INFLATION UNCERTAINTY AND THE DECISION TO DEVALUE:

SURVEY EVIDENCE FROM BULGARIA

An NCEEER Working Paper by

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Executive Summary

Theory predicts that a fixed exchange rate regime will be abandoned after a sizable economic shock as currency devaluation serves to stimulate exports and output. This comes at the cost of higher inflation. While that prediction is generally consistent with reality, it also appears that many emerging markets resist devaluation despite substantial economic hardship. This paper proposes that the reluctance to devalue could stem from uncertainty about the control over inflation after devaluation. In countries with long-standing currency pegs as well as in countries where the fixed exchange rate was preceded by high inflation, central banks have little credibility. The uncertainty about the consequences of monetary policy raises the threshold of economic pain that could convince the policymakers to devalue. The paper develops this argument in a rules-vs-discretion theoretical framework. Empirical analyses based on survey data from Bulgaria support our hypothesis.

1. Introduction

In the typical rules-versus-discretion framework, e.g. Obstfeld (1997), the choice between fixed and flexible exchange rate regimes is a choice between financial stability and output stability. A fixed exchange rate regime delivers low inflation but it also restricts monetary policy. If the economy is growing the limits to stabilization policy are not a problem. However, a large negative economic shock could induce a switch to a flexible exchange rate regime as the benefits of expansionary policy become greater than the benefits of low inflation. Predicting whether a country would abandon its fixed exchange rate depends on the extent of economic hardship it is willing to bear.

That framework seems to explain behavior well with one caveat: many countries maintain their fixed exchange rate regimes despite extreme economic hardship. The recent experience of Bulgaria, Estonia, Latvia, and Lithuania, four countries with currency boards, exemplifies this "fear of floating," as termed by Calvo and Reinhart (2002). Each of these countries experienced double digit decline in output but did not float their currency. A decade earlier, Argentina opted for preserving its currency board despite a prolonged and deep decline in output until it was forced to devalue in 2001.

We explore this reluctance to devalue from one particular perspective. We argue that uncertainty about inflation under a floating exchange rate regime can act as a significant deterrent to the decision to devalue. Many countries hold their exchange rate fixed in order to stabilize prices after a period of high inflation, a legacy that raises concerns about the ability of the central bank to manage monetary policy. These doubts are further exacerbated by the lack of monetary policy experience while the country operates under a peg. Whether or not the central bank can deliver stable prices post-devaluation is a real concern in these circumstances.

We investigate the effect of inflation uncertainty on currency policy in a simple model that builds on the well-known and widely utilized *fixed exchange rate with escape clause* framework of Obstfeld (1997). A country operates on a fixed exchange rate regime and, after it experiences a negative economic shock, has to decide whether to continue operating the peg or to devalue. Assuming rational expectations, the possibility of a policy shift in case of a large negative shock is anticipated by economic agents. We introduce inflation uncertainty into that framework and investigate its effect on the decision to devalue. The rationale is based on bodies of literature dealing with credibility and reputation of monetary policy as in Kydland and Prescott (1977), Cukierman (1985a), and Blackburn (1987). We show that the size of the shock that is required to induce a switch from a peg to a float increases with inflation uncertainty. In other words, inflation uncertainty makes abandoning a fixed exchange rate regime less likely.

We test this prediction using survey data from Bulgaria's currency board. The survey data were collected at the height of economic hardship during the recent economic slowdown when, according to theory, removing the fixed exchange rate could gain significant support. Instead, the data show strong support for maintaining the currency board. The survey is uniquely useful for our purposes as it also asks respondents about inflation if the currency board were removed. This allows us to establish that: 1) uncertainty about inflation is very high and 2) inflation uncertainty reduces substantially the support for moving to a floating exchange rate regime.

To our knowledge, the empirical part of this paper is the first investigation of the support for a fixed exchange rate regime on the micro level. The literature offers multiple analyses on the macro level investigating the determinants of exchange rate policy, e.g. Edwards (1996), Szapary and Jakab (1998), Guobing (2002), and Von Hagen and Zhou (2004). The advantage of the

micro-level analysis is that it allows us to investigate the heterogeneity within a country. For example, we show that the support for maintaining the currency board increases in age, risk aversion, and education. The literature has also investigated the triggers for a change from one currency regime to another, e.g. Frankel (1999), Velasco (2000), Williamson (2000), and Fischer (2001). In contrast, our analysis focuses on the question *why a change in regime did not occur*.

