a level playing field for all banks. Currently only Sberbank deposits are protected by a state guarantee. On 4 June 2002 representatives of the Ministry of Economic Development, the TsBR, the Ministry of Finance and the

parliament agreed on a common position about deposit insurance, including specific implementation provisions. This will in the near future result in a law on deposit insurance that, in the current reading, will lead to a functioning system by July 2003.⁶¹

Are the descendants of the spetsbanki different?

The uncontrolled character of this process of bank privatisation yielded several hundreds of banks, many of which were simply too small to survive. The TsBR noted that in early 1994 609 of the 2,041 registered banks were direct descendants of the former *spetsbanki*. Among these 609 banks 42.7% were descendants of Agroprombank, 28.2% descendants of Promstroibank and 20.2% descendants of Zhilsotsbank.⁶² In many cases, regional managers took the opportunity to found their own banks on the ashes of regional, local or sectoral branches of the *spetsbanki*. For example, in Tula in 1990 Priupsbank emerged from the regional branch of Promstroibank USSR, KSERT bank was the regional successor of Zhilsotsbank USSR, Tulaagroprombank sprang from Agroprombank and Baltika from Promstroibank.⁶³ According to our field data, this process started as early as 1988—that is, before any law or regulation enforced or allowed this decentralisation of *spetsbanki* and even before the very existence of the TsBR—and indeed gained momentum in the early 1990s, when the TsBR accepted and started to stimulate this tendency of spontaneous privatisation, as described by Abarbanell & Meyerdorff. Indeed, the TsBR regulations of July and August 1990⁶⁴ were to a large extent a regularisation of the actual situation. In this sense the privatisation of the specialised state banks is equivalent to the insider privatisation of industrial enterprises that ensued later in 1993–94. It is not a new observation that the privatisation in Russia was a chaotic process, both in the banking sector and the rest of the economy. Empirical research has shown that insider privatisation delays corporate restructuring.⁶⁵ The real question therefore is whether the secessionist privatisation of *spetsbanki* affected the nature of Russian banking and whether it helps to explain the subsequent problems in the Russian banking sector. This requires empirical analysis.

The data

In order to conduct empirical analysis on the descendants of the *spetsbanki*, we need data on an early stage of their development. In 1995–97 many of the smaller regional successors failed and only the larger successors remained in business. If we looked only at the large successors, we would have a biased sample, since the larger successors clearly enjoyed government support up until the crisis of August 1998 and beyond (as shown above for SBS–Agro). Therefore we need bank data for the end of 1994. This is already 3–6 years after the creation of the *spetsbank* descendants, but before the TsBR started, under the presidency of T. Paramonova and later V. Dubinin, to enforce its regulation, albeit only for the smaller banks. I collected the 1994 accounts of 445 Russian banks. The data were collected from several sources.⁶⁶ Having doubts about the reliability of data comes naturally in Russia. Doubts need not

TABLE 1
REPRESENTATIVENESS OF THE SAMPLES

| <i>On 1 January 1995</i> | <i>Number of banks</i> | | <i>Total assets (bn rubles)</i> | |
|--------------------------|----------------------------------|---------------------------------------|---------------------------------|---------------------------------------|
| | <i>Genuinely operating banks</i> | <i>Samples as % of the population</i> | <i>All registered banks</i> | <i>Samples as % of the population</i> |
| Bank population | ± 1,000 | | 322,445 | |
| Sample G(1994) | 230 | 23 | 94,695 | 29.4 |
| Sample D(1994) | 126 | 12.6 | 35,102 | 10.9 |

be higher, however, than about other Russian data at that particular time, certainly not if compared to macroeconomic data. It has been argued that aggregate banking data are more appropriate to analyse the Russian banking sector. Using aggregate data brings no consolation in this case, however, since they are just an aggregate of the individual bank data: if the individual data are consistently biased, so will be the aggregate numbers. If the individual data are not biased (there is only a random deviation from reality) then regression analysis will take care of the random mistakes and there is no need to use aggregate data. In addition there are no good aggregate data about bank loan rates, dividend policy or bad loans in 1994. Therefore only individual bank data will shed any light on these issues.

To ensure data reliability, I walked the extra mile of checking the data very carefully and rejecting any suspicious banks from the sample. I conducted a number of tests that are described in detail in Appendix A. These tests ensure that only genuine and operating banks are included in the sample. This process was very costly in terms of lost observations, but yielded bank data that are reliable and still very representative. This resulted in two samples: a sample with detailed information D (detailed) of 126 banks and a less detailed sample G (general) of 230 banks.⁶⁷

It is generally accepted that from the more than 2,500 banks officially registered by the end of 1994 only around 1,000 were genuinely operating as banks. Since I selected only genuine and operating banks, sample D(1994) represents about 12.6% of the active bank population, while sample G(1994) represents about 23%. With respect to bank assets, sample D(1994) represents 10.9% of total bank assets and sample G(1994) represents 29.4% of total bank assets (with the exclusion of Sberbank). These numbers are an underestimation of the true representativeness, since the samples only consider genuine banks, while the population contains the assets of all registered banks. Table 1 gives an overview of the representativeness of the samples.

To verify whether the structure of the samples is comparable to the population structure, further detail is needed. The banks are classified according to three criteria. (1) Is the bank Moscow-based or not? (2) Is the bank local or rather a regional or even national player? (3) Is the bank a descendant of (part of) a former state bank or not? The operational criteria are as follows:⁶⁸

- Moscow banks have their official headquarters address in Moscow according to the register of the TsBR. This category is important because Moscow is the financial capital of Russia and therefore has special characteristics.

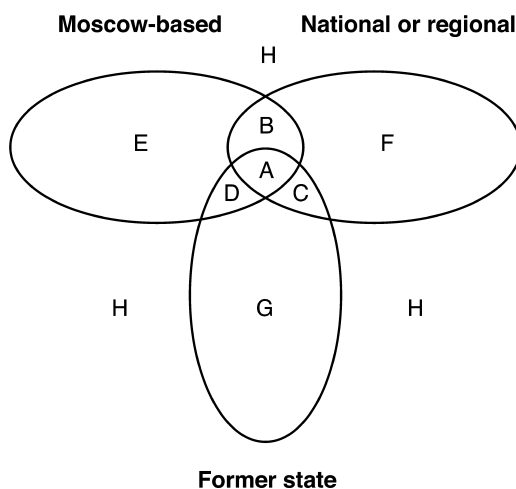


FIGURE 1. THE STRUCTURE OF THE SAMPLES.

- National banks have branches in at least three Russian regions other than the Central Moscow region. Their scope of operation is deemed to be national.
- Regional banks have at least five branches in a particular region. They are large in their region but often not important outside it.
- *Spetsbanki* are the descendants of a branch, a local department, a regional department, a sectoral department or even the headquarters of one of the formerly state-owned *spetsbanki*. The denomination '*spetsbanki*' refers to their origin (and, as we will show, to certain common characteristics that follow from it) and not to property relations.

