

***Indicators of Regulatory Burden on Banks
in Six Central European Countries and Croatia***

Summary of Final Report

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Study for the Croatian Banking Association by



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If the perception that regulation is costless is combined with risk-averse regulators, there is an evident danger of regulation being over-demanded by consumers and over-supplied by regulators.

David Llewellyn

Introduction

This analysis of bank regulation costs has the following three aims:

- 1) For the first time in Croatia, provide a precise and internationally comparable measure of bank regulation costs.
- 2) Point to the necessity to simulate the effects that new regulatory measures would have on bank regulation costs, as well as underline the need for dialog in connection with bank regulation.
- 3) Point to a possible conflict between high bank regulation costs and full international mobility of capital.

Regulation is an extremely complex phenomenon. Firstly, the social benefits of some types of regulation exceed or equal their costs. Secondly, there are many types of regulation which are not easy to measure (for example, costs related to reporting, payment system regulation, labour and other laws). Thirdly, regulation has different influence on different banks, depending on their balance sheet and cost structure, giving rise to the question which balance sheet and cost structure is typical for the banking system as a whole?

With these issues in mind, in this analysis we strive to evaluate benefits arising from bank regulation, too. To this aim, regulation cost has been defined as net cost: total cost of (measurable) regulation reduced by the assessed social benefits. Further, the regulation having a visible financial effect in financial reports has been measured: prudential regulation (e.g. capital regulation, deposit insurance), monetary regulation (e.g. reserve requirement) and foreign exchange regulation (e.g. regulation of minimum required foreign exchange liquidity and foreign exchange marginal reserve requirement). Finally, the issue of relevancy and international comparability has here been resolved by using balance sheet data from monetary statistics reported by central banks of countries included in the calculation. In addition to Croatia, these countries are the Czech Republic, Hungary, Slovenia, Poland, Austria and Italy.

This summary consists of four sections. The problem is defined in the first section. The second section describes the types of regulation costs. The third section goes on to outline the results, while the fourth discusses their importance for future conduct of monetary and financial policy.

Defining the Problem

The past decade was marked by the consolidation and internationalisation of banking systems in transition countries of Central Europe. Croatia was among the first to complete the process. Interest rate reduction, intensified competition, broadened range of products and services offered and easier access to cheaper and more long-term sources of finance contributed to significant GDP growth in the period from 2001 to 2004. However, bank regulation costs in Croatia went up significantly, now being higher than those in other transition countries. That is why the Croatian Banking Association commissioned from Arhivanalitika, a consulting company, an analysis aimed at showing the movements and comparing bank regulation costs across Central Europe.

The increase in regulation costs needs to be analysed within a broader, macroeconomic context. The increase in external debt combined with high fiscal deficit encountered its limit, so the economy is growing at falling rates. There is a chronic lack of private investments that are needed to substitute government investments which are losing momentum. Although the banking system in 2005 is far more stable than it was in 2000, banks' view ahead is not as good as it was in 2000. High regulation costs have arisen as a consequence of the necessary macroeconomic adjustments. Since the current scope of fiscal adjustment is not sufficient, the costs of additional adjustment are transferred to banks and their clients.

High bank regulation costs are not sustainable long-term in circumstances of international mobility of capital.

Putting off a more far-reaching fiscal adjustment and transferring its cost to private sector creates new dangers in circumstances of increased international mobility of capital. Capital is still not fully mobile across country borders and loan demand is still strong, so high bank regulation costs do not represent a difficulty at this point. Banks have been recording relatively high profits, so it looks as if there is nothing wrong with the system. In mathematical terms, the limitation of regulation costs is not "active" at the moment. However, if it comes to further slowdown in economic activity growth, a reduction in loan demand and increase in its price elasticity, accompanied by the increase in international mobility of capital, limitation of regulation costs may become active. Active regulatory limitations and costs may be manifested in the reluctance to reinvest profits, to the lack of new capital inflow to the banking system, to large clients borrowing abroad at lower interest rates and

Although the conflict between regulation costs and free capital flows is not present at the moment, this does not mean that it should be ignored. Being warned of the danger is a necessary precondition for avoiding it.

finally even to a deposit outflow. These undesirable occurrences may lead to financial disintermediation in the long run. The danger of this happening is still remote, which does not mean that it should be ignored. To the contrary, pointing it out at present is crucial for avoiding it in the future.

