

MEASURING OPENNESS OF THE CAPITAL MARKET IN MACEDONIA¹

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Introduction

Macedonia is a small relatively open economy and its interest rate policy is very much linked to its exchange rate policy. The more integrated it became with the international financial market the more the interest rate policy will be dependent on the exchange rate regime.

One reason to analyze the behavior of the interest rate level in Macedonia is the differential between the interest rates in Macedonia and the Euro zone. In accordance with the uncovered interest rate parity, the more open the economy is the domestic interest rate should be converging to the Euro zone interest rate. If the difference, i.e. the parity spread, is high in an environment of integrated financial sector and Macedonia and still experiencing high interest rates, then the differential may be explained as a premium for the expectation of future depreciation and/or devaluation of the Macedonian Denar. Explanation then might be that there exist a misalignment within the fixed exchange rate regime in Macedonia thus, creating incentives for the market to expect depreciation/devaluation. The type of expectation (whether they are rational or adaptive) is very important, as shown in this paper. Within this concept it is important that the National Bank of Macedonia – NBRM has developed a program to improve the institutional framework for monetary policy, in particular, data analysis, market development, and monetary instruments (see IMF country report 2005).

Rationalizing this, we must not forget the high intermediation spread that exists in the Macedonian banking sector that could be reflection of some microeconomic reasons for the relatively high interest rates (premium for the

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inefficient enforcement of the bankruptcy and collateral laws (latest information from the NBRM is that Macedonian banks claim 25bln MKD that are in court procedure some of them since 1993), lack of competition in the banking sector (even though the Macedonian experience is more an one of having high concentration in the banking sector thus, leading to oligopoly), high level of nonperforming loans, moral hazard issues related to bank bailout, possible existence of a pocket money banks and signaling and asymmetric information problems etc.

Macedonia conducts a de facto peg system since 1995 even though many countries with a substantial contact to international capital markets have abandoned the facto or “soft pegs” from their terminology; see Stanley Fischer (2001). Those remaining like China have a capital controls in place. On the other side, Mussa and the others (2000) say that if a country have limited involvement with global financial markets some form of exchange rate peg or band or highly managed float is generally more viable and more appropriate for them. There are many questions and debates in the literature and finding what is proper for Macedonia is a challenge.

This paper is organized as follows. First, the need to measure capital openness is discussed, and then some measures are illustrated. Further, a model for Macedonia and the results are presented with rational and adaptive expectations. I end the paper with a discussion on connection of capital openness and the institutional set up and the conclusion. This research needs to be improved with how the area is regulated in Macedonia.

Why measuring the capital account openness

The globalization, accelerated development of the financial market, the 80s debt crises and the 90s currency crises gave the BoP related analyses a new boost. The analyses of capital account being of particular interest and raise the interest of CEA for more detailed technical analyses. Questions were discussed within CEA related to the measuring capital account openness and the context and benefit of such analyses.

This part lists some aspects of the practical use of the measuring capital openness. Higher degree of openness on one side may allow increased ability to finance larger current account deficits and increase the level of foreign savings and may affect the efficiency of capital allocation thus, reduce distortion with higher return on investment and higher productivity growth. On the other side Stiglitz (2002) argues that pressuring emerging countries in the 90s to relax the barriers on capital flow was a mistake and led to currency crises.

What would be country specific to Macedonia to argue for restricting capital integration? One reason for more restriction might be the country’s high vulnerability to external shocks and financial crises. The rapid expansion of bank credit, now in its third year, reflects a structural shift to more commercial

bank intermediation (credit growth accelerated in 2002, triggered by a decline in the interest rate on central bank bills and by more aggressive lending to households due to growing competition among banks). Neither the increases in interest rate on NBRM bills since late – 2003 nor the still high lending rate, have significantly dampened the credit boom, partly because much of the new lending is in, or indexed to, foreign currency. While the boom has raised credit risk, including from unhedged foreign exchange exposures by borrowers, the quality of banks' loan portfolios has improved and stress tests suggest that balance sheet risks remain small (see more in IMF 2005).

Even if the IMF's stress tests show small balance sheet risks, the possible evergreening might easily occur in the banking sector if the borrowers were not as creditworthy as the risk managers from the banks estimated, having in mind the business environment in Macedonia. That is why it is important that an overall strong monetary institution with good financial regulation and strong supervision are on place. Strong institutional set up could help reducing vulnerability and the interest rates and set a firm ground for implementing more growth oriented policies.

