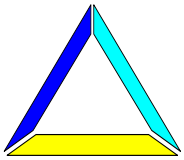
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**Q 15**

# Reserve Requirements and the Banking Sector: A Proposal for Lowering Reserve Requirements

## Summary

A properly functioning financial system serves as an important driving force behind capital accumulation, technological innovations and sustainable economic growth. In Ukraine financial intermediation is quite underdeveloped. The inefficiency and the high cost of providing financial services can be deduced from the high spread between the interest rates for credits and deposits, which was around 17 percentage points in 2001.

Not underestimating other causes of financial intermediation malfunctioning, in this paper we will discuss one of the cost composites, namely central bank reserve requirements and their impact on the private sector and particularly on commercial banks. We argue that commercial banks will try to pass as much of the cost of high reserve requirements as they can on to their clients, thereby widening the interest rate spread. Facing lower deposit and higher credit rates, there will be less intermediation and lower investment activity, which may eventually lead to decreased long-term GDP growth.

Although in Ukraine reserve requirements were lowered twice in 2001, and weighted average ratio since December 2001 is 11%, this is still a quite high level. The estimated cost to Ukrainian commercial banks for holding reserve requirements is roughly UAH 1.5 for every UAH 100 of attracted capital, between 1 and 2 percentage points of the interest rate spread can be attributed to the reserve requirements.

Lowering the reserve requirements should be one of the facilitating factors, creating favourable conditions for development of the banking sector, lowering interest rate spread and promoting credits to the real economy.

We propose to accept the programme of lowering reserve requirements to the 5-6% level during next 2 or 3 years. It should be made clear that the proposal does not imply expanding money supply, but instead argues for well-considered policy, which would incorporate freed capital into general strategy of money emission.

## 1. Introduction

A major function of the financial sector is the efficient allocation of financial resources: collection of deposits and providing credits to the economy (hereinafter called financial intermediation). A properly functioning financial system serves as an important driving force behind capital accumulation, technological innovations and sustainable economic growth. In Ukraine financial intermediation is quite underdeveloped. By the end of 2001 total credits are estimated to be around 12% of GDP, one of the lowest level among

transition countries in Central and Eastern Europe (CEE). The inefficiency and the high cost of providing financial services can be deduced from the high spread between the interest rates for credits and deposits, which was around 17 percentage points in 2001.

High cost of banking in Ukraine comes from both, demand and supply sides: on the one hand there is a great uncertainty concerning solvency of potential borrowers, approximately half of Ukrainian enterprises are loss-makers; on the other hand commercial banks bear costs of own operational inefficiency, inadequate legislation, regulative costs, etc.

Not underestimating other causes of financial intermediation malfunctioning, in this paper we will discuss one of the cost composites at the supply side, namely central bank reserve requirements and their impact on the private sector and particularly on commercial banks. We will discuss use of this instrument in Ukraine, analyse its cost effects and propose measures, which can possibly improve the situation.

## 2. Reserve requirements in Ukraine

Reserve requirements in Ukraine were first implemented in 1989, during the Soviet Union time when the State Bank of the USSR issued a decree concerning the creation of a fund for regulating credit resources. This required commercial banks to hold a certain amount of the funds they had attracted in a special account. Since its foundation in 1991, the National Bank of Ukraine started to use the norm of reserve requirements for conducting monetary policy, changing the level according to economic conditions (Table 1).

**Table 1. The level of reserve requirements in Ukraine in 1992 - 2001, end of period, % of attracted funds**

| Year | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|
| Level | 13 | 25 | 15 | 15 | 15 | 15 | 16,5 | 17 | 15 | 6-14 |

Source: NBU

Thus, reserve requirements were viewed as an important instrument of National Bank policy. Reserve requirements were used quite intensively during the financial crises of 1997, 1998 and 1999 to hold the money supply under control and for keeping inflation under check. With time, the NBU changed certain key features of reserve requirements several times: the reserve rate, the type of liabilities to which reserves applied, and the time periods for complying with the requirements.