We define three dummy variables, MOSCOW, NATREG and SPETS, with obvious interpretation. The combination of three dummy variables allows eight different combinations, ranging from private, small, local banks (all dummies are 0) to large Moscow-based *spetsbank* descendants (all dummies are 1). Figure 1 gives an overview of the eight different classes of banks and Table 2 gives the structure of our sample according to these eight classes. This structure is relatively comparable to the population structure.⁶⁹

Timing of the secessionist privatisation

This section confronts our prior knowledge about the timing of the spontaneous privatisation with the data. The literature has situated the secessionist privatisation firmly before 1992. This implies that in our samples the *spetsbanki* must to a large extent have been founded before 1992. By the same token, among banks founded before 1992 the proportion of descendants of *spetsbanki* must have been higher than in banks founded since 1992. Sample G(1994) allows us to verify this hypothesis. Table 3 does not reject the hypothesis that the process of spontaneous privatisation occurred mainly in the chaotic period before 1992, while in 1992–94 newly founded

TABLE 2
SAMPLE STRUCTURE ACCORDING TO BANK TYPE

| | <i>Sample D</i> | <i>Sample G</i> |
|----------------------------|-----------------|-----------------|
| A | 3 | 7 |
| B | 6 | 20 |
| C | 21 | 27 |
| D | 3 | 4 |
| E | 26 | 93 |
| F | 9 | 11 |
| G | 23 | 25 |
| H | 35 | 43 |
| Former <i>spetsbanki</i> | 50 | 63 |
| Moscow-based banks | 38 | 124 |
| National or regional banks | 39 | 65 |
| Private small local banks | 35 | 43 |
| Total | 126 | 230 |

Former *spetsbanki* = A + C + D + G
 Moscow-based banks = A + B + D + E
 National or regional banks = A + B + C + F
 Private, small, local banks = H

TABLE 3
TIMING OF THE SPONTANEOUS PRIVATISATION (HYPOTHESIS 1)

| | <i>Sample G (1994)</i> |
|-------------------------------------|------------------------|
| All banks | |
| total | 230 |
| of which <i>spetsbanki</i> | 63 |
| <i>spetsbanki</i> as % of total | 27.4 |
| Banks founded before 1 January 1992 | |
| total | 142 |
| of which <i>spetsbanki</i> | 58 |
| <i>spetsbanki</i> as % of total | 40.8 |
| Banks founded since 1 January 1992 | |
| total | 88 |
| of which <i>spetsbanki</i> | 5 |
| <i>spetsbanki</i> as % of total | 5.7 |

Source: own analysis of sample G(1994).

banks were predominantly private. Still, there are a few 'secessionist' banks that emerged after 1992.

Specifically, from the 63 *spetsbanki* in our G(1994) sample, 58 were founded before 1992. After December 1991, on the other hand, the majority of new banks were not descendants of a *spetsbanki*. In fact, 40.8% of the banks founded before 1992 were descendants of *spetsbanki*, while such descendants constituted only 5.7% of banks founded since 1992. This confirms the assertions in the literature that Russian *spetsbanki* largely privatised themselves before the demise of the Soviet Union in December 1991. It is worthwhile to stress again that this process of spontaneous privatisation occurred before the voucher privatisation that ensued in 1993–94. In this

respect the timing of Russian bank privatisation differs significantly from the timing in other transition countries.

Lack of restructuring in early transition

The secessionist bank privatisation took place without any prior restructuring or recapitalisation. In this respect the Russian experience is also very different from the experience in other transition countries. Consequently these banks inherited all the defects of their communist predecessors. This section finds support for the thesis that the *spetsbank* descendants had higher labour costs, poorer loan quality and higher interest rates in 1994. The following hypotheses cannot be rejected:

- (1) Descendants of former specialised state banks are overstaffed. They inherited the personnel of the *spetsbanki*, which, like all Soviet enterprises, were faced with inefficiency and labour hoarding. This phenomenon of labour hoarding in state enterprises or former state enterprises is a typical indicator of incomplete restructuring in all transition economies.
- (2) The quality of loan portfolios is poorer in state banks than in other banks. This is due to several factors. The descendants inherited a customer base from the *spetsbanki*. This turned out to be a liability rather than an asset, because most customers were old state enterprises, with a large concentration of industrial dinosaurs. In addition, these main clients were often among the new owners, which created a problem of insider lending. The personnel often had good personal relations with the existing clients and were trained to function as a passive pass-through rather than a monitor or screener. If there is incomplete restructuring, these factors imply that the former *spetsbanki* can be expected to have more bad loans (bad loans / total assets) than other banks. The fact that the stock of old bad loans was wiped out by very high inflation in 1992–93 does not alter this conclusion, since insider lending and the passivity bias of human capital in *spetsbanki* create a flow problem of bad loans.
- (3) Descendants of former *spetsbanki* do not charge lower⁷⁰ but rather higher loan rates. This could be caused by the lower efficiency of *spetsbanki* as embodied in the high labour cost and the poor loan quality, which would force them to charge higher loan rates to ensure profitability and ultimately survival. However, if we control for cost factors, we still find that descendants of *spetsbanki* have higher loan rates. One can look at it as follows: former *spetsbanki* lend to relatively poor quality borrowers, but at higher interest rates. These higher rates may in turn be less likely to be paid. Therefore the softness of the smaller descendants of the state banks with respect to their old client shareholders lies not in the loan rate (subsidised interest rates) but in the access to credit for otherwise not creditworthy enterprises. In this sense, the former *spetsbanki* were stuck in a bad equilibrium.⁷¹

The first thesis is verified by estimating an ordinary least squares (OLS) regression. The dependent variable is labour costs, defined as total labour costs / total assets (LABTA). Since the data for sample G(1994) were not detailed enough to determine labour costs, we had to use the more detailed sample D(1994). Beside our dummies

TABLE 4
LABOUR COSTS AND BANK TYPE

| | <i>Expected sign</i> | <i>Equation</i> | | | |
|----------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | (1) | (2) | (3) | (4) |
| C | ? | 0.160*** (8.611) | 0.159*** (8.541) | 0.161*** (10.054) | 0.142*** (8.326) |
| SPETS | + | 0.0075** (2.273) | 0.0076** (2.305) | 0.0075** (2.305) | 0.0067** (2.159) |
| MOSCOW | ? | -0.006* (-1.877) | -0.006* (-1.848) | -0.006* (-1.846) | |
| NATREG | ? | -0.0011 (-0.297) | -0.0008 (-0.201) | | |
| AGE | - | 0.0015 (1.247) | | | |
| LOGTA | - | -0.017*** (-6.688) | -0.017*** (-6.580) | -0.017*** (-7.968) | -0.015*** (-7.356) |
| CATA | + | | | | 0.043*** (3.253) |
| Adjusted R^2 | | 0.373 | 0.370 | 0.375 | 0.409 |
| F-value | | 15.865 | 19.354 | 25.996 | 29.808 |

Notes: Dependent variable: labour costs/total assets. Number of observations: 126 (Sample D). T-values in brackets. White-consistent variance and covariance matrices. *, **, *** for 1%, 5% and 10% significance.

for bank type (MOSCOW, NATREG and SPETS) we also use three other independent variables: (1) the age of the bank in years (AGE), which takes account of the fact that older banks have had more time to restructure, (2) the logarithm of total assets (LOGTA), which is a scale variable that controls for possible scale effects, and (3) a variable that controls for the fact that banks with a large and active customer base probably have more labour-intensive operations than banks with other sources of finance. As a proxy for the customer base we use current accounts / total assets (CATA).