This leads us to the question how the openness of the capital account affects economic growth. Macedonia has a poor economic growth and we might want to investigate if the capital account openness is a determinant for the economic growth and also, when is the right sequencing to free the market further. Sebastian (2000) shows that there is an evidence that an open capital account positively affects growth only after a country has achieved a certain degree of economic development. Further, he concludes, that this provides support to the view that there is an optimal sequencing for capital account liberalization. For Macedonia thus, still remain the question how much is the capital account open. The more open the capital account the higher the ability to finance larger current account deficits. But, does the economic growth in Macedonia provide that certain degree of economic development as Sebastian points out?

In relation to the economic growth and investment, the degree of openness of the capital account is affecting the degree to which the expansionary fiscal policy is crowding out the private investment and the ability to which the monetary policy affect the aggregate demand.

Another important reason to analyze capital account openness is the correlation between the capital account openness and the external crises in the face of the possible sudden stops of inflow of capital and current account reversals. The point is to make a judgment of the degree of vulnerability to external crises depending on the openness of the capital account and how this affects the economic growth. Sebastian (2004) finds no systematic evidence suggesting that countries with higher capital integration face a higher probability of having crises. But he also finds that once a crisis occurs, countries with higher capital mobility may face higher costs in terms of economic growth decline.

In the case of Macedonia the more it is integrated in with the global capital market the higher the risk of high volume of capital inflow being reduced significantly in a short period of time, which is the sudden stop and the possible reductions in the current account deficit within a short period of time, which is the reversal.

I use here the opportunity to quote Mundel (1961) from his classical paper on a point that is very relevant for the Macedonian case: "It is patently obvious that periodic BoP crises will remain an integral feature of the international economic system as long as fixed exchange rates and rigid wage and price levels prevent the terms of trade from fulfilling a natural role in the adjustment process. It is however far easier to pose a problem and to criticize the alternatives than it is to offer constructive and feasible suggestions for the elimination of what have become an international disequilibrium system".

One of the main structural factors considered by Mundell (1961) and latter McKinnon (1963) is the factor mobility. Macedonia, as one with fixed exchange rate, if it have high capital and labor mobility, vis-à-vis the EU countries with which it fix the exchange rate, will have less need for exchange rate adjustment and will be better off with the existing regime. But how much is the capital mobile and how much is the labor mobile is a matter for further empirical research.

Measures of the capital account openness

One simple measure of capital openness is the inflow of capital as percentage of GDP. A useful presentation of the behavior of capital flows as % of GDP one can find in Sebastian (2000).

In Macedonia the direct investment and the portfolio investment are relatively low (average for the period 1998-2004 of \$ US 92 per capita or cumulative FDI and portfolio investments of 5 % of cumulative GDP for the same period).

The degree of capital market integration can be estimated by examining the convergence of the private rate of returns to capital across countries. In their famous work Feldstein and Horioka (1980) analyzed the behavior of the saving and investment. The argument there was that in an environment of perfect capital mobility there is no correlation between the saving and investment. Interesting results from the work of Montiel (1994) after implementing the Feldstein and Horioka approach is the benchmark of saving ratio coefficient of 0.6. If a country has a coefficient of regression higher than 0.6 it can be said that the country has a rather closed capital account. Another interesting work, on this rather quantitative indicator (the saving-investment), is presented by Buch (1999). A price measure of capital mobility shows that in integrated financial markets rates of return on identical financial assets must be the same.

One test of the degree of capital mobility uses the fact that the assumption of international mobility of capital implies that consumers can smoothen

consumption over time by borrowing and lending on (international) capital markets. Hence, tests on the correlation of consumption and net domestic output can be used to assess the degree of capital mobility, see Bayoumi (1998).

Klein and Olivei (1999) use the IMF's exchange arrangements and exchange restrictions data to construct index of capital mobility. The index is defined as the number of years that in accordance with the IMF's binary data the country in question has had an open capital account.

Another interesting measure for effective degree of financial openness of an economy is the Stilianos and Christopher cointegration test of interactions among the current account, budget balances and real interest rates.