The rest of the paper is structured as follows. The next section presents the theoretical model. Section 3 explains the significance of the timing of the survey. Section 4 describes the survey data and sections 5 and 6 provide empirical analysis. We conclude with final remarks in Section 7.

2. Model

We present a simple Barro and Gordon (1983) type model where the central bank chooses between a fixed exchange rate regime without monetary policy and a floating exchange rate regime with discretionary monetary policy. There are two sources of uncertainty. A supply shock could impact the economy after agents have formed inflation expectations but before the central bank decides whether or not to devalue. A monetary shock could occur after the decision to devalue has been made, driving inflation away from the target of the central bank. Thus, the central bank and the public face uncertainty about the inflation rate following devaluation.

2.1 Basic Setup

The economy's level of output y (all variables in logarithm) is given by the Philips curve:

$$y = \bar{y} + (\pi - E\pi) - u \qquad (1)$$

where $\bar{y}$ is the natural level of output, π is inflation, Eπ is expected inflation, and u is a supply

shock with mean zero and variance σ_u^2. The central bank's objective is to stabilize both output and inflation around the values $\tilde{y}$ and $\bar{\pi}$:

$$\min_\pi L = (y - \tilde{y})^2 + \alpha(\pi - \bar{\pi})^2, \qquad (2)$$

where $\alpha > 0$ reflects its aversion to high inflation. The desired level of output is greater than the natural level of output so that $\tilde{y} - \bar{y} = k > 0$, a policy that generates the inflation bias of discretionary monetary policy.

The central bank is operating under a fixed exchange rate regime and purchasing power parity implies that $\pi = 0$. Agents expect the peg to be maintained with probability q or abandoned with probability *(1-q)*. Therefore, because inflation under the peg is zero, expected inflation is given by:

$$E\pi = (1 - q)\pi^e \qquad (3)$$

where π^e is expected inflation conditional on removing the fixed exchange rate. The expectations are rational and formed before the realization of the shock u. After observing the shock u, the central bank can choose to keep or to abandon the peg. If the fixed exchange rate is abandoned, the central bank intends to set inflation at π by solving (2). For simplicity, we assume that the target inflation rate under a flexible exchange rate is $\bar{\pi} = 0$.

If the central bank adopts a flexible exchange rate retime, actual inflation may differ from the intended level by the value of a monetary shock ϵ with mean 0 and variance σ_ϵ^2. Thus, actual inflation under discretion is $(\pi + \epsilon)$. Note that the monetary shock can affect the economy *only if* the central bank decides to float the currency. We assume that the supply shock and the monetary shock are independent.

We now proceed to find optimal inflation if the peg is abandoned. Substituting *(3)* into *(1)* and then *(1)* into *(2)* yields:

$$\min_{\pi}\{\pi + \epsilon - E[(1-q)(\pi+\epsilon)] - k - u\}^2 + \alpha(\pi+\epsilon)^2 \quad (4)$$

Take the derivative of (4) with respect to inflation π and set equal to zero. This yields the first order condition:

$$[\pi + \epsilon - E(\pi - q\pi + \epsilon - q\epsilon) - u - k] + \alpha(\pi+\epsilon) = 0 \quad (5)$$

Next, taking expectations of equation *(5)* conditional on a switch to a discretionary regime and solving for π^e yields:

$$\pi^e = \frac{k}{(\alpha+q)} \quad (6)$$

Respectively, from (3), expected inflation is given by:

$$E\pi = (1-q)\frac{k}{(\alpha+q)} \quad (7)$$

Note that if the likelihood of devaluation is zero, i.e. q = 1, then expected inflation is also zero. At the other extreme, when the likelihood of maintaining the fixed exchange rate is zero, i.e. q = 0, expected inflation becomes k/α, which is the solution to the standard one-period Barro-Gordon model.