The results are presented in Table 4. The control variables LOGTA and CATA are significant and show the expected sign: larger banks have smaller labour costs and banks with large deposit bases have greater labour costs than other banks (that finance with capital, interbank loans or central bank credit). The coefficient for the dummy SPETS is always significant and shows the expected positive sign. We tried to introduce other variables, but the coefficient for SPETS remained always positive and significant. The coefficient of about 0.0075 is high when compared to an average of 0.03 for the dependent variable: labour costs in *spetsbank* descendants are 25% higher than in other banks. Moreover the coefficient for age was positive, though insignificant: older banks do not seem to have lower labour costs. One could argue that age affects the labour cost only for the descendants of the *spetsbanki*, since they inherited excess labour and needed time to restructure. We tested this conjecture by introducing an interaction term AGE*SPETS as independent variable, but it was rejected as completely insignificant. Hence descendants of the former specialised banks seem to have higher labour costs whatever their age. This suggests that they are reluctant to restructure. Otherwise older descendants would have cut excessive payrolls.

TABLE 5
BAD LOANS AND BANK TYPE

| | Expected sign | Equation | | | |
|-------------------------|---------------|-----------------------|------------------------|-----------------------|------------------------|
| | | (1) | (2) | (3) | (4) |
| C | ? | 0.2408*** (3.930) | 0.2218*** (4.228) | 0.213*** (3.797) | 0.214*** (3.823) |
| SPETS | + | 0.0178* (1.649) | 0.0184* (1.726) | 0.0177* (1.761) | 0.0188** (1.99) |
| MOSCOW | ? | -0.0258** (-2.249) | -0.0258** (-2.380) | -0.0041 (-0.354) | |
| NATREG | ? | 0.0072 (0.574) | | | |
| AGE | - | -0.0009 (0.003) | | | |
| LOGTA | - | -0.248*** (-3.024) | -0.0222*** (-3.217) | -0.019*** (-2.870) | -0.0195*** (-2.943) |
| LTA | + | | | -0.093*** (-3.305) | -0.095*** (-3.527) |
| DR | + | | | 0.056*** (3.11) | 0.059*** (3.603) |
| Adjusted R ² | | 0.136 | 0.141 | 0.241 | 0.246 |
| F-value | | 5.918 | 7.814 | 8.924 | 11.205 |

Notes: Dependent variable: overdue loans and interest/total assets. Number of observations: 126 (Sample D). T-values in brackets. White-consistent variance and covariance matrices. *, **, *** for 1%, 5% and 10% significance.

The second thesis that *spetsbank* descendants have poorer loan quality was verified in an analogous way, using data from sample D(1994). The dependent variable is defined as total overdue credits and interest divided by total assets. As independent variables we use our bank type dummies (MOSCOW, NATREG and SPETS) and a number of other explanatory variables. (1) Our scale variable LOGTA again controls for scale effects. (2) Next to this we use a variable that tries to measure experience with lending, namely bank loans / total assets (LTA). Experience is indeed crucial to a young banking system like the Russian one, where most banks started off without relevant experience or know-how. (3) As an alternative proxy variable for experience we again introduce the age of the bank in years (AGE). This also takes account of the fact that rescheduling a loan portfolio takes time. (4) The last independent variable is the deposit interest calculated as interest cost / interest-bearing liabilities (DR). The deposit rate is used here as a signal of the perceived quality of the bank's loan portfolio. This variable is only introduced in equations (3) and (4).⁷²

Table 5 presents the results. All coefficients show the expected sign with the exception of AGE, which is positive but insignificant. The coefficient for SPETS is positive and weakly significant in all equations. The coefficient of about 0.018 for SPETS compares to an average of 0.0468 for the dependent variable. This means that bad loans are about 40% higher in *spetsbanki* than in other banks, even after correcting for other factors such as scale and experience. As in the previous regression we introduced the interaction term AGE*SPETS to test for the possibility that older descendants would have achieved some restructuring of their loan portfolio, again without good result. We conclude that we cannot reject the null hypothesis that

TABLE 6
LOAN RATE AND BANK TYPE

| | <i>Expected sign</i> | <i>Equation</i> | | | |
|-------------------------|----------------------|--------------------------|--------------------------|-----------------------|----------------------|
| | | (1) | (2) | (3) | (4) |
| C | ? | 2.034*** (6.674) | 1.929*** (7.378) | 0.661* (1.958) | 0.122*** (3.034) |
| SPETS | – | 0.1164** (2.126) | 0.1195** (2.227) | 0.102** (2.019) | 0.0934** (2.44) |
| MOSCOW | – | – 0.2535*** (– 4.017) | – 0.2592*** (– 4.246) | – 0.0746 (– 1.498) | |
| NATREG | ? | 0.0423 (0.707) | | | |
| AGE | – | | | – 0.004 (– 0.265) | |
| LABTA | + | | | 2.700** (2.190) | 4.142*** (4.704) |
| DR | + | | | 0.675*** (8.334) | 0.754*** (10.386) |
| LOGTA | – | – 0.1773*** (– 4.351) | – 0.1623*** (– 4.772) | – 0.054 (– 1.428) | |
| Adjusted R ² | | 0.314 | 0.317 | 0.569 | 0.563 |
| F-value | | 15.332 | 20.391 | 28.49 | 54.62 |

Notes: Dependent variable: interest received/interest-bearing assets. Number of observations: 126 (Sample D, 1994). T-values in brackets. White-consistent variance and covariance matrices. *, **, ***for 1%, 5% and 10% significance.

spetsbank descendants have more bad loans than other banks, and that they are reluctant to restructure their loan portfolios. Note that LOGTA, LTA and DR are significant and show the expected sign in equations (3) and (4), but that this does not reduce the significance of SPETS—quite the contrary.

The third thesis, that the descendants of the former *spetsbanki* have higher loan rates, is also verified by means of an OLS regression. The independent variable is the loan rate (LR) defined as interest earned / interest-earning assets. As dependent variables we introduce a constant, the three dummies and some other variables. Diamond⁷³ shows that close relationships arise as a substitute for monitoring, which would fit perfectly the situation of Russia's former *spetsbanki*. Since the dummy SPETS should be a good proxy for borrower relationships, the empirical prediction that follows from Diamond would be a negative coefficient for SPETS. An alternative proxy for borrower relationships is AGE. Young banks cannot have good borrower relationships, as they have hardly any lending history at all. Our scale variable LOGTA is again introduced to control for scale effects. Next, any price can be modelled as a mark-up on costs. This is important in our framework as we have found that *spetsbanki* are more inefficient than other banks with respect to labour costs. As cost factors we take the labour cost LABTA, defined as the total wage bill / total assets and the deposit rate DR, defined as interest paid/ interest-bearing liabilities. Note that labour cost and the cost of deposits are the input prices commonly used in the estimation of cost functions for banks (see Table 6).