During 2001 the reserve requirements in Ukraine were changed twice: starting in April 2001 they were set at levels ranging from 9% to 15%, as of December 2001 at levels between 6 and 14%, depending on the term, the type of liability and the currency of denomination (see Table 2)[1]. The differentiation favours long-term deposits and deposits denominated in national currency.

**Table 2. The level of reserve requirements in Ukraine since December 10th 2001, % of attracted funds**

| Source | Currency of denomination | Short-term | Long-term |
|---|---|---|---|
| Juridical persons | National currency | 12 | 8 |
| | Foreign currency | 12 | 10 |
| Natural persons | National currency | 10 | 6 |
| | Foreign currency | 12 | 10 |
| Others | | 14 | |

Source: NBU

[1] It could be very useful for analysis to know the data concerning the amount of reserves as well as actual fulfilment of reserve requirements, but this data was not available at the moment.

The weighted average reserve ratio since December 2001 is 11% (13% for April to December 2001)[2].

Although the reserve requirements were reduced, they still remain at quite a high level. Countries, such as Canada, the United Kingdom, Switzerland, and New Zealand have drawn their reserve requirements to zero; the European Central Bank (ECB) sets it at a fairly low level (between 0% and 2% of deposits) and pays interest on reserve requirements holdings. Many transition countries have also started to reduce their reserve requirements. Thus, the Czech Republic down to 2%, Poland and Hungary to 4.5% and 6% level correspondingly, and all of them pay interest on reserve holdings. All CEE countries, aiming at EU accession, are trying to lower their reserve requirements to the ECB level. The current levels of reserve requirements in different countries are shown in Table 3.

**Table 3. Reserve requirements, end of 2001, % of attracted funds**

| Country | Reserve ratio | Interest paid |
|---|---|---|
| OECD countries | | |
| USA | 2.0-10.0 | no |
| Canada | 0.0 | - |
| Japan | 0.0 | - |
| United Kingdom | 0.0 | - |
| Eurozone | 0.0-2.0 | yes |
| CEE countries | | |
| Czech Republic | 2.0 | yes |
| Poland | 4.5 | yes |
| Hungary | 6.0 | yes |
| Latvia | 8.0 | yes |
| Bulgaria | 8.0 | yes |
| Estonia | 13.0 | yes |
| CIS countries | | |
| Moldova | 8.0 | no |
| Russia | 7.0-10.0 | no |
| Ukraine | 6.0-14.0 | no |

Source: Central banks of the respective countries.

## 3. The effect of reserve requirements on the interest rate spread and on banking activity

The main driving forces behind these changes in reserve requirements were the availability of more efficient instruments of monetary policy and the fact that reserve requirements add costs to the banking sector, lowering its profit and the level of financial intermediation[3].

Let's consider the effect of an increase in the reserve requirements rate. Now banks have to hold a larger percentage of deposits, on which they have to pay interest, in the form of non-earning reserves. Confronted with the higher cost of attracting funds, commercial banks will try to compensate profits and one of the solutions would be to decrease interest paid on deposits and increase lending rate, thus increasing interest rates spread. The result will be fewer deposits, since the consumer's supply of deposits positively depends on the interest rate being paid. Firms, in turn will demand fewer loans, in accordance with their loan demand function, which has an inverse relation to the interest rate. The magnitude of the changes in level of deposits and loans depends on the corresponding elasticities.

[2] Own calculations.

[3] It must be noted that commercial banks voluntary hold a certain amount of deposits in the central bank, using it for transactions purposes. A rate, greater than this would indicate excessive banking costs.

As a result of an increase in the reserve requirements, there will be a higher lending rate, a lower deposit rate, higher costs for the banking sector and less intermediation in the economy.

Beyond this, when looking at further impact of reserve requirements on the real sector, the costs are much higher still. Making the economic agents being worse off and depressing intermediation in the economy will have a negative impact on investment, on technological innovations, and in the end may be an obstacle to sustainable GDP growth.