This analysis is aimed at pointing out a possible problem by its precise measurement, using the indicator of regulatory burden on banks. For the first time we are able to monitor movements of regulatory burden indicators and compare different countries by intensity or cost of their regulation.

The indicators of regulatory burden may also be used for simulation of the effect of new regulatory measures or changes to the existing ones. Quantitative simulations may open room for a qualified dialogue on the rationale behind, as well as costs and benefits of regulation. This is not a new invention. In much more developed systems than Croatian, as well as in systems more exposed to international capital flows, regulators take care that regulation does not lead to unilateral reduction in international competitiveness and stability of banks. Therefore, each new measure should be valued in the light of its costs and benefits.

Types of Regulation Costs

Net cost of bank regulation equals the total (gross) cost reduced by social benefit from regulation.

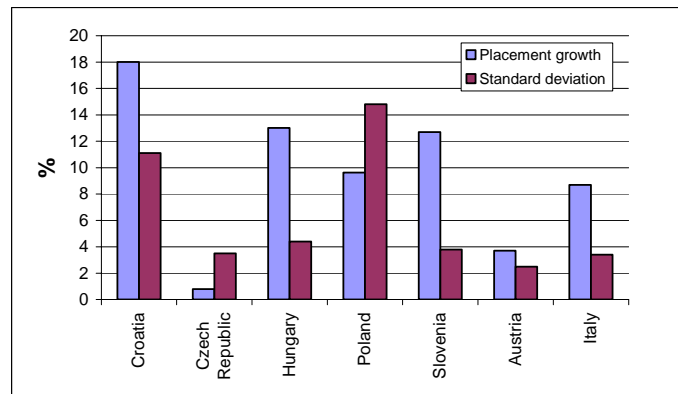
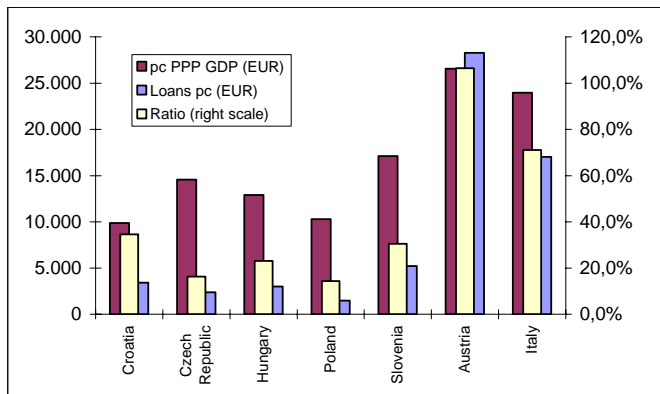
Preservation and increase of international competitiveness of the banking system should by no means be interpreted as the necessity to make regulation costs equal to regulation costs of the country where they are lowest. Regulation is justified, that is, socially beneficial, if by protecting consumers or maintaining system stability it contributes to creating better chances for its development in the future. Therefore, in this analysis we have differentiated between total or gross regulation cost and net regulation cost. Net regulation cost equals gross regulation cost reduced by the equivalent of social benefits resulting from regulation.

More strict prudential regulation in Croatia, as compared to other countries may be justified by the high level of development of the loan portfolio, its speedy growth and high volatility of its growth, and the credit risk hidden in placements in circumstances of large exchange rate depreciation. As a result, net cost of prudential regulation equals zero (gross cost equals the benefits).

For example, we find a slightly more strict capital regulation in Croatia as compared to other countries justified. In Croatia, we may notice that the portfolio of loans to the private sector (in comparison to GDP at purchasing power parity – labelled indebtedness ratio in Figure 1) has reached a relatively high level of development as well as that there is a high average growth rate of loan supply and high variability of that rate (Figure 2). Combined with the fact that the loan portfolio is dominated by domestic credit indexed to foreign currency, with their credit risk susceptible to exchange rate changes, we come to the conclusion that Croatia is the only country in the sample that has a highly developed loan portfolio, high average loan growth, high loan growth variability and a high share of hidden credit risk related to possible currency risk (expected problems with debt repayments in circumstances of strong depreciation of real

exchange rate). On the other hand, Croatia has the highest minimum ratio of capital adequacy (10% as compared to the usual 8%), has a bottom threshold for reserves for general banking risks (0.85% of assets classified in category A), it is the only country which proscribed the obligation to set aside additional capital if the combination of asset growth and capital adequacy does not meet the set criteria, and together with Slovenia, at the first glance, has the most restrictive regulation as regards the open FX position. However, as well as Slovenia, it includes the domestic credit with foreign currency clause in the calculation of the position. The listed peculiarities constitute a good enough reason for a slightly stricter capital regulation in Croatia. As a result, we have assumed that the net cost of this regulation equals zero.