Measuring capital account openness in Macedonia

Back in 2003 the USAID's Fiscal Reform Project invited Prof. King Banaian to investigate the presence of high interest rates in Macedonia (see both King 2003). In his findings Prof. Banaian proposed to the USAID project to investigate the degree of openness of the capital market in Macedonia and suggested the Sebastian and Khan (1985) and Haque and Montiel (1991) methodology. The context of his proposal was to give answer, beside explaining the presence of high interest rates in Macedonia, to whether the use of the exchange rate targeting in Macedonia has alternative as well.

The idea was that if the capital market is relatively closed, than the observed differences in the interest rates between Macedonia and the rest of Europe are most likely due to domestic factors. The more open is the Macedonian economy the more problematic becomes the pegged monetary policy and the more it will contribute to the high interest rates.

We cannot make a clear statement of weather the capital account in Macedonia is open thus, the presence of capital controls in Macedonia is an issue subject to empirical testing.

The model

Here a measure of openness of the capital account in an empirical environment follows the Edwards and Khan (1985) and Haque and Montiel (1991). The rationale of the model is:

The domestic interest rate - i is a structural feature of the economy and can be expressed as a weighted average of the uncovered interest parity rate - i^* and the domestic "Endemic" interest rate if the capital market is closed - i' .

The algebraic representation is:

$$i = \psi i^* + (1 - \psi) i' \text{ or } i - i^* = (1 - \psi) * (i' - i^*); 0 \leq \psi \leq 1 \quad (1)$$

Where the index of capital mobility - ψ is a measure of the openness thus:

$$0 \leftarrow \text{closed capital market} \leftarrow \psi \rightarrow \text{open capital market} \rightarrow 1$$

$\psi \rightarrow 1$ open thus, external financial influences outweigh the domestic monetary factors in the determination of the domestic market clearing interest rate.

$\psi \rightarrow 0$ closed thus, external financial influences play no role in the determination of the domestic market clearing interest rate.

The model is based on the money demand and supply approach rather than calculating the Fisher approach for the domestic interest rate.

The standard money supply function is:

$$M = R + D = R(-1) + D + \Delta R \quad (2)$$

R – domestic currency value of foreign exchange reserves

D – stock of the domestic credit outstanding

Δ – first difference operator

By using the BoP identity, the money supply function can be written:

$$M = R(-1) + D + CA + Kag + Kap \quad (3)$$

CA – domestic currency value of the current account

Kag – public capital account

Kap – private capital account

The money supply that would correspond to a situation with closed private capital account denoted as M' is the actual money supply less the portion of reserve flows accounted for by private capital movements:

$$M' = R(-1) + D + CA + Kag = M - Kap \quad (4)$$

The money demand function is:

$$\log(Md/P) = a_0 + a_1 * i + a_2 * \log(y) + a_3 * \log(M/P)(-1) \quad (5)$$

y – real output

P – domestic price level – CPI

The interest rate i' is that value of i that satisfies the money market equilibrium:

$$\log(M'/P) = \log(Md/P)$$

Thus, from the equation (5) we have:

$$i' = - (a_0/a_1) + (1/a_1) * \log(M'/P) - (a_2/a_1) * \log(y) - (a_3/a_1) * \log(M/P)(-1) \quad (6)$$

The following algebra will derive the equation that we should estimate. Firstly, we take equation (6) and substitute in (1). Secondly, we take the new expression of $-i$ and substitute it in the money demand equation (5). Thirdly, take the result of this algebraic exercise and the equation (3) to derive the final specification for estimation:

$$\log(M/P) = -a_0 * (1-\psi) + a_1 * \psi * i' + (1-\psi) * \log(M'/P) + a_2 * \psi * \log(y) + a_3 * \psi * \log(M/P)(-1) + e \quad (7)$$

Data

The dependent variable in our specification is the log of the real money supply measured as M1 (because I am using the money market interest rate) divided by the consumer price index-CPI. The independent variables are the logs of the lagged real money, real GDP, real value of $-M'$ (M1 minus the domestic currency value of private capital flows – inward direct investment and portfolio investment inflow) and the money market interest rate variable.

The frequency is monthly data. For the monthly data I produce monthly GDP data from the quarterly GDP data by using the monthly industrial index data as weights. BoP and monetary data are from the NBRM. The GDP and industrial index data are from the State Statistical Office. For the foreign interest rate I use LIBOR/EURIBOR from the Deutsche Bundesbank statistics.