In equations (1) and (2) we included only the dummies and a scale variable. We found that loan rates were lower in Moscow-based banks and higher in *spetsbanki*.

Since *spetsbanki* were shown to have higher labour costs (see Table 4) this might explain higher loan rates. This is verified in equations (3) and (4) We observe that the loan rate is indeed very well explained as a mark-up on other costs, such as labour costs or deposit costs. However, equations (3) and (4) also show that, if we correct for higher labour costs, state banks still show significantly higher loan rates. Indeed the introduction of the cost variables reduces the coefficient of SPETS from about 0.12 in equation (2) to 0.102 in equation (3) and 0.0934 in equation (4), but the coefficient remains high and significant. Hence the relation predicted by Diamond is rejected. The explanation might be that the softness of *spetsbanki* (the good borrower relationship) is not in lower loan rates but in higher access to credit of otherwise not creditworthy borrowers. These then have to pay higher loan rates, but it must be uncertain whether in fact they ever pay them.⁷⁴ Petersen & Rajan⁷⁵ find empirically that bank relationships (in US banking) do not affect loan rates negatively but rather increase the quantity of credit obtained. Our results support this conjecture about the effect of long standing bank–enterprise relationships and the availability of credit to less creditworthy enterprises.

The remarkable thing about these stylised facts is that, despite these weaknesses, the smaller descendants of the *spetsbanki* still managed to survive the early transition period. This is explained by the very loose monetary policy of the TsBR. The descendants were able to avoid restructuring and still remain afloat in the first instance because the banking sector as a whole was enjoying excess liquidity.⁷⁶ Furthermore, the *spetsbank* descendants were the main distribution channel of the TsBR's so-called 'directed credits'.⁷⁷ The directed credits amounted to about 48% of total bank credit in 1992, down to about 29% in 1993.⁷⁸ These directed credits were only part of a larger flow of funds from the TsBR to the commercial banks, the so-called centralised credit resources. By the end of 1992, 51.6% of credit of the banking system to the economy was financed by centralised credit resources, which gradually decreased to 35.2% by the end of 1993 and 14.6% by the end of 1994.⁷⁹ This flow of credit was initially very profitable to regional and local banks that were extremely dependent on TsBR finance. Numerous interviews with bank directors made clear that in the case of failure to settle, the commercial bank would not be forced to pay back the loan.⁸⁰ So while in theory directed credits had to be redeemed by enterprises to banks and by banks to the TsBR (they were credits), in practice nothing happened in the case of failure to do so. Many *spetsbank* descendants understood this basic softness of the TsBR and succeeded in channelling some directed credits to their own pocket by means of fraud. Since banks were not responsible for the failure of an enterprise to redeem a credit, there was a strong incentive to cheat by granting a loan to a fictitious enterprise and then claiming the failure of the enterprise and keeping the money. Such practices are facilitated by collusion between banks and enterprises. Unfortunately, there is evidence that TsBR officers were involved in this scam too. On 10 January 1996 the Moscow city court started the hearings in a case of corruption in the TsBR. The head of the operations department of the TsBR, Ravil Sutdikov, and his deputies Raisa Turova, Valentina Popruga and Vladimir Martinov were accused of having accepted bribes. According to experts, in 1992 these persons granted privileged credits for a total of 5 billion rubles to a number of banks and commercial enterprises, this to their own benefit. The loss for the state resulting from their illegal acts

constituted 554 million rubles in 1992 prices.⁸¹ When the TsBR gradually withdrew from massively financing the banking sector in the first quarter of 1995, the regional banks and descendants of the *spetsbanki* were among the first to feel the strain. Though the largest successors managed to survive until the 1998 crisis, many of the local and regional descendants got into trouble in 1995–97 and were liquidated.⁸² One factor that may have further facilitated their demise is weak capitalisation, as explained in the next section.

The deficient capitalisation of spetsbank descendants

As a result of the secessionist privatisation descendants of *spetsbanki* became dominated by insiders and/or their main clients. Blanchard & Aghion argue that there is a risk that insider-dominated firms will have an incentive neither to generate resources for restructuring activities nor to sell the firm to outsiders who have these resources.⁸³ One additional reason why the descendants of the *spetsbanki* collapsed so swiftly may therefore be their low capitalisation, since sufficient capital is obviously a precondition for successful restructuring. We use sample G(1994) to verify the hypothesis that *spetsbank* descendants have lower capital than other banks. We divide capital by total assets. We calculate two versions of this variable:

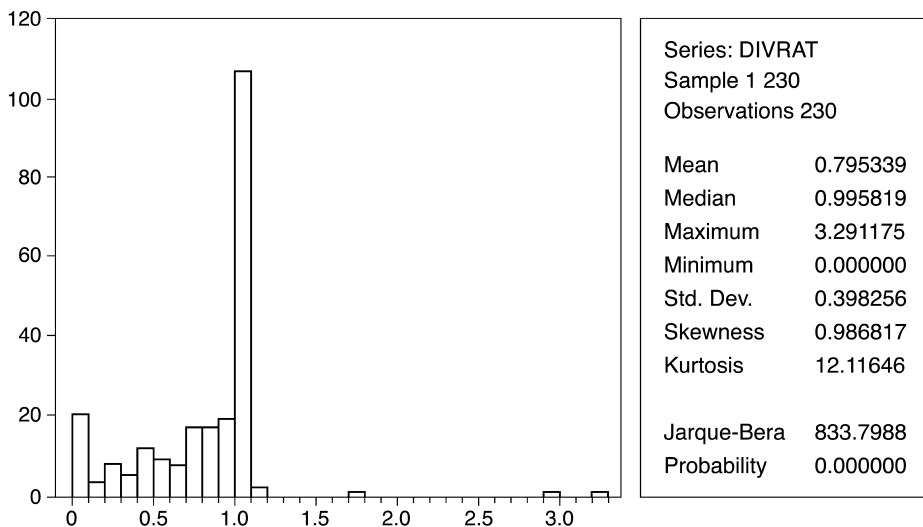
CAPAD1 = Charter capital/total assets

CAPAD2 = (Charter capital + reserves)/total assets

CAPAD1 and CAPAD2 are the dependent variables. To analyse the relation between capitalisation and bank type, we use our three main dummy variables for the type of the banks, SPETS, MOSCOW and NATREG. It is expected that capitalisation will be higher in Moscow. Moscow had become the financial capital of Russia and beyond in the period under study, which means that the supply of capital was relatively abundant there. Also, most Russian banks with international connections are located in Moscow. This willingness to expand their international networks may prompt these banks to conform to international capital standards and have high degrees of capitalisation. *Spetsbank* descendants are expected to have lower capital, because they inherited a deficient capital base from before price liberalisation and had no incentive to increase their capital base. National or regional banks are expected to have higher capitalisation than average because they are better placed to raise additional capital.⁸⁴