Left, Figure 1: Indebtedness Ratio (Credit to Private Sector /GDP ppp in %) – the right scale
Right, Figure 2: Average Growth of Credit 2000 – 2004 and Growth Variability



Similarly, the costs of foreign exchange liquidity regulation contribute minimally to the costs of bank regulation in Croatia. The case of Croatia is also specific due to the fact that over 60% of its bank liabilities is denominated in foreign currency, while external debt to GDP is the highest among all transition countries of the Central Europe, which makes it appropriate for the regulator to closely monitor foreign exchange liquidity of the entire monetary system (in addition to the central bank’s international reserves policy).

Due to these specific characteristics for Croatia (and Slovenia), we had to separate the share of percentage of minimum foreign exchange liquidity producing excess foreign exchange liquidity from the share which is justified as a result of the need to maintain foreign exchange liquidity of the entire monetary system. By using standard foreign exchange liquidity indicators (the ratio of M4 to

Regulation of minimum foreign exchange liquidity is not included in the calculation of net cost of regulation in Croatia. The allocation is justified due to the need to preserve foreign exchange liquidity of the system as a whole.

international reserves and the ratio of short-term external debt to reserves), we have calculated that Croatian regulation (32% of all foreign exchange liabilities have to be covered by FX liquid assets) is justified, while Slovene regulation (100% of the base of up to 30 days, and 80% of the base with maturity between 31 and 180 days) creates a sizeable surplus of foreign exchange liquidity. As a result, the regulation of minimal foreign exchange liquidity creates net regulation cost in Slovenia, while in Croatia its impact is minimal. Moreover, since liquid foreign exchange assets required to satisfy the unjustified share of the minimum foreign exchange liquidity rate (2% in Croatia 2004) are much lower than the foreign exchange reserve requirement, this regulation does not affect the calculation of regulation costs in Croatia at all.

Bank regulation costs in Croatia are influenced by three regulation components: reserve requirement, deposit insurance, and marginal foreign exchange reserve requirement.

Marginal reserve requirement is included in the calculation of net cost of regulation.

Croatia is the only country in the region that has introduced the marginal FX reserve requirement. Although justification for it may be found in the need to stabilise external debt, in the end the debt problem has to a great extent been created by fiscal policy 1995 - 2004. Unlike capital regulation and minimum foreign exchange liquidity regulation which create not only costs but also immediate benefits for banks (by correcting possible instabilities within the system itself), marginal FX reserve requirement regulation has been introduced mostly due to cummulation of deficits in the public sector. However, its price is being paid by banks and their clients. As a result, as regards this regulation gross cost equals net cost of regulation.

Deposit insurance premium represents a net cost of regulation.

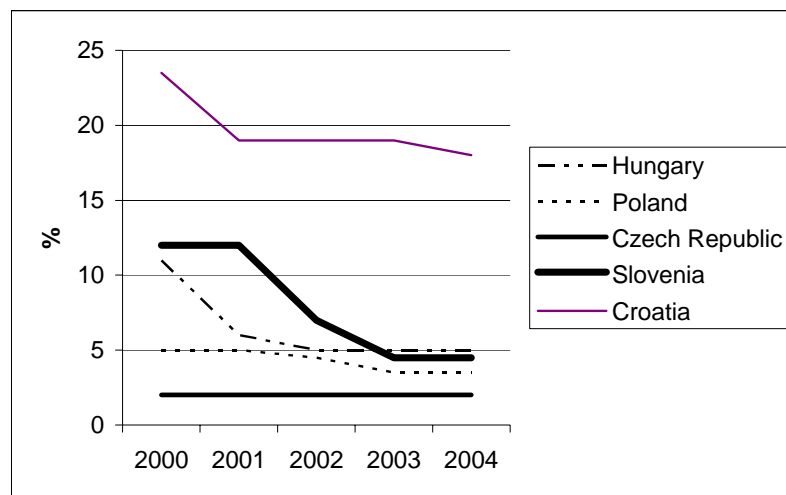
Even after the last changes in the deposit insurance system of December 2004 (0.5% premium down from 0.8%), Croatia still has the most expensive deposit insurance system. Hungary (with the effectively paid in premium in 2004 totalling 0.02%) and the Czech Republic (0.1% premium) also have ex ante deposit insurance systems, while Poland combines an ex ante (0.1% premium) and ex post system (0.4%), which is much cheaper because funds set aside as part of the ex post system do not represent a cost for banks (until the moment of payment) but are maintained in the form of risk free liquid securities yielding returns. Slovenia, Austria and Italy also have ex post deposit insurance systems. There are theoretical as well as empirical controversies as regards the usefulness of the deposit insurance system. In addition, Croatia has not formed new financial assets for future payments from payments made to the fund but has rather used them to service DAB (Deposit Insurance Agency) bonds, which is why we see the entire insurance premium as net cost.