Estimating rational expectations

The interest rate variable $-i$ in (7) is the defined uncovered interest parity condition. It is derived as money market interest rate plus expected depreciation in the exchange rate (that is proxied by the actual exchange rate change that takes place between periods):

$$i = \text{EURIBOR} + E(\Delta \text{FX}\%) \quad (8)$$

E – expectation operator

$\text{FX}\%$ exchange rate change between periods

The M' was derived as M1 minus the MKD value of capital inflow.

Since the specification incorporates rationally expected variable, a lagged dependent variable and an endogenous variable- $\log(M'/P)$; a generalized nonlinear two stage procedure (see Wickens 1982) was used in the estimation of the equation (7).

To ensure that the instruments used show no contemporaneous correlation with the residuals, only the lagged values were used for EURIBOR, real GDP, money supply, CPI, imports, foreign exchange reserves, industrial index and exports.

Box 1. Rational versus adaptive expectations

Philip (1994) show that uncovered interest parity test coefficients can be expressed as functions of the parameters of expectations mechanism. His research is on the base of usually rejection of the uncovered interest parity and rational expectations in the empirical studies. That is why I will reestimate the equation (7) with adaptive expectations by utilizing the Kalman filter latter.

Kalman filter is a recursive algorithm for sequentially updating the one step ahead estimate of the state mean and variance given new information. It can be applied in our case to model unobserved variable with adaptive expectations. Technically, the procedure is to form a preliminary estimate of the state and then revising that estimate by adding a correction to it. The magnitude of the correction is determined by how well the preliminary estimate predicted the new observation.

The Kalman filter can help in dealing with purely temporary shocks alternated with purely temporary shocks. It is also useful to implement a learning process and apply the Bayeseian approach to update the prior probabilities of the separate filters if the characteristic of the time series evolve over time. In this way we ensure not to use one fixed model for each and every time. More on the use of Kalman filter see in Bomhof (1983). See Sun (2000) for time varying coefficient of capital mobility within adaptive expectations.

Results from a model with rational expectations

The following table illustrates results from the two stage least squares non-linear estimation made in E-Views. We can see that the coefficient-C(2) estimate of ψ

Dependent Variable: LM1CPI
Method: Two-Stage Least Squares
Date: 10/13/05 Time: 20:03
Sample(adjusted): 1997:10 2004:12
Included observations: 87 after adjusting endpoints
Convergence achieved after 10 iterations
LM1CPI=-C(1)*(1-C(2))+C(3)*C(2)*INTEIBOR+(1-C(2))*LOG(M1FDI)
+C(4)*C(2)*LOG(GDP)+C(5)*C(2)*DLM1CPI
Instrument list: INTEIBOR(-1) GDP(-1) M1(-1) CPI(-1) IMPORT(-1) IND(-1) WAG(-1) FDI(-1)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	143.4910	343.7868	0.417384	0.6775
C(2)	0.995959	0.007049	141.2873	0.0000
C(3)	0.001522	0.002841	0.535765	0.5936
C(4)	0.090992	0.062978	1.444822	0.1523
C(5)	0.923898	0.036430	25.36079	0.0000
R-squared	0.938498	Mean dependent var		4.282949
Adjusted R-squared	0.935498	S.D. dependent var		0.087895
S.E. of regression	0.022323	Sum squared resid		0.040862
Durbin-Watson stat	1.795003			

is almost 1 and the interpretation would be significant perfect capital mobility and financial integration. The money demand coefficients: C(1), C(3), C(4) are not significant and only the lagged money demand coefficient is significant-C(5). I will not further investigate the economic rational and statistical performance of the estimation since I am focusing on the coefficient of openness.

In January 2001 there was a significant inflow of investments in the telecommunication sector in Macedonia and that outlier can cause biased results.