We have to control for fundamental bank-specific variables. Some of these fundamentals may be correlated to the type of banks. It is clear that the age of the bank may play a role. First of all the law of March 1994 increased required capital only for newly founded banks.⁸⁵ As a consequence, older banks have on average lower capital. Second, there is a certain level of stickiness attached to charter capital in the short run. Issuing new shares requires time and therefore charter capital will adjust only slowly to inflation. Thus, again, younger banks will on average have higher nominal capital. We use age, calculated as the total age of the bank in years (AGE), to control for this. A second control variable is the scale of the bank. We will

use the log of total assets (LOGTA). Scale and capitalisation might be negatively related for very specific reasons. A lot of small banks could grow without changing equity capital, but still satisfying capital adequacy. Many banks were so small at the time of their conception that the capital adequacy requirement was dominated by the minimum capital requirement. Next we are also interested in the relation between deposits and capital. In an efficient banking market one would expect a negative link between capitalisation and the deposit rate. Capital is a buffer to protect depositors. Higher capitalisation implies lower risk for depositors and hence lower deposit rates. This is referred to as market discipline and has been confirmed by several empirical studies.⁸⁶ In Russia, capital adequacy rules have been relatively weak in early transition and market valuations of bank risk have not been based on the bank's genuine capital adequacy, if only because the Russian accounting system still does not adequately measure bank capital.⁸⁷ It may therefore very well be that market discipline was weak and Russian banks could relatively freely substitute capital for deposits in 1994. The substitution between deposits and capital should be driven by the cost of both capital and deposits. For the cost of deposits we use the deposit rate calculated as interest paid/interest-bearing deposits (DR). Substitution would imply a positive coefficient. Finding a bank-level cost of capital is more troublesome. In Russia's banking market raising fresh outside capital was relatively difficult and therefore the cost of capital is related to the dividend policy of the bank. As a proxy variable for dividend policy we use the pay-out ratio calculated as paid out profit / total profit (DIVRAT), which should be negatively related to the capitalisation of the bank.



Notes: The X-axis shows the pay-out ratio (1.0 means 100% of profits are paid out)
 The Y-axis shows the number of banks in the sample

FIGURE 2. THE PAY-OUT RATIO OF RUSSIAN BANKS.

TABLE 7
REGRESSION RESULTS

| <i>Panel a. Independent variable = CAPAD1</i> | | | | |
|---|----------------------|-------------------------|--------------------------|-------------------------|
| <i>Independent variable</i> | <i>Expected sign</i> | <i>Equation (1)</i> | <i>Equation (2)</i> | <i>Equation (3)</i> |
| Constant | | 0.073*** (10.49) | 0.294*** (7.902) | 0.283*** (8.620) |
| SPETS | – | – 0.033*** (– 5.31) | – 0.009 (– 1.56) | |
| NATREG | + | – 0.035*** (– 4.599) | 0.011 (1.467) | |
| MOSCOW | + | 0.017* (1.831) | 0.026*** (2.922) | 0.029*** (3.394) |
| Age | – | | – 0.043*** (– 4.402) | – 0.043*** (– 4.439) |
| Scale | ? | | – 0.016*** (– 5.611) | – 0.016*** (– 6.183) |
| Deposit rate | + | | 0.035* (1.821) | 0.038** (2.040) |
| Dividend pay-out ratio | – | | – 0.0297*** (– 2.652) | – 0.031*** (– 2.777) |
| Adjusted R^2 | | 0.137 | 0.462 | 0.462 |
| F-statistic | | 13.182 | 29.044 | 40.368 |

| <i>Panel b. Independent variable = CAPAD2</i> | | | | |
|---|----------------------|-------------------------|-------------------------|-------------------------|
| <i>Independent variable</i> | <i>Expected sign</i> | <i>Equation (4)</i> | <i>Equation (5)</i> | <i>Equation (6)</i> |
| Constant | | 0.120*** (15.629) | 0.385*** (7.996) | 0.371*** (8.849) |
| SPETS | – | – 0.032*** (– 3.744) | – 0.008 (– 0.831) | |
| NATREG | + | – 0.037*** (– 3.871) | 0.012 (1.096) | |
| MOSCOW | + | 0.030*** (2.760) | 0.04*** (3.43) | 0.042*** (3.849) |
| Age | – | | – 0.032** (– 5.237) | – 0.032** (– 2.441) |
| Scale | ? | | – 0.02*** (– 5.265) | – 0.019*** (– 6.025) |
| Deposit rate | + | | 0.019 (0.79) | 0.027 (0.976) |
| Dividend pay-out ratio | – | | – 0.036*** (– 2.882) | – 0.038*** (– 3.021) |
| Adjusted R^2 | | 0.127 | 0.347 | 0.35 |
| F-statistic | | 12.109 | 18.415 | 25.699 |

Notes: T-values in brackets. White-consistent variance and covariance matrices. *, **, *** for 1%, 5% and 10% significance.

Figure 2 shows the distribution of the pay-out ratio DIVRAT, calculated as unreserved profits/total profit, in sample G(1994). Figure 2 shows the tendency of Russian banks to pay dividends rather than retain earnings.⁸⁸ These high pay-out ratios make capital very costly.⁸⁹ This is in stark contrast to Western banks, where the retaining of profit is an important source of capital growth.⁹⁰

I perform an OLS regression of the dependent variables CAPAD1 and CAPAD2 on the dummy variables (equation (1)). Other variables are added in equation (2). In equation (3) the insignificant variables are removed. Table 7 presents the results.

In equation (1) we find that *spetsbanki* are indeed undercapitalised, with a

significant negative coefficient for the SPETS dummy in both regressions. However, in equation (2) the significance of the SPETS dummy falters, though the sign remains negative and we come close to 10% significance with a p-value of 0.12 for statutory capital (panel a). The dummy MOSCOW remains significant for all equations in both panels. Moscow-based banks are better capitalised than other banks, which is most likely due to better access to the domestic capital market, which was concentrated in Moscow. Explanatory power increases strongly with the introduction of the other variables in equation (2). The fact that scale and age are inversely related to capitalisation (see equations (2) and (3) in both panels) shows that the oldest and largest banks (that manage the largest deposit bases) have the lowest capitalisation, not exactly a reassuring finding. It foreshadows the later trouble in many of the major deposit banks, with Sberbank and Vneshtorgbank as the exceptions. Indeed, the buffer of capital that protects depositors against credit risk is small in exactly those banks where it is most needed. This is partially due to the substitution of deposits for capital. Controlling for scale and age we found that the cost of capital and the deposit rate (cost of deposits) explain charter capital in a way that supports the thesis of substitution between capital and deposits. This can be seen from panel a, equations (2) and (3), where the deposit interest rate and the dividend ratio are both significant and show the sign consistent with substitution. Apparently banks have a lower capitalisation because they are older, bigger, have access to cheap deposits and have to pay out high dividends. Former *spetsbanki* are not really a significant exception to this. Still, the negative and almost significant coefficient for SPETS in equation (2) suggests that, if anything, *spetsbank* descendants tend to have even lower capitalisation than suggested by the other variables.