Reserve requirement represents a net cost of regulation.

Finally, the entire reserve requirement is included in the calculation of net cost of regulation. The experiences of other transition countries (e.g. Czech Republic, see Figure 3) show that it is possible

to conduct monetary policy with a minimal reserve requirement rate and reduce this rate in the long term (e.g. Slovenia, see Figure 3). Open market operations, issuing central bank bills and/or better coordination of monetary and fiscal policy open up a possibility of exchanging this direct instrument with a whole array of cheaper and more efficient indirect instruments. Similarly as with marginal reserve requirement, the inability to adjust to fiscal policy measures is not a justification for reducing the cost component of this regulation. On one hand, reserve requirement may be beneficial to the financial system as a whole by maintaining stability. On the other hand, it is a fact that fiscal adjustment would create room for phasing out of the reserve requirement and introduction of indirect monetary policy instruments. As a result, the entire reserve requirement is included in the calculation of net regulation cost.

Figure 3 :Rate of Reserve Requirement*



* In Austria and Italy the rate is the same as in the Czech Republic and the entire EMU (2%).

Costs of regulation may be measured as marginal and opportunity. Both methods give a different result from the one obtained by the accounting approach.

Costs may be measured as marginal and opportunity. Marginal cost is the difference between the cost of financing an additional unit of loan with and without regulation. It is assumed that the additional unit of loan is financed in the context of the existing liability structure (in accordance with monetary statistics data for the system as a whole). So, regulation of individual liability components (bases) influences the calculation in proportion to the share of the base in the liability structure. As a result, marginal cost is measured at the liability side of the balance sheet. Opportunity cost is the cost of missed earnings on assets maintained in compliance with regulatory measures. It equals the difference between earnings that would have been realised, had those assets been free and placed as loans, and earnings generated on assets set aside. Both ways of calculation are different from the calculation of regulation costs in accordance with the accounting method and both are sensitive to the

Within the scope of this project we covered the costs of classic types of monetary, foreign exchange and prudential regulation which are connected to the financial aspect of banks operation. With the reduction of these costs the focus will shift on operational costs of regulation which are connected to the payment and reporting system, labour laws etc.

level of market interest rates at hand: the higher the market interest rate, the greater the regulatory burden.

Since Croatia has in common with other countries the declining trend in interest rates, the cost of regulation has been declining, relatively speaking, on this basis. However, results indicate that cost of regulation in Croatia has started reflecting upward divergences in the past two years. As a result, within the scope of this project we focused on the costs of monetary, prudential and foreign exchange regulation which mirror themselves in the financial part of banks operations, that is, are reflected directly in balance sheet items and today have the largest impact on the total cost of bank regulation in Croatia.

There are also other regulatory costs, connected with the operational segment of banks business. They are reflected in their operating expenses. These are, for example, the costs of payment system regulation, costs related to the reporting system, labour and tax laws. In developed countries, where the influence of classic types of regulation on the financial part of bank operations has been reduced to a reasonably low level, operational costs of regulation take the forefront.

Dealing with costs of bank regulation can thus be divided in two stages. The first one has been presented in this project. It encompasses classic types of bank regulation connected with the financial aspect of their operation. The reduction of these costs puts operative costs of regulation into the centre of attention in the second stage. In countries like Austria, Italy or the Czech Republic, where classic types of regulation no longer create significant costs, operative costs of regulation have been coming to the foreground.