The process described above can be summarised as follows in Box 1:

**Box 1. Cost transmission mechanism from increase in reserve requirements.**

$$\textit{Reserve Requirements} \uparrow \Rightarrow \textit{Cost of funds} \uparrow \Rightarrow \begin{matrix} \textit{Interest rate for loans} \uparrow \\ \textit{Interest rate on deposits} \downarrow \end{matrix} \Rightarrow \textit{Spread} \uparrow \Rightarrow$$

$$\Rightarrow \begin{matrix} \textit{Loans} \downarrow \\ \textit{Deposits} \downarrow \end{matrix} \Rightarrow \textit{Financial intermediation} \downarrow \Rightarrow \textit{Long-term growth} \downarrow$$

It is quite important to make quantitative estimation of the costs of complying with reserve requirements and their effects on the interest rate spread, but exact calculations are burdensome and require much additional research, i.e. for defining the elasticities of demand for credits by enterprises and supply of deposits from households, for estimation of reserve ratio, which commercial banks agree to hold voluntary, etc. Without claiming to be precise, Box 2 presents some rough estimation of the costs of reserve requirements, which can give us the idea about the costs for attracting deposits and the resulting increase in the interest rate spread.

**Box 2. Quantitative estimations: How much of the interest rate spread can be explained by reserve requirements?**

***Unit cost***

The cost of complying with reserve requirements in Ukraine is UAH 1.5 for each UAH 100 of attracted capital (taking into account alternative cost - forgiven revenue of commercial banks from not providing credits at the amount of reserve holdings – would increases unit cost to UAH 2.5).

***Aggregate cost***

For the whole sum of deposits, attracted by the banking system from households and enterprises, the cost in year 2001 was over UAH 400 m.

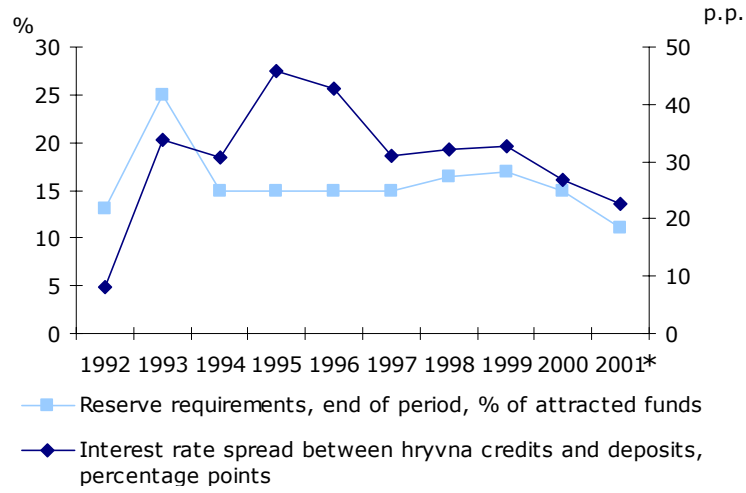
***How much of the spread can be explained by reserve requirements?***

Holding the reserve requirements at the present level gives rise to additional interest rate spread between 1 and 2 percentage points.

## 4. Benefits from lowering the reserve requirements

Although reserve requirements were viewed as quite an important instrument for conducting monetary policy during the last decade and although some easing has now taken place, the rate of reserve requirement in Ukraine still remains at a high level, which has a negative effect on the economy. A reform of the reserve requirement policy should potentially bring the following benefits to the Ukrainian economy:

**Graph 1. Reserve requirements and interest rate spread in Ukraine, 1992-2001**




Source: NBU
* Own estimation

**Lower interest rate spread.** According to arguments made above, a decrease in required reserves in Ukraine could result in a reduction of the regulatory costs for the banking sector and - as predicted by both theory and the experience of other countries – a consequent decrease in the interest rate spread. Development of interest rate spread and reserve requirements in Ukraine is shown in Graph 1.