Concluding remarks

It was already established that the privatisation of Russia's former *spetsbanki* was a relatively uncontrolled process. Our data support the notion that this process was accomplished largely before the official start of the transition in 1992, and in several cases it started even before the official start of the reform of the *spetsbanki* in 1990. This article tries to answer the question whether this secessionist genesis mattered for later performance. First the sad fate of the largest successors is described. With the notable exceptions of Sberbank and Vneshtorgbank, they have all failed. Most of the smaller descendants unfortunately preceded them. This is followed by an empirical analysis of *spetsbank* descendants as a group. We use 1994 data for this exercise. In 1994 there had been almost no bank bankruptcies and the dataset is therefore unbiased. In 1995 the smaller successors already began to falter and disappear from the population. The data suggest that, although most descendants had already existed for 3–6 years as independent banks by the end of 1994, they still had higher labour costs, higher loan rates and more bad loans. The data also strongly support the notion that the *spetsbank* descendants were reluctant to restructure, which beyond reasonable doubt must have contributed to their ultimate demise. They also had lower capitalisation, but this result is partially driven by their easy access to cheap deposits in the presence of weak capital adequacy rules. Since in 1994 these descendants of former specialised state banks were numerous (more than 600) and dominated the Russian

banking market with respect to assets, this implies that a very large share of the Russian banking market needed restructuring and recapitalisation already then. However, excess liquidity in the Russian banking market and soft monetary policy allowed these banks to further postpone restructuring. Gradually they began to fade away, but the largest descendants remained resilient. Eventually the banking crisis triggered by the August 1998 crisis settled their fate. The biggest descendants indeed crumbled and collapsed with remarkable ease. One should however not jump to the conclusion that the 1998 crisis finally enforced the much needed restructuring, nor that the relatively swift failure of Mosbiznesbank, Promstroibank and SBS–Agro marked the end of Russia’s banking market domination by *spetsbank* descendants. The interested parties only let the large descendants fail because this failure had become convenient. Hardly any genuine bank restructuring was achieved. Sberbank and Vneshtorgbank were able to largely avoid the uncontrolled privatisation and did not go down along the lines of a convenient failure scenario, though Sberbank was all but insolvent after the default on GKO. Their owner and regulator, the TsBR, has no interest whatsoever in letting them go, for, through Sberbank and Vneshtorgbank, the TsBR now controls most banking markets in Russia. This obstructs the development of an efficient and competitive banking sector. Also, the domination of public ownership in Russian banking may prove hard to accept for the WTO. The Russian government seems to be aware of this and is finally taking action. Vneshtorgbank is now scheduled for privatisation in 2003 and the introduction of deposit insurance will create the level playing field much needed to inject some competition into the battered Russian deposit market.

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¹ For an overview across Central Europe see John Bonin *et al.*, *Banking in Transition Economies: Developing Market Oriented Banking Sectors in Eastern Europe* (Cheltenham, Elgar, 1998).

² Georgi Eliseev, ‘Privatisation of Russian Banks: The Case of Agroprombank’, in Roberto Ruozi & Luisa Aderloni (eds), *Banking Privatisation in Europe* (Berlin and Heidelberg, Springer-Verlag, 1998), p. 299.

³ See William Tompsom, ‘Old Habits Die Hard: Fiscal Imperatives, State Regulation and the Role of Russia’s Banks’, *Europe-Asia Studies*, 49, 7, 1997, p. 1161; also William Tompsom, ‘Russia’s “Ministry of Cash”: Sberbank in Transition’, *Communist Economies & Economic Transformation*, 10, 2, 1998, p. 135.

⁴ This was in a way an expression of both the bank war with the Soviet centre and the Russian drive towards a two-tier banking system. See Jeffrey Abarbanell & Anna Meyerdorff, ‘Bank Privatisation in Post-Communist Russia: The Case of Zhilsotsbank’, *Journal of Comparative Economics*, 25, 1, 1997, pp. 62–96.

⁵ Eliseev, ‘Privatisation of Russian Banks’ pp. 295–320.

⁶ Rosselkhozbank is the abbreviation for Russian Agricultural Bank.

⁷ Own field research based on data from Intelbridge; Eliseev, ‘Privatisation of Russian banks’, p. 306.

⁸ T. Kivilahti, J. Kero & M. Tekoniemi, ‘Russia’s Financial and Banking Reforms’, in Pekka Sutela (ed.), ‘The Russian Economy in Crisis and Transition’, *Bank of Finland Studies*, A86, 1993, pp. 49–80.

⁹ TsBR, *Tekushchie tendentsii v denezhno-kreditnoi sfere*, 1994, 4, p. 17; own field research based on data from Intelbridge.

¹⁰ See Eliseev, ‘Privatisation of Russian Banks’, p. 310, for a more detailed account.

¹¹ *Ekspert*, 35, 16 September 1996.

¹² *Rossiiskaya gazeta*, 25 November 1996.

¹³ See Eliseev, ‘Privatisation of Russian Banks’, pp. 315–316, for the complete list of conditions.

¹⁴ *Den’gi*, 1996, 43–44 (November).

¹⁵ Koen Schoors, 'The Mired Restructuring of Russia's Banking System', *Russian Economic Trends*, 8, 4, 1999, p. 37.

¹⁶ This overview is again drawn from Schoors, 'The Mired Restructuring', where further details can be found.

¹⁷ *RFE/RL Newswire*, 10 August 1999.

¹⁸ Schoors, 'The Mired Restructuring'.

¹⁹ *Kommersant* -daily, 8 October 1999.

²⁰ *Moscow Financial Weekly*, US Embassy Moscow, 1st week of September 2001, pp. 8–9.

²¹ Annual report of Promstroibank, 1992.

²² Kivilahti, Kero & Tekoniemi, 'Russia's Financial and Banking Reforms', pp. 49–80.

²³ Specifically, Kondratyuk, chief accountant of Promstroibank, referred to the process as a '*bardak*' on the occasion of an interview on the subject in September 1995, held in the Promstroibank headquarters in Moscow.

²⁴ Own field research based on ownership data from Intelbridge.

²⁵ The whole structure of this Promstroibank Holding Group is described in Promstroibank's 1992 annual report (only available in Russian).

²⁶ *Ibid.*

²⁷ Own field research based on ownership data from Intelbridge.

²⁸ Schoors, 'The Mired Restructuring', p. 36.

²⁹ *Ibid.*, p. 40.

³⁰ Elena Berezanskaya, *Vedomosti*, 12 March 2002.

³¹ Abarbanell & Meyerdorff, 'Bank Privatization in Post-Communist Russia', pp. 62–96.