Using our solution for expected inflation, we can then find the optimal inflation rate that minimizes the central bank's loss associated with a policy shift toward discretion:

$$\pi^* = \frac{k}{(\alpha+q)(1+\alpha)} + \frac{k}{(1+\alpha)} + \frac{u}{(1+\alpha)} \quad (8)$$

From (8), we see that inflation increases in k; that is, the greater the difference between the desired and the natural level of output, the more incentive the central bank has to boost output by increasing inflation. Inflation also increases with the size of the shock u but decreases in α, the central bank's aversion to high inflation.

2.2 The decision to devalue

After the shock u is realized, the loss to the central bank associated with keeping the peg is given by:

$$L_P = [\bar{y} + (\bar{\pi} - E\pi) - u - \tilde{y}]^2 = (k + u + E\pi)^2 \qquad (9)$$

The third term in the parenthesis Eπ captures the loss from incomplete credibility of the fixed exchange rate. From *(7)* with q < 1, expected inflation is positive and works as a drag on economic activity via the Philip's curve equation. This raises the loss associated with the fixed exchange rate. With a fully credible fixed exchange rate regime (q = 1) expected inflation is zero and the loss depends only on the size of the economic shock *u* whose impact cannot be softened under the peg and on the output objective *k* that also cannot be met using monetary policy under the peg.

The loss if the peg is abandoned is random (through ϵ), so we need to consider the expected loss, given by:

$$L_D = E\left[\left(\frac{(1+\alpha+q)k}{(\alpha+q)} + \frac{u}{(1+\alpha)} + \epsilon - \frac{k}{(\alpha+q)} - k - u\right)^2 + \alpha\left(\frac{(1+\alpha+q)k}{(\alpha+q)(1+\alpha)} + \frac{u}{(1+\alpha)} + \epsilon\right)^2\right] \qquad (10)$$

Note that the central bank calculates its losses under the different exchange rate regimes after observing the shock u and therefore has no uncertainty associated with it. The only source of uncertainty comes through the monetary shock ϵ. Taking expectations of *(10)* and rearranging terms yields:

$$L_D = \frac{\alpha}{1+\alpha}(k + u + E\pi)^2 + (\alpha + 1)\sigma_\epsilon^2 \qquad (11)$$

Note that the loss associated with the flexible exchange rate regime is positively related to the variance of the money shock σ_ϵ^2. The effect of inflation uncertainty on the loss is

magnified by the term α, the central bank's aversion to high inflation.

The switch to discretion occurs when $L_P - L_D > C$, where C is the cost associated with abandoning the peg. This could reflect, for example, the loss of political support for the government and the loss of reputation for the central bank. We denote with u^* the value of the supply shock u that satisfies the condition with equality. Using *(9)* and *(11)* and rearranging terms we obtain:

$$u^* = \sqrt{(1+\alpha)[C + (1+\alpha)\sigma_\epsilon^2]} - k - E\pi \qquad (12)$$

In *(12)* the threshold value of the shock u^* and expected inflation $E\pi$ are jointly determined as the probability that the peg will be maintained q is a function of u^* and, in turn, expected inflation depends on that probability through *(7).* The probability that the peg will be maintained can then be expressed by:

$$q = F(u^*) \qquad (13)$$

where F is the cumulative distribution function of the shock u. It follows that $\frac{dq}{du^*} = F'(u^*) = f(u^*) > 0$ and therefore $\frac{dE\pi}{du^*} < 0$.

Our primary analytical interest lies in the effect of σ_ϵ^2 on u^*. Differentiating *(12)* with respect to σ_ϵ^2 yields:

$$\frac{du^*}{d\sigma_\epsilon^2} = v - \frac{dE\pi}{du^*}\frac{du^*}{d\sigma_\epsilon^2} \qquad (14)$$

where $v > 0$ is the differential of the square rooted term in *(12)*[1]. We can rearrange equation *(14)* as follows:

$$\frac{du^*}{d\sigma^2}\left(1 + \frac{dE\pi}{du^*}\right) = v > 0 \qquad (15)$$

[1] $v = \frac{(1+\alpha)^2}{2}\left((1+\alpha)[C + (1+\alpha)\sigma_\epsilon^2]\right)^{\frac{-1}{2}}$

Stability requires $\left|\frac{dE\pi}{du^*}\right| < 1$, which implies the following relationship:[2]

$$\frac{du^*}{d\sigma^2} > 0 \qquad (16)$$

Equation *(16)* shows that uncertainty associated with the monetary shock raises the threshold value of the supply shock below which the central bank does not devalue. In other words, all else equal, the central bank is less likely to devalue and the population is less likely to support floating the currency if there is substantial uncertainty about the level of inflation following devaluation.