Since classic costs of regulation no longer present a significant burden for banks in Austria and Italy, for the purpose of clarity we will not present the data for these two countries in the next paragraph. The results presented relate to transition countries from our sample.

Results

Figure 4 shows the movement of gross and net marginal cost of regulation in Croatia in the period from 2000 to 2004. The difference between gross and net cost is the cost of regulation of minimum foreign exchange liquidity. The unit of measure are basis points which need to be interpreted as the difference between the cost of funds (for financing an additional unit of loan) in the circumstances with and without regulation. The annual data show the situation at the end of the year. As we can see, the marginal net cost of regulation was declining until 2002, to go up again in 2004. The reduction of the reserve requirement rate from 19% to 18% and deposit insurance premium from 0.8% to 0.5% did not succeed in

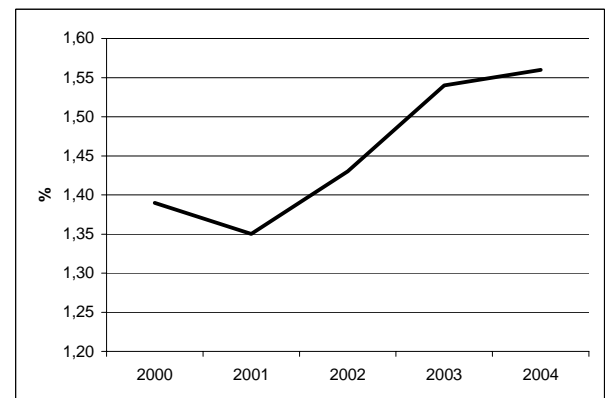
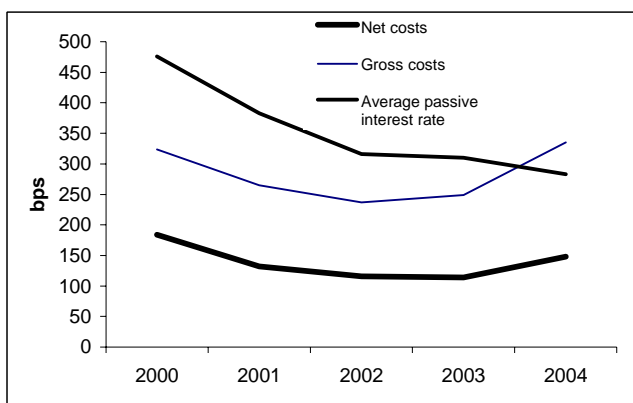
Both calculation methods indicate an increase in regulation cost in 2004.

compensating for the effect of the cost of introducing the marginal foreign exchange reserve requirement.

Figure 5 shows the movement of net opportunity cost of regulation. The unit of measurement is a percentage of balance sheet items included in the calculation. Since not all items are included in the calculation (e.g. capital, government deposits and other small items), this percentage may not be interpreted as a percentage of total assets. Such interpretation is possible only if the value of indicators is corrected by items that were not included. The indicator, whose value in 2004 was 1.56%, made up some 1.36% of total assets.

The calculation of opportunity cost is highly sensitive to the assumption that all freed up assets would be placed in loans in the circumstances without regulation. This assumption artificially increases the value of the indicator. In reality, a large portion of the assets would be retained in the form of excess liquidity or used for servicing some of the obligations. In addition, the increase in loan supply would lead to an interest rate decline. For this purpose a sensitivity analysis has been conducted. It has shown that, with the assumption of 50% of assets being placed as loans, net opportunity cost of regulation declines to 0.9% of assets (some 0.4 percentage points down). The same sensitivity analysis has indicated a reduction in lending rates due to increase in loan supply. This effect is around some 0.3 percentage points.