³² This number is mentioned by T. Massioukova, 'Le système bancaire de la Russie en révolution', *Le Courrier des Pays de L'Est*, 367, March 1992, pp. 31–37. The TsBR suggested a number of 123 descendants in *Tekushchie tendentsii v denezhno-kreditnoi sfere*, 1994, 4, p. 17, but this number was never mentioned afterwards. Our own field research also suggests a number higher than 100.

³³ Based on licence records from the TsBR and information on their genesis from Intelbridge.

³⁴ Own research based on data from Intelbridge.

³⁵ See Schoors, 'The Mired Restructuring', p. 40.

³⁶ *Financial Times*, 20 January 2000.

³⁷ Own field data and data from Intelbridge.

³⁸ Tompsom, 'Russia's "Ministry of Cash"', p. 135.

³⁹ For an overview of the fight over ownership and control of Sberbank, see *ibid.*, pp. 137–141.

⁴⁰ Brigitte Granville, *The Success of Russia's Economic Reforms* (London, Royal Institute of International Affairs, 1995), provides in the appendices real deposit rates for the period 1992–1994. Only in the last quarter of 1993 did real deposit rates become non-negative, namely 0.1%

⁴¹ On 11 October 1994 the ruble collapsed on the currency exchange market. This crisis is referred to as 'black Tuesday'. This caused a severe shock to the stability of financial markets. As a result of the crisis V.V. Gerashchenko was forced to resign as chairman of the TsBR, according to decree no. 1998 of the President of the Russian Federation, 14 October 1994.

⁴² These data can be found in various issues of the TsBR publication *Bulletin of Bank Statistics*.

⁴³ Additional examples are the collapse of the Moscow interbank money market in August 1995 (black Monday) and the sudden collapse of Tveruniversalbank in 1996. A month after these events the share of Sberbank in the ruble deposit market jumped markedly.

⁴⁴ The others were Most-Bank, Menatep, Inkombank and Rossiiskii Kredit, all banks with large deposit bases that were in financial trouble. The conditions for the transfer depended on the case, but were always confiscatory for foreign currency deposits, because they were swapped to ruble deposits in Sberbank at confiscatory exchange rates. See *Russian Economic Trends*, Monthly Update, April 1999, p. XIV for an overview of this scheme.

⁴⁵ These market shares are calculated from the TsBR *Bulletin of Bank Statistics* and deposit data provided by Sberbank. For a graphical analysis of the share of Sberbank in the deposit market see Schoors, 'The Mired Restructuring', p. 38.

⁴⁶ Tompsom, 'Russia's "Ministry of Cash"', p. 137.

⁴⁷ In August 1998 the Russian government not only devalued the ruble (by abandoning the 'corridor') but put a 90-day moratorium on external and internal debt. Since then the treasury bill market has been either non-existent or very small.

⁴⁸ According to data provided by TsBR in its publication *Tekushchie tendentsii v denezhno-kreditnoi sfere*, various issues.

⁴⁹ Own calculations based on data from Mobile (a financial information firm) and TsBR, *Bulletin of Bank Statistics*.

⁵⁰ This is the abbreviation for Russian Foreign Trade Bank.

⁵¹ 'Russian Federation', *IMF Economic Reviews*, April 1992.

⁵² See Kivilahti, Kero & Tekoniemi, 'Russia's Financial and Banking Reforms'.

⁵³ This information was retrieved from an interview with Sergei Nikolaevich Prygunov, vice-president of Uralvneshtorgbank, on 6 June 2002 in Ekaterinburg.

⁵⁴ Maksim Dovgvallo & Andrei Tkachenko, 'Russian Banks' Lending for Commercial Real Estate and Construction', in Nadezhda B. Kosareva & Raymond J. Struyk (eds), *Urban Management Reform in Russia* (Moscow, Institute for Urban Economics 2000).

⁵⁵ See also Schoors, 'The Mired Restructuring', for more details on this.

⁵⁶ See 'Bankovskii skandal', *Vedomosti*, 7 June 2002, p. 1.

⁵⁷ As already mentioned, Agroprombank was re-established as a descendant of Rosselkhozbank and later merged with SBS to form SBS-Agro.

⁵⁸ *Russian Economic Trends*, various issues.

⁵⁹ *Ibid.*

⁶⁰ See also William Tompsom, 'Financial Backwardness in Contemporary Perspective: Prospects for the Development of Financial Intermediation in Russia', *Europe-Asia Studies*, 52, 4, 2000, p. 614, for more details.

⁶¹ 'Banki sozdayut sistemy garantii chastnykh vkladov', *Vedomosti*, 6 June 2002, p. 1.

⁶² TsBR, *Tekushchie tendentsii v denezhno-kreditnoi sfere*, 1994, 4, p. 17.

⁶³ *Byulleten' bankovskoi statistiki*, 1998, 11.

⁶⁴ Decrees of the Supreme Soviet of Russia of 13 July 1990 and 6 August 1990 on the transformation of the specialised state banks into commercial banks on the territory of the Russian Federation.

⁶⁵ See Roman Frydman *et al.*, 'When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in the Transition Economies', *Quarterly Journal of Economics*, 114, 4, November 1999, pp. 1153–1191 for an excellent overview of the impact of post-privatisation ownership structure on corporate performance.

⁶⁶ For a full and detailed account of data collection and testing see Koen Schoors, 'Building a Database on Russian Banks: Fieldwork Against the Odds', *Post-Communist Economies*, 12, 2, June 2000.

⁶⁷ The data samples are identical to those employed in my earlier article, Koen Schoors, 'The Credit Squeeze during Russia's Early Transition. A Bank-based View', *Economics of Transition*, 9, 1, 2001, pp. 205–228.

⁶⁸ To establish this classification, we linked our sample to data provided by Intelbridge, a small Russian–American information firm. In 1994 Intelbridge issued a directory of Russian banks containing more than 1,500 banks. The directory supplied a lot of information, among other things the official address, number of branches, names and addresses of these branches, and also (record 17) whether the bank previously belonged to one of the *spetsbanki*. We used this information to construct the dummy variables for Moscow banks, national banks, regional banks and *spetsbanki*, as described below.

⁶⁹ See Schoors, 'Building a Database on Russian Banks', for further details on this.

⁷⁰ This would fit the idea of soft budget constraint faced by these banks and hence their customers.

⁷¹ An alternative explanation for this phenomenon could be a classic tax dodge employed in the banking sector. Interest revenues are taxed, while penalties for arrears are not. It is therefore mutually beneficial for banks and borrowers to run interest payment arrears and pay penalties instead, dividing the tax benefit between both parties. There are however no data on penalty payments and it is also unclear why *spetsbanki* would use this tax dodge to a greater extent than other banks. Therefore, this tax dodge does not explain the difference between descendants of *spetsbanki* and other banks.