**Development of financial intermediation.** A more favourable price for capital would foster financial intermediation. On the one hand, a larger share of free funds of households would be drawn into the financial system, and on the other it would make it more attractive for economic agents to take bank credits. Actually, in 2001, a year during which fairly important reforms concerning reserve requirements were made, credits to the Ukrainian economy for the whole year grew by 45%, while deposits by natural persons by 91% [4]. At least a part of this intermediation improvement can be attributed to decrease in the reserves requirements.

**Promotion of investment and economic growth.** Lower pressure on the commercial banks due to lower reserve holdings, and hence a lower credit rate will not only bring increase in the volume of crediting, but will also have positive consequences on the allocation structure of loans. As was mentioned above, in 2001 the credit volume grew by almost half, and although the total level of credits to GDP is still insufficient, such an increase is more than enough for a one-year period (otherwise issues of poor managed credit would arise). Yet more important is that the lower loan costs will make credits more attractive for long-term investment purposes (which so far are less then 5% of all credits). Further, such an expansion of aggregate investment would result in creating the necessary prerequisites for sustainable economic growth.

**Improvement in domestic competitiveness.** Moreover, decreasing the reserve requirements will be positive in the sense of equalizing costs between commercial banks and other financial intermediaries, which are not subject to reserve requirements. This would remove some unfair advantages of "grey lenders" and promote the inflow of capital into the official economy.

**Improvement in international competitiveness.** Also, Ukrainian commercial banks will become more competitive vis-à-vis foreign financial markets. Though this issue is not very important at this time, its significance will rise, as Ukraine becomes more integrated into international financial markets.

[4] See NBU, "Basic tendencies of monetary policy development in Ukraine in 2001".

**Compliance with the Net Domestic Assets requirements.** Changes in the reserve requirements do not automatically change the Net Domestic Assets item on the central bank balance sheet, which is one of the evaluation criteria used by international financial organizations, particularly the IMF and its EFF programme. Taking into account importance for Ukraine of accumulating foreign exchange reserves and co-operation with international financial organizations, loosening the monetary policy by decreasing the reserve requirements becomes more preferable.

## 5. Implementation of the proposal

Now, turning to the idea of reforming reserve requirements in Ukraine, we can step to the question of how such changes of existing system can be exactly done.

One possible way of reducing the cost of reserve requirements is for the NBU to pay interest on reserve holdings. Using the European Central Bank approach and accepting the NBU discount rate (12,5 %) as a basis for remuneration would turn into more then UAH 300 m per year. Since such an option requires the explicit appropriation of funds for remunerating purposes, this would be administratively difficult to accept[5].

The second possibility, lowering reserve requirements, is more realistic and below we would discuss implementation mechanism for this proposal:

**Gradual decrease.** First of all, we must note that rapid decrease of the reserve requirements is not desirable for any economy, since a) it creates new money, which can result in higher inflation and b) the central bank may not have enough time to adjust its monetary policy. Therefore, central banks pursue gradual policy of driving down reserve requirements, extending it for several years[6]. For a transition economy such as Ukraine this gradual approach is especially important, since weak financial sector and lack of effective alternative instruments for the NBU could turn a sharp decrease of the reserves into the volatility in the financial markets and into currency instability. Thus, this process should be securely extended over a medium-term period.

**The target level.** The second issue concerns the target level of the reserve requirement reforms. Although bringing reserves down to a very low level would give relief to the commercial banks, doing so is dangerous, since then the NBU would be confronted with difficulties of controlling the money supply. Thus again, decreasing the reserves to deposit ratio to below 5 to 6% is most probably undesirable over the medium term.

**Money creation.** Decrease in reserve requirements actually creates new free money in the economy. Taking into account that for 2002 planed increase in the money supply is UAH 7 bn[7], significant changes in the required reserves can raise concerns about the stability of the national currency. Thus, the policy of reducing reserve requirements should be incorporated into the overall central bank strategy of money emission[8]. Of course in this case reduction of reserve requirements would mean that central bank can create less money directly, thus, seigniorage revenues will fall as well. The main point here is that central bank should consider seigniorage as the lower priority then financial stability and promotion of intermediation.