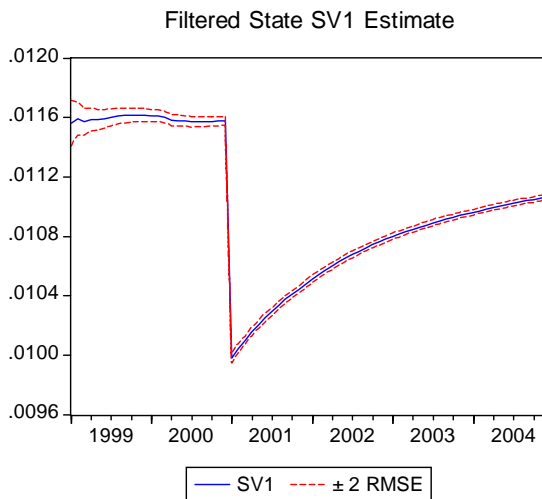
The split of time series in two periods, one from January 1999 until December 2000 and the other from February 2001 until December 2004 shows the following results (E-Views prints available from the author upon request):

Period	Coefficient C(2) estimate of ψ	t-statistic
1999:01 – 2000:12	0.874	12.785
2001:02 – 2004:12	0.780	2.908

Both estimations show significant relatively open capital account. The interesting finding is that in the second period the capital market is more closed.

Results from a model with adaptive expectations

The discussion in Box 1 preferred more the adaptive expectations and I have tested the data with the Kalman filter estimation. This is more realistic type of assumption because allows for a time varying parameter on openness of capital account as well.

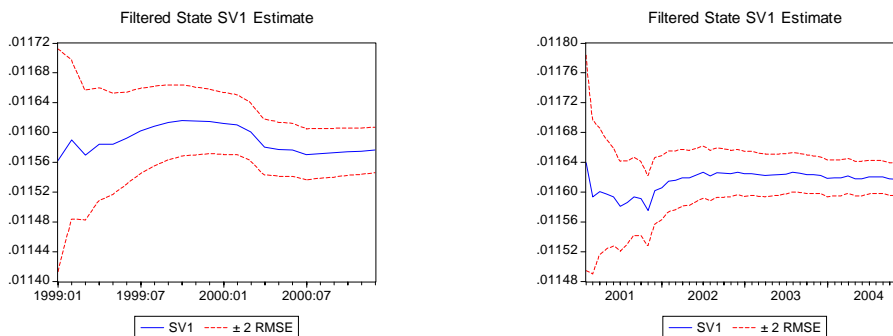


The results from the estimation on the time varying parameter are shown in the figure and were:

1. The parameter shows significant closed capital account (E-Views output available from the author upon request).
2. The differences in the results are dramatically, depending on the type of expectations.

We can see the slump of the parameter from the investment made in 2001 January. That is why again I have split the time series in the same two periods.

The results from these estimations were (E-Views output available from the author upon request):



From the above figures we can see that the capital account is closed in Macedonia with small changes across time. The relatively closed capital account has implications that the fixed exchange rate can still be a beneficial regime for the case of Macedonia if the economic agents have adaptive expectations.

If the economic agents in Macedonia have adaptive expectations, the monetary policy in Macedonia still have relatively more powerful effect compared to the fiscal policy on the domestic demand and the trade balance. This further supports the findings from the research from Mr. Bryan Roberts on the crowding out effect in Macedonia (more in his presentation on the USAID Fiscal Reform Project held in the Ministry of finance). The NBRM should take this argument into account to further investigate the possible exchange rate misalignment (especially in the light of the new SBA with the IMF and the liability to keep the regime status quo) since the monetary policy has been shown as more important compared to the fiscal policy at the moment. Another reason why the misalignment might be important is that possible future anticipated regime's adjustments might quickly be reflected in capital outflows. Maybe this is one of the reasons why Macedonia experiences a high interest rate and the economic agents actually are paying premium for the misalignment. This, of course, leads to high level of interest rates, low level of economic activity and economic growth.

The findings from the capital openness index do not reject the effectiveness of the impediments to capital flows but also are not evidence that the capital controls are effective.

Box 2. The index of speculative pressure on an exchange rate regime-EMP as a proxy for rational expectations.

It is interesting to investigate if a measure of an early warning system such as the Exchange Market Pressure – EMP can be used as a proxy for rational expectations.

The EMP index is motivated by the idea that speculators do not always succeed in attacking an exchange rate regime and therefore speculative pressures cannot be captured by looking only at the nominal exchange rate data.

The pressure that the exchange market gives to interest rates can be monitored by construction of an index for periods of high demand for foreign currency. The EMP index is constructed as a tool for measuring the speculative attacks on the foreign exchange market, i.e. it serves as an indicator of (non) occurrence of a currency crisis; see Eichengreen, Rose and Wyplosz (1996):

$$EMP = [(\alpha\% \Delta et) + (\beta \Delta(i_{d,t} - i_{f,t})) - (\gamma(\% \Delta NIR / M1))]$$

Critical (extreme) values of the index, which signal a crisis: $EMP > 1.5 \sigma + \mu$.