⁷² In Russia the deposit interest is highly variable because the deposit market is segmented and because there is no deposit insurance. The quality and reputation of a bank are therefore crucial to the depositor. Banks with a bad reputation will only be able to attract deposits at high interest rates, because the depositor will demand a risk premium. Therefore the deposit rate is a signal of the quality of the bank's loan portfolio. However, if banks do not want an intermediation loss, higher deposit rates imply higher loan rates (see Table 6). Higher loan rates have well-known adverse incentive and adverse selection properties, identified by Stiglitz & Weiss and hence average loan quality will be lower. This means that we have a causality problem: high deposit rates signal bad loan quality, but high deposit rates will also further affect loan quality, through higher loan rates. Therefore we introduce the deposit rate only in equations (3) and (4).

⁷³ Douglas W. Diamond, 'Monitoring and Reputation: The Choice Between Bank Loans and Directly Placed Debt', *Journal of Political Economy*, 99, 4, August 1994, pp. 689–721.

⁷⁴ In this sense the measured high loan rate may be in effect a symptom of hidden bad loans. Banks can hide bad loans by rolling over old loans and accumulated interest arrears into new loans. On paper interest is received and a new loan granted, but in practice nothing happens and the bad loans are hidden behind new credits. This practice is referred to as 'evergreening'.

⁷⁵ M. Petersen & R. Rajan, 'The Benefits of Lending Relationships: Evidence from Small Business Data', *Journal of Finance*, 49, 1994, pp. 3–37.

⁷⁶ For clear empirical support of this assertion see Schoors, 'The Credit Squeeze'.

⁷⁷ Reuters, 15 March 1994.

⁷⁸ See Vincent Koen & Michael Marrese, 'Stabilization and Structural Change in Russia, 1992–94', *International Monetary Fund Working Paper*, 95/13, January 1995.

⁷⁹ Own calculations based on TsBR, *Bulletin of Bank Statistics*, various issues, and *Tekushchie tendentsii v denezhno-kreditnoi sfere*, various issues.

⁸⁰ Own field research in May 1995 and September–October 1995, when I interviewed more than 50 banks for the purpose of collecting their accounts. More details can be found in Schoors, 'Building a Database on Russian Banks'.

⁸¹ *Izvestiya*, 11 January 1996, p. 1.

⁸² Own field research based on Intelbridge data and TsBR licence data.

⁸³ Philippe Aghion & Olivier Blanchard, 'On Insider Privatization', *European Economic Review*, 40, 3–5, April 1996, pp. 759–766.

⁸⁴ National or regional banks have by definition connections with more enterprises in different regions, have a branch network in at least three regions and are by nature better diversified, all of which must facilitate trust of investors in their stability and hence positively affects their ability to raise additional equity.

⁸⁵ In 1991 commercial banks organised as companies with limited liability of the closed type had a capital requirement of 5 million rubles and commercial banks organised as stock companies of the open type had a capital requirement of 25 million rubles. In individual cases, when banks were founded by small enterprises, cooperatives, other such organisations or individuals, the requirement was only 0.5 million rubles. These requirements were changed twice in the period under study: in August 1992 the TsBR raised the charter capital requirement to 100 million rubles. This was as a matter of fact only an adjustment of the requirement to the inflation shock in early 1992. From March 1994 onwards newly founded banks had to satisfy a charter capital requirement of 1 million ECU, which was at that time 2 billion rubles. The TsBR also stipulated that there would be a quarterly correction of this minimal capital requirement in rubles in order to keep up with the value of 1 million ECU. Note however that these requirements were only obligatory for newly founded banks. For more detailed analysis of the capital rules see Evgenii V. Vasilishen, *Regulirovanie deyatel'nosti kommercheskogo banka* (Moscow, Finstatinform, 1995), p. 36.

⁸⁶ See for example Maria S. Peria-Martinez & Sergio L. Schmukler, 'Do Depositors Punish Banks for Bad Behavior? Market Discipline, Deposit Insurance, and Banking Crisis', *Journal of Finance*, 56, 3, June 2001, pp. 1029–1051.

⁸⁷ Russian accounting standards are still riddled with problems. Specifically the valuation of assets at historic cost and the weak loan classification rules (and hence too low loan-loss provisions) tend to cause an overvaluation of bank capital compared with international accounting standards.

⁸⁸ Of the 230 banks in the sample only 49 (21.3%) had a pay-out ratio smaller than 50% or in other words retained at least 50% of their profits. The mean is 79.5% and the median is 99.6%. Indeed about half of the banks distribute all their profits or even more. When DIVRAT is larger than 1, the bank is actually consuming equity to pay dividends.

⁸⁹ Many banks were established by large enterprises or organisations with the explicit purpose of supplying the founders with cheap credits and earning easy money for them in the exchange rate bonanza of 1992–94. This is also mirrored in very high pay-out ratios.

⁹⁰ See George G. Kaufman (ed.), *Banking Structures in Major Countries* (Norwell, MA and Dordrecht, Kluwer Academic, 1992), introduction.

⁹¹ See Schoors, 'Building a Database on Russian Banks', for further details on this.

Appendix. Testing the data

The data were collected from three sources (referred to as sources A, B and C) that are described at length in a previous article.⁹¹ After the data collection, I walked the extra mile to check and clean my data. This was a time-consuming and particularly painful process, since many of the observations I had worked so hard to secure were lost.

I performed several tests on the correctness and consistency of each set of accounts. First I tested a number of accounting identities:

$$\Sigma \text{ items of a category} = \text{subtotal}$$

$$\Sigma \text{ subtotals} = \text{total}$$

$$\Sigma \text{ liabilities} = \Sigma \text{ assets}$$

$$\Sigma \text{ revenues} - \Sigma \text{ costs} = \text{profit}$$

Then I tested whether some accounting entries were different from zero:

$$\text{Statutory capital} > 0$$

$$\text{Reserves at the CBR} > 0$$

If a set of accounts do fail one of these tests, something is badly wrong with the accounts concerned, or the bank concerned is not in operation.

I further tested whether the banks were in operation by checking the following ratios:

$$\text{Equity / total assets} \leq 0.6$$

$$\text{Reserves at the TsBR/total assets} \leq 0.6$$

$$\text{Fixed assets / total assets} \leq 0.6$$

$$\text{Total deposits / total assets} > 0$$

$$\text{Total credits / total assets} > 0$$

Banks that do not comply with one of these criteria are not operational or at least are not operating as banks. Banks should have deposits and credits and should not exclusively invest in TsBR reserves, equity or fixed assets. Banks that did not comply were excluded from the samples. In this way I avoided empty shell banks and facade banks that concealed operations other than banking.

Lastly, some accounts looked so strange that their trustworthiness and accuracy were doubtful. Therefore I performed the following checks:

$$\text{Other assets/total assets} \leq 0.6$$

$$\text{Other revenues/total revenues} \leq 0.6$$

$$\text{Other costs/total costs} \leq 0.6$$

Banks that did not comply with these criteria were excluded, since their accounts raised suspicion about the accuracy of their reports.

After performing these tests and skipping overlapping accounts, I kept 126 sets of accounts from source A (originally 154), 84 from source B (originally 261) and 20 from source C (originally 30).