3. Choosing internal adjustment in Bulgaria

The Bulgarian currency board was implemented in 1997 after a severe financial crisis that caused extreme exchange rate depreciation, hyperinflation, and the failure of many banks (see Dobrinski, 2000 and Berlemann, Hristov, and Nenovski, 2002, for a detailed account). In January 1997, inflation reached 500 percent on an annual basis and the local currency (lev) depreciated multiple times in the first quarter of 1997. The central bank depleted its international reserves to less than two months worth of imports in an effort to soften the currency depreciation. The crisis sparked massive protests that brought down the government and the new administration opted to stabilize prices by implementing a currency board. The currency board was introduced a few months later on July 1, 1997.

[2] Carlson and Valev(2008) show that a small cost of devaluation, a high value for k, and a small value for α yield two solutions for u* (a low u* and a high u*) as proposed by Obstfeld (1997). However, low u*, obtained when $\frac{dE\pi}{du^*} < -1$, suggests that the central bank will devalue for shocks u < u* rather than for shocks u > u*. Carlson and Valev (2008) further demonstrate that at low u*, an increase in C, the cost of devaluation, leads to greater rather than smaller likelihood of devaluations. These scenarios, while technically possible, run counter to basic intuition and are ruled out.

The 1997 crisis was the most sweeping episode of high inflation in Bulgaria but it was not the first one. It was preceded by another period of high inflation and currency depreciation in 1994 and by an earlier similar episode in 1991. Therefore, by 1997 Bulgarians had drawn the conclusion that their central bank was not capable and/or is not allowed to manage monetary policy responsibly. They gave overwhelming parliamentary majority to a political party that promised to eliminate discretion over money supply by the law of the currency board. Thus, it is reasonable to assume that the memories from the period preceding the currency board are characterized by financial instability and monetary policy mismanagement.

A currency board is a variation of a fixed exchange rate regime where the change in money supply is linked to the balance of payments and the monetary authorities forgo discretionary control over the money supply. One important difference between currency boards and a regular peg is that currency boards have a legal framework. The rules and legal framework of the Bulgarian currency board are written into the Law of the Bulgarian National Bank. Moreover, the central bank maintains foreign exchange reserves that cover the entire monetary base and is prohibited from lending to the government. Because of these features currency boards are often referred to as “hard” pegs, i.e. difficult to revoke. Removing the currency board would require an act of Parliament which makes this a much more political decision, a decision that has to carry the support of the majority of political representatives. This is important in our analysis because the survey data discussed next probes the opinions of the population. The legal framework of the currency board allows these opinions to have direct influence on actual policy.

Currency boards eliminate, or at least substantially restrict, the scope for monetary policy. Hence, at the time the data used in this paper were collected, the Bulgarian central bank had not utilized the tools of monetary policy for over a decade. Removing the currency board

would necessitate the reintroduction and refinement of these tools. That, along with the memories of the pre-currency board inflation experience, could increase the uncertainty about monetary policy outcomes if the currency board is removed, i.e. it could raise σ_ϵ^2.

Following the introduction of the currency board and a series of structural reforms, Bulgaria experienced a decade of significant economic growth. The prolonged period of financial stability as well as the membership in the European Union attracted substantial amounts of international investment. However, although the massive capital inflows helped raise living standards, they also contributed to a large current account deficits. By 2008, the current account deficit stood at over 25 percent of GDP (*Figure 1*). The sustainability of Bulgaria's external balances was a major policy concern even before the onset of the global financial crisis. The capital inflows had fueled relatively high inflation since 1997 which, along with the fixed exchange rate, contributed to declining competitiveness over time. The long-term positive impact of the capital flows on economic growth was also doubtful as much of the capital was directed to the real estate sector.