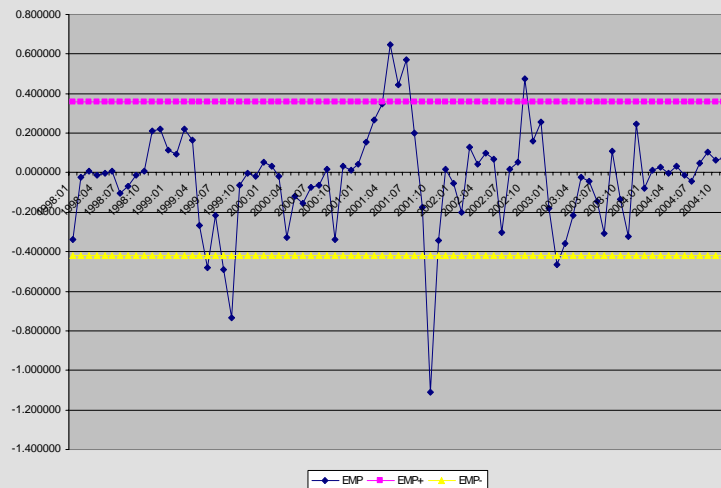
Thus, we might use the EMP as the proxy for rational expectations in the uncovered interest parity equation (8) and reestimate the equation (7):

$$i = EURIBOR + E(EMP) \quad (9)$$

The next figure is illustrating the quarterly EMP scores for Macedonia.

Figure. Quarterly EMP scores for Macedonia (author's calculations).

However King and Ming (2005) have shown that the EMP index though useful, is rather *ad hoc* in treating the importance of different financial data. Their explanation is based on the feature that in most exchange rate regime, there are



more periods of tranquility in which small, regular market disturbances dominate. In a period of tranquility, central banks ignore minor adjustments of financial markets, as they do not jeopardize the exchange rate regime. Theoretically, then, a rather nonlinear dynamics is to be expected whereas the EMP is based on a linear model. Their application to Macedonian data suggests that the skepticism for that linear model was justified and very poor to be used as an early warning system. But, this does not preclude using an early warning system as a proxy for rational expectations in some future extended work.

The capital openness and the institutional set up

The story for Macedonia is the one of lacking modern financial institutions and that increased capital mobility might induce costs and little benefits. If the capital account is more liberalized the domestic financial market might be more vulnerable.

The market stabilizing role is on the NBRM with its supervision authority. On the other side we have the market regulating institutions as the Ministry of finance to correct certain market failures as to continue to impose or to reduce the capital flow with the amending in the legislation in joined cooperation with the NBRM.

Another way to explain the importance of the issue is to ask whether there is openness of the capital account sufficient to concern the NBRM in its policy of fixing the exchange rate and to concern the government for the possible influence on economic growth.

In Macedonia the interest rate differential is high compared with the EU countries thus, either there are capital mobility issues or the differential is due to lack of confidence of the exchange rate policy (that is the credibility of the NBRM's policy). There is reason to believe that Macedonia pays an interest rate premium due to fear of depreciation. Is that fear rational is another issue. If there exist a thorough analyses from the NBRM on possible pros and cons to keep the current exchange rate policy is important to know because if they do not exist the arguments that are listed in the country report from the IMF are showing nothing more but non rational fear of floating in Macedonia. Still, the findings of closed capital account in an environment of adaptive expectations can be an argument for preferring the existing exchange rate regime.

We know that with the fixed exchange regime and higher degree of capital mobility the monetary policy is less effective and the fiscal policy is the only tool to smooth the economic cycles. But are the Macedonian governments using the fiscal tools efficiently so far? The answer is easy, that even after a decade and more of transition Macedonia still experience low economic growth which is one credible outcome to measure the success/failure of Macedonian governments. That is why the targets of the new IMF's SBA and the WB's PDPL are of crucial importance to be fulfilled within the three years horizons.

The authorities in Macedonia still recognize the unstable economic environment thus; the fixed exchange regime and the possible further increase of the capital mobility and financial activity will most likely again increase the importance of the fiscal policy in affecting the aggregate demand. The NBRM should start to investigate the possible timing for exit strategy of the existing regime taking also in mind that with further increase of the capital mobility the possible exchange rate misalignment will have more adverse consequences. Still, the new country report of the IMF (2005) for Macedonia says: “The authorities recognized that some flexibility would sharpen banks’ and borrowers’ incentive to hedge foreign currency exposures but they viewed the arguments in favor of the peg as more persuasive. In particular, given the still unstable economic environment, they saw merit in retaining a clearly defined monetary anchor. In examining the alternatives, they took the view that inflation targeting or monetary aggregate targeting would be unworkable given the unpredictability of the monetary transmission mechanism. In contrast, limited flexibility—a narrow band—could be manageable. But this would have too small an effect on banks’ and borrowers’ behavior to justify the risks associated with departing from the existing well-functioning anchor.”

A strong prudential regime is needed in Macedonia especially with experiencing credit boom and the questionable sensitivity of the companies and the households to the currency risk even though the banks are not directly exposed to the foreign exchange.

In this context Chin and Ito (2005) shows that among emerging market countries, a higher level of bureaucratic quality and law and order, as well as the lower levels of corruption, increases the effect of financial opening in fostering the development of equity markets as well. They also find that the finance-related legal/institutional variables do not enhance the effect of capital account opening as strongly as the general legal/institutional variables. In examining the issue of the sequencing, they find that the liberalization in cross-border goods transactions is a precondition for capital account liberalization. Their findings also indicate that the development in the banking sector is a precondition for equity market development and that the developments in these two types of financial markets have synergistic effects.

Interesting consequence of the high interest rates is to investigate the role of the possible oligopoly in the banking sector within this context. The banking system in Macedonia has its own characteristics, as well as the general determinants that characterize the transition economies. The problem of high concentration in the sector and relatively large share of non-performing assets in the bank’s portfolio now is enhanced with the relatively low level of intermediation causing a financial market failure in Macedonia. The market failure of the market for lemons seems to apply in the supply and demand for bank’s intermediation as a product of asymmetric information. The problem of rigidity in the bank’s

interest rates, when the savings rose dramatically after the EURO conversion in Macedonia, only confirms the problem. One of the causes can be social capital deterioration and the lack of trust among the agents and reluctance to take a risk, both from the supply and from the demand side in this market.

Conclusion

- The complexity of the topic requires more time resources to investigate it in a satisfactory manner. So far I have started to set a ground for more extensive work I will conduct in near future, I hope. There are many issues with no consensus and it must be further investigated on what is relevant for Macedonia.
- The topic of monitoring the capital market openness is of crucial importance for Macedonia given the confirmed dedication to the fixed exchange rate and the agreed with the new IMF arrangement as well.
- Just for now it seems that Macedonia can keep the current exchange rate regime as long as capital markets remain relatively closed (if the expectations are adaptive). In that case the observed differences in the interest rates between Macedonia and the rest of Europe are most likely due to domestic factors. The more open becomes the capital market, the more problematic becomes the pegging monetary policy. The higher degree of the capital openness will require a choice of the corner solutions-either a more purely pegged exchange rate system – euroization or currency board or towards a purely floating system with either monetary aggregate nominal anchor or inflation as the nominal anchor (in accordance with the impossible trinity theorem).
- NBRM will be less able to affect interest rates as capital markets open, if it continues to pursue a pegged exchange rate. If it continues to fix the exchange rate it will have only one policy tool to pursue the one goal, in accordance with the Tinbergen (1952) rule. It cannot target interest rates and fix the exchange rate regime at the same time. If it wants to target the interest rate it must allow for the exchange rate regime to float. The risk is that if it wants to hold down the interest rates to world level, in a floating environment, it would either print money or cause a loss of the reserves. This is why the institutional strength of the system is of importance.
- The NBRM should conduct a thorough cost benefit analyses of removing/imposing capital controls in Macedonia. The cost of possible crises should be compared with the cost of having distortion in the capital market. This is of special interest for Macedonia which suffers from sectoral deficiencies. The speculative reversals, a decline in external competitiveness, exchange rate appreciation, loss of control over the monetary base and inflation are some of the detrimental effects

that can be provoked by surges in capital flows if the economy suffers from fundamental sectoral deficiencies (see Oplotnik 2002).

- In Macedonia the concentration of export in the production sector is high thus, in terms of flexible regime every shock on the exporting sectors might result in radical disturbances in the price level.
- Even though there is not much capital inflow in Macedonia it is of importance to analyze the results from stress test of the banking system response to external crises as the sudden stops and reversals in depth. Sebastian (2004) has shown that there are no significant relations among them. However, Kaminsky and Reinhart (1999) analyze the importance of joint occurrence of external crises and banking crises.
- A separate technical issue is to conduct a thorough study on finding evidence on rational expectations versus the adaptive expectations in the case of Macedonia with a time varying parameters.
- The IMF gave signals to Macedonia back in 2002 that the authorities could start to think about possible exit strategy but they were expecting thorough analyses from the Macedonian authorities. Whether there exist or not such analyses is important to know because if they do not exist the arguments that are in the country report from the IMF are showing nothing more but existence of fear of floating in Macedonia.
- With the taken responsibility of the Macedonian government and the joint effort of the new IMF's SBA and the WB's PDPL including the BERIS project, we are expecting more efficient administration services and lower levels of corruption that should increase the effect of further financial opening and fostering the development of equity markets as well. The IMF program supports increasing the flexibility of the labor market, raising the efficiency of the judicial system, and improving public sector governance and efficiency. These measures will be supported by continued prudent fiscal and monetary policies. This is more important for the potential investors to be active in a more developed Macedonian equity market.
- In theory, capital account liberalization should allow for more efficient global allocation of capital, from capital-rich industrial countries to capital-poor developing² economies. For Macedonia, the EU membership provides a strong incentive for policymakers to adopt and maintain sound policies, with obvious benefits in terms of long-term growth. On contrary, the expected membership will be unlikely to boost capital market integration to a significant degree and to trigger huge

² I am using the term developing country, since the literature in this area is making the classification of developing and industrialized countries. However, the distinction between a country in transition and developing countries is very significant. In this paper I will not investigate further this important topic and its role on financial liberalization.

capital inflows in Macedonia. The membership in the EU will require that Macedonia abolish remaining entry barriers into their financial sectors and hereby import institutional stability. Seen from this angle, the benefits of further capital account liberalization may outweigh the risks of such a strategy. At the moment this is still a distant future to trigger such analyses taking into account the recent failure to NATO membership expectations and the fragile expectation of EU candidature.

- Capital account liberalization could pose major risks if implemented in unfavorable circumstances. In the case of Macedonia with the fixed exchange rate regime, and especially when domestic macroeconomic policies might not be consistent with the requirements of the regime, it can be a reason for crises. For instance, capital account liberalization can aggravate risks associated with imprudent fiscal policies by providing access to excessive external borrowing. The foreign borrowing and overall fiscal sustainability is very important issue in the light of the fixed exchange regime in Macedonia and higher degree of capital mobility. Macedonia might maintain or only gradually ease capital controls while moving toward a more flexible exchange rate regime. Premature opening of the capital account can also pose serious risks when financial regulation and supervision are inadequate.
- The only transmission mechanism in Macedonia is through the exchange rate, as per Bank's sources. This could be due to inadequate NBRM framework and lack of instruments and/or lack of competition and the possible oligopoly of the banking sector.
- Thus, it is important that the range of instruments for implementing monetary policy will be widened in Macedonia (see IMF 2005). The NBRM will consider introducing a low-interest deposit facility, which will complete the interest rate corridor, thus providing a guide for market expectations of interest rates. This instrument might take effect on the behavior responses on the credit supply. Namely, the risk averse banking sector in Macedonia, and its most likely oligopoly position so far, was investing in the high interest instrument of the NBRM and were not increasing the lending to the private sector. NBRM also, plans to improve the guidelines on the currency composition of reserves, the management of the benchmark portfolio and its intended maturities.
- Related to the relevant institutions. Their importance is crucial since the view of free capital markets delivering efficient allocation of resources is only a theoretical fragment with no ground in reality. In reality this market is distorted with incomplete information on different levels: adverse selection, moral hazard (up to the extreme case of *gambling for redemption* as the case with the Export-Import Bank) and herding. Thus, the story of efficient allocation is true only if the regulator have developed policies (prudential supervision and well developed lender of

last resort system) to limit the incomplete information and contain the potentially damaging consequences.

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