[5] Alternatively, it might be advisable to consider possibility of allowing commercial banks to hold a fraction of reserves in T-bills, on which they would earn interest.

[6] Thus, Central Bank of Canada authorized drawing reserve requirements to zero by Bank Act in 1991, while the process proceeded till mid 1994. Other countries, which also experienced substantial reforms of reserve requirements, such as UK and New Zealand, conducted it for several years as well. CEE accessing countries, which have to meet regulations of European System of Central Banks, all accept longstanding plans of decrease in reserve requirements.

[7] See NBU, "Basic tendencies of monetary policy in 2002".

[8] Following the experience of EU states and some CEE countries, issuing long-term government bonds can neutralize negative liquidity effect and smooth increase of the money supply over long period.

**Development of other monetary instruments.** When deciding to decrease the reserve requirements the central bank has to be sure that it will continue to be able to conduct monetary policy under the new conditions and has in its use other effective and reliable instruments. In this respect, Ukraine's biggest challenge lies in developing open market operations and reviving its T-bills market[9].

**Accompanying measures.** Under conditions of a strongly regulated financial markets and lack of developed legislative and institutional settings, the commercial banks may be able to accumulate considerable liquidity, but may not be able (or willing) to give sound credits to the real sector. Thus, the central bank should not only ease the situation of commercial banks via reserve requirements, but also promote the creation of favourable conditions through effective mechanisms of collateral and bankruptcy, through law on credits, etc.

The danger of greater interest rate volatility is another important issue, hence Ukraine should promote the development of the interbank market. Properly functioning, it could help to avoid interest rate volatility.

A final point is the role reserve requirements play in securing deposits in case of banks failure. This function was important at the early stages of implementing reserve requirements, but lately it's value diminished, mainly due to the high costs. At this time a deposit insurance fund - specially designed for this purpose - should fulfil this function much more successfully. Therefore, as the ratio of reserves to deposits diminishes, the need for a reliable deposit insurance fund in Ukraine becomes ever more urgent.

This speed of changes, target level of reserves as well as the other proposed measures should promote financial intermediation and at the same time allow the NBU to be confident about conducting monetary policy and controlling the money supply.

One other very important point, which we should like to stress, is that if a central bank decreases its reserve requirements, this does not mean that it cannot use this instrument anymore. The main underlying idea here is, that what is more important for controlling the money supply through reserve requirements, is not the absolute level of the reserves, but the relative changes. That is, if a central bank intends to shock money supply, using this instrument, it does so by changing the reserve rate; the initial amount plays a secondary, though still significant role here.

The responsibility for decisions concerning implementation of reforms should lie solely with the NBU, depending on current economic situation and any political interference would be counterproductive.

## 6. Conclusions

- Reserve requirements, set at a high level impose costs on the commercial banks and, consequently on other agents of economy. We argue that the commercial banks will try to pass costs of holding reserves on to their clients, widening the interest rate spread. This will lead to lower financial intermediation and eventually may have adverse effect on long-term growth.
- Although in Ukraine reserve requirements were lowered twice in 2001, and weighted average ratio since December 2001 is 11%, this is still a quite high level. The estimated cost to Ukrainian commercial banks for holding reserve requirements is roughly UAH 1.5 for every UAH 100 of attracted capital,

[9] For a discussion of T-bill market development see paper O 15 of the German Advisory Group

between 1 and 2 percentage points of the interest rate spread can be attributed to the reserve requirements.

- Lowering the reserve requirements should be one of the facilitating factors, creating favourable conditions for development of the banking sector, lowering interest rate spread and promoting credits to the real economy.
- According to our analysis, reforming the reserve requirements can be accomplished without putting pressure on price stability or compromising the NBU's ability to conduct monetary policy. We propose accepting a program of gradually reducing reserve requirements to an average of between 5 and 6% within next 2 or 3 years.

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