With the start of the financial crisis the Bulgarian economy slowed down substantially. GDP contracted by 5.1 percent in 2009 - the first decline since the crisis of 1996-1997- and unemployment sharply increased to double digits, creating a textbook scenario for considering devaluation. Large capital inflows leading to real appreciation and an unsustainable current account deficit, followed by a major economic shock usually form a lethal combination for currency pegs.

Yet, in the summer of 2010, in the midst of the economic hardship, Bulgarians went to the polls and elected a political party whose centerpiece economic policy item was to maintain financial stability under the currency board. With the support of the population, the policymakers

chose internal adjustment through cuts in spending and high unemployment. The "sudden stop" of capital inflows was immediately followed by a sharp decline in income, consumption, and imports so that the current account deficit closed within a year. Although the drastic measures generated some public unrest and resentment, none of it appeared directed against the currency board.

4. Survey data on currency policy preferences.

The paper uses data from a national household survey in Bulgaria administered in November 2010. The sample contains responses from 1016 individuals and its demographic structure in terms of age, education level, income, and gender is representative of the population of 7.5 million. The survey was carried out by a network of professional interviewers for Vitosha Research, one of the major polling agencies in Bulgaria.[3] The survey included two questions that directly inquire about the choice of fixed vs. flexible exchange rate regimes. Specifically, respondents were asked whether they agreed or disagreed with the following two statements:

Statement 1: I would support removing the currency board and replacing it with a floating exchange rate regime.

Statement 2: I would support a political party that promises to remove the currency board and to replace it with a floating exchange rate regime.

Table 1 shows minimal support for switching to a floating exchange rate regime. Only 10 percent of the respondents agreed or strongly agreed with statement 1 and only 7 percent agreed or strongly agreed with statement 2. Approximately half of the respondents did not support either policy – they either stated that they don't know or were indifferent between the two currency

[3] The survey questionnaire and the data are available from the authors upon request.

regimes. Of the ones who expressed an opinion with agree or disagree answers only 25 percent supported moving to a floating regime. The support for political parties that advocate removing the currency board is even weaker. Forty four percent of the respondents disagreed or strongly disagreed with such support.

The survey also inquired about uncertainty following a potential switch to a floating exchange rate regime by asking respondents whether they agreed or disagreed with the following statement:

Statement 3: It is very difficult to predict what the inflation rate would be if we remove the currency board and switch to a floating exchange rate regime.

Only 5 percent of the respondents disagreed or strongly disagreed with this statement while 24 percent strongly agreed that it would be difficult to predict inflation. Next, we investigate the effect of this uncertainty on respondents' preferences over currency policy.

5. Support for devaluation

The estimations in Table 2 investigate the determinants of the support for the currency board using two dependent variables. In columns (1)-(3) we estimate probit models with a dummy variable that equals 1 if a respondent either disagreed or strongly disagreed with removing the currency board , and zero otherwise. We report the marginal effects from the probit estimations instead of the estimated coefficients which makes the interpretation of the quantitative effects straightforward. Then in columns (4) and (5) we use the ordered probit methodology and a dependent variable that takes five values ranging from 1 which indicates strong opposition to the currency board to 5 which indicates strong support for the currency board. The advantage of the ordered probit estimations compared to the probit model is that they

utilize more of the variation in the data. However, the sizes of the estimated effects are not as directly obvious as in the probit model.

The explanatory variable of primary interest in this paper is based on the question about uncertainty regarding post-currency board inflation. Similar to the dependent variable, we construct two versions of this variable for the estimations. In some cases we use a dummy variable that equals 1 if a respondent either agreed or strongly agreed that inflation would be difficult to predict, and zero otherwise. In the other estimations we use a variable that ranges from 1 (inflation is easy to predict) to 5 (inflation is tough to predict).

The remaining control variables are of interest as well. We enter age in number of years. Older respondents may have stronger memories of the pre-currency board financial instability and may therefore be less supportive of moving back to a floating exchange rate regime. The currency board was implemented 13 years before the survey and many younger people have no personal knowledge of the pre-crisis experience.

We also account for respondents' level of education and think of it as a proxy for how informed a respondent is about the economy. The effect of education is ambiguous. One could argue that removing the currency board and the ensuing currency depreciation would give a boost to economic activity. However, devaluations could also be very disruptive with negative effects on the overall economy or particular social groups. Thus, the opinion of an informed person is difficult to predict.

The models also include income as individuals with higher income might have a greater stake in preserving financial stability. Arguably, people with higher incomes also have greater assets whose value might decline in case of devaluation and high inflation. We also include a dummy variable for employment status that equals 1 for unemployed individuals. Unlike high

income individuals, unemployed people might perceive a greater benefit from a flexible exchange rate regime that gives more flexibility to the authorities to engage in activist policy.

The model also includes a measure of risk aversion based on whether a respondent agreed or disagreed with the following statement: "One must always wear a seatbelt when driving." While removed from the monetary issues investigated in the paper, this question has been used in the earlier literature to measure risk aversion (Bellante and Link, 1981). People who strongly agree that one should wear a seat belt are considered more risk averse than the rest of the respondents. In the Bulgarian survey, 67 percent of the respondents believed that one must always wear a seatbelt. Our hypothesis is that these respondents would be more likely to support the status quo, i.e. the currency board. Finally, the models also include gender. Details about the construction and summary statistics of all variables used in the models are presented in the Appendix.

The first column in Table 2 reports a probit model with the dummy dependent variable and the dummy variable for inflation uncertainty. The model excludes all respondents who answered I don't know or did not provide any answer. The estimations show that respondents who are uncertain about inflation following devaluation are 25 percentage points more likely to support keeping the currency board. The coefficient estimate on this effect is highly statistically significant. We observe the same effect in column 2 where we include the I don't know responses. The direction of the effect and its statistical significance is confirmed in column 3 where we use the dummy dependent variable but we switch to the inflation uncertainty variable that takes five different values. In this model, a one step increase in uncertainty leads to about 9 percentage points greater support for the currency board.

In the next two columns we employ the ordered probit methodology with a dependent

variable that takes five different values and obtain similar qualitative results. Finally, in the last column we report the estimation of a Heckman selection model where we estimate jointly the decision to give an answer to the question about currency policy and the determinants of the support for the currency board. The motivation for estimating this model is that the decision to give an answer might be correlated with the decision to give a particular answer. Therefore, not accounting for the former might bias the estimation of the latter. Whether or not this concern for a selection bias is justified is indicated by the significance of ρ, the correlation coefficient of the standard errors from the two equations. In our case, the correlation coefficient is not statistically significant indicating that selection bias is not an issue.[4]

Looking at the remaining explanatory variables, we observe that age, higher income, and risk aversion are indeed associated with greater support for keeping the currency board. Education also increases the level of support for the currency board while being unemployed has no statistically significant effect of these preferences. We experimented with non-linear terms for age and income as well as alternative formulations for the education and employment status variables but the results seem to be fairly linear and no additional statistically significant results were obtained.

Table 3 reports the results of the same estimations as in Table 2 but investigating the support for political parties that would keep the currency board. As could be expected, the estimation results are almost identical. Nonetheless, the similarity of estimations confirms that currency policy preferences carry over to political choices. Given the opinions expressed in the survey, it is no wonder that each political party is firmly committed to keeping the currency board and that, therefore, the currency board is maintained despite economic hardship.

[4] For robustness we also estimated the models without income as about 20 percent of the respondents did not provide answers to that question which reduces the sizes of our samples. We obtain the same effects as those reported in the paper.

6. Final Remarks

The theory and evidence presented in this paper show that fixed exchange rate regimes can enjoy substantial support despite their limitations on stabilization policy. This support is partly explained by the uncertainty associated with a switch to flexible exchange rates and discretionary policy. The status quo of financial stability and output volatility is preferred to a currency policy change with an uncertain inflation outcome. The evidence suggests why countries might be unwilling to abandon fixed exchange rate regimes despite the extreme economic hardship brought by internal adjustment.

We should finish with a caveat about our particular case study. Bulgaria is also considering entry into the European Monetary Union and adopting the euro as official currency. In principle, this could encourage Bulgarians and their government to sustain the currency board despite the economic hardship and make a direct transition to the euro. In a parallel paper, we show that, although adopting the euro is more popular than moving to a flexible exchange rate regime, it has much weaker public support compared to the currency board. This lack of support is also explained by uncertainty about the impacts of the euro on the economy. It seems that uncertainty is a significant deterrent to make any switch in currency policy. Therefore, to build support, the expected benefits of a new currency regime would have to be substantial enough to compensate for the risk of change.

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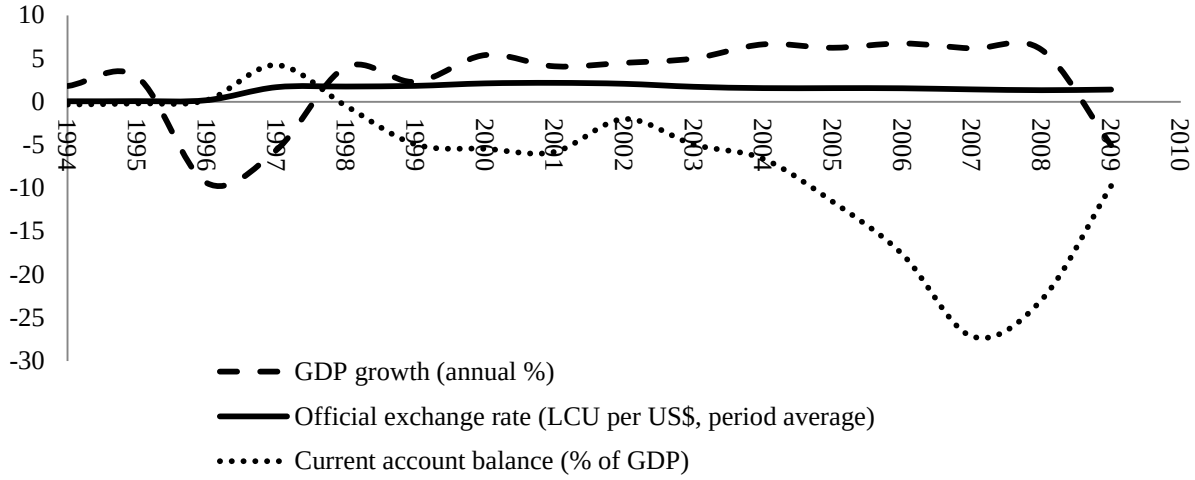
Appendix

Figure 1: Bulgaria's GDP annual growth, current account balance and official exchange rate (1994-2009)



Source: World Development Report, World Bank

Table A. Variable Definitions and summary statistics.

Variables	*Definition*	*No. Obs.*	*Mean*	*Std. Dev.*	*Min*	*Max*
Support currency board	1 if a respondent strongly disagrees or disagrees with statement 1, 0 otherwise	646	0.56	0.50	0	1
Uncertain	1 if a respondent strongly agrees or agrees with statement 3, 0 otherwise	646	0.76	0.43	0	1
Education	1 if a respondent has a high school education or higher, 0 otherwise	646	0.29	0.45	0	1
Male	1 if a respondent is male, 0 for female	646	0.46	0.50	0	1
Age	age of respondent	646	5.14	1.83	1.8	9.9
Income	Income group of the individual[5]	533	6.71	3.00	1	11
Unemployed	1 if a respondent is unemployed, 0 otherwise	646	0.13	0.34	0	1
Risk Averse	1 if respondent agrees or strongly agrees with the statement, "one should wear seatbelts while driving"0 otherwise	646	0.68	0.47	0	1

Statement 1: “I would support removing the currency board and moving towards a float.”
Statement 3: "It is very difficult to predict what the inflation rate would be if we remove the currency board.”

[5] Individuals place themselves in an income group based on their annual income. The values of income *Increase* as the annual income of the individual increases.

Table 1. Currency policy preferences and inflation uncertainty.
National survey, Bulgaria, November 2010.
Summary Statistic

	Statement 1 (Support for Devaluation)	Statement 2 (Support for a pro-devaluation party)	Statement 3 (Inflation Uncertainty)
Strongly Agree	2.5	2.2	24.1
Agree	7.7	4.3	38.3
Neither agree or disagree	18.5	15.7	12.1
Disagree	24.8	23.9	4.0
Strongly Disagree	12.7	19.8	1.5
I don't know	33.9	34.0	20.0
Total	100.0	100.0	100.0

Notes: The numbers of the table