Left, Figure 4: Marginal Cost of Regulation in Croatia (Gross and Net)
Right, Figure 5: Opportunity cost of Regulation in Croatia



Figures 6 and 7 show a comparison of net costs of regulation in the transition countries of Central Europe. It is evident from these Figures that their costs are several times lower than in Croatia. Moreover, Croatia and Slovenia had similar regulation costs in 2001-2002, however, after that time Slovenia has registered a rapid decline. A sudden jump in net marginal cost in Slovenia in 2001 as compared to 2000 was a consequence of the movement of international reserves and the easing of the foreign exchange

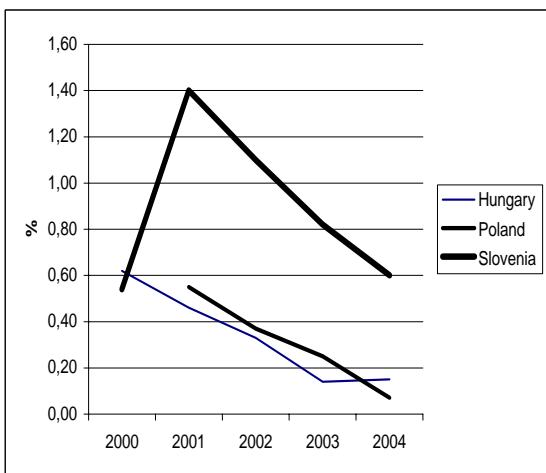
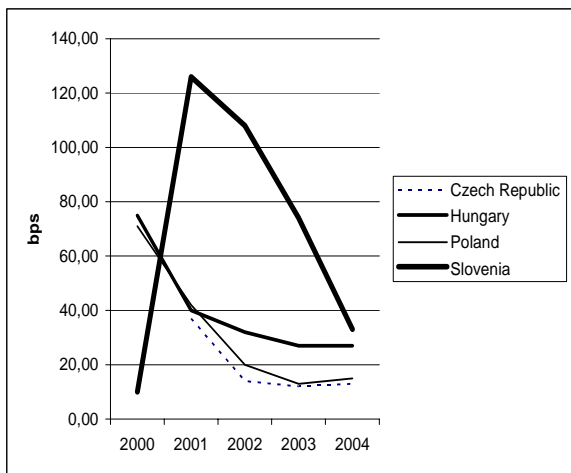
Cost of regulation is the highest in Croatia, which has the problem of cost size as compared to other countries but also of its trend – it has been increasing, while in other countries it has been reducing.

liquidity problem. The major portion of the cost of minimum foreign exchange liquidity regulation was justified in 2000 due to relatively low foreign exchange liquidity. Since 2001, international reserves have grown so much that there has been no need for a portion of this regulation. Accordingly, since 2001 the cost of regulation in Slovenia has depended primarily on the regulation of minimum foreign exchange liquidity. In the meantime, the reserve requirement rate has been reduced significantly (see Figure 3), and the decline in interest rates, especially in 2004, contributed to the continuation of the decline in regulation cost observed during 2003. The cost there is still two to three times higher than in other countries, except Hungary, where it is roughly the same. However, now it is four to five times lower than in Croatia, though these proportions should be interpreted with great caution due to sensitivity of results to some assumptions, as pointed out at the outset of the previous paragraph.

Figure 6 also shows other transitional countries which entered this decade with net marginal costs of regulation slightly blow 80 bps, but which purposely reduced them to their current, low levels. The main reason for such developments should be sought in the EU accession process and the pending EMU accession: a decrease in interest rates and reserve requirement rate are the main reason for the reduction of regulation costs.

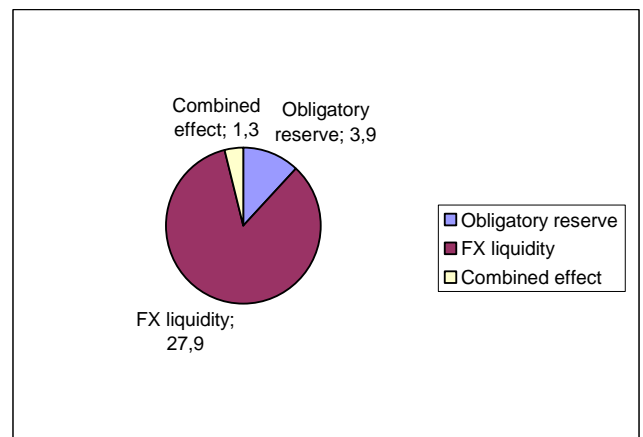
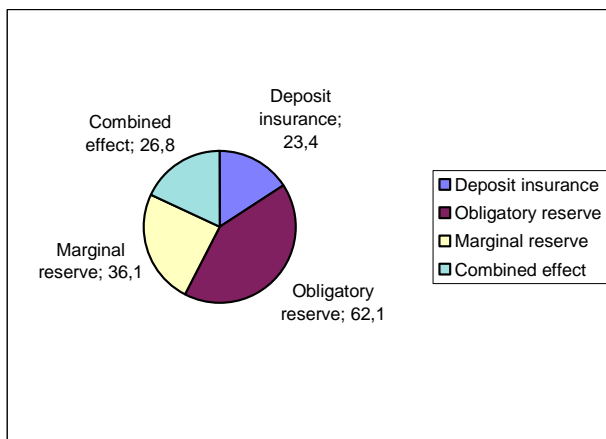
The comparison as regards net opportunity costs gives a similar result and leads to the same conclusions. The data for the Czech Republic is not shown because the cost of regulation in this country in accordance with the opportunity cost method is negligible (not much different from the one observed in Austria and Italy).

*Left, Figure 6: Comparison of Net Marginal Cost of Regulation
Right, Figure 7: Comparison of Net Opportunity Cost of Regulation*



Finally, Figures 8 and 9 show the main causes of regulation costs by type in the two countries most alike – Croatia and Slovenia. Figures show that costs in Croatia are dominated by the reserve requirement, while in Slovenia the regulation of minimum foreign exchange liquidity accounts for the largest share of the cost.

*Left, Figure 8: Causes of Costs by Type of Regulation in Croatia
Right, Figure 9: Causes of Costs by Type of Regulation in Slovenia
Based on Net Marginal Cost in bps* 2004*



* The combined effect is a consequence of the assumed mathematical description of interrelationship among different types of regulation. Further research is needed in order to see if there is economic rationale behind the combined effect. Net marginal cost of regulation without this effect in Croatia is 121 bps for 2004. Further research should also show the extent results would change due to different interest elasticity of loan demand, to different preferences for excess liquidity in the world free of regulation and to cost of additional capital requirement implied by credit growth. For more details see material on methodology.

Discussion

Analysis has shown that cost of regulation is an exceptionally complex phenomenon which cannot be viewed outside the macroeconomic framework (which is especially important in view of its connection to the fiscal policy). In addition, we have shown that a qualified discussion on the costs of regulation needs to take into account the benefits it brings. Our approach to the calculation of regulation costs strives to take into account the benefits of regulation, connected with the problems arising within the banking system itself, to the largest possible extent. A somewhat more strict capital regulation is therefore justified and does not affect the net cost. It is the same with the regulation of minimum foreign exchange liquidity.

However, the cost of regulation which arises as a result of insufficient fiscal adjustment and lack of coordination of monetary

and fiscal policy affects the entire cost calculation. Introduction of marginal FX reserve requirement, failure to reduce the reserve requirement rate and press ahead with a more in depth deposit insurance reform may help to overcome fiscal problems and maintain fiscal stability but this is not a sufficient reason to ignore this type of costs in our calculations. Banks and their clients are those who pay the final bill for the insufficient fiscal adjustment apart from paying the cost of preservation of banking system stability . As a result, this methodology does not define the cost of regulation from the point of view of the profit and loss account of banks and regulators, but from the point of view of the comprehensive relationship between the private and the public sector.

Thanks to economic growth and strong demand for loans the cost of regulation has not been a significant limiting factor for the operations and perspectives of Croatian banks. However, the need for fiscal and macroeconomic adjustment has led to a slowdown in economic growth and loan demand, while the cost of regulation has been growing. All this has been happening in an environment where technological and regulatory changes have contributed to the increase in international mobility of capital. If macroeconomic adjustment continues with international mobility of capital increasing, the current set of policies and relations between different pieces of regulation may become inconsistent in the long run. Faster growth and lower costs of regulation in other countries may become sufficient reasons for transfer of capital to other countries.

The danger is still not imminent, but being aware of it is a necessary precondition for avoiding it. With this aim, the indicators of regulatory burden and their international comparison may serve as a basis for strategic dialog on policy that is founded on facts. The aim here is not to find arguments for a future reduction in the reserve requirement or any other measure which would lead to reallocation in the profit and loss account of the central and commercial banks but rather to recognise the problem ahead, measure its proportions and provide an analytical tool to be used for evaluating the costs and benefits of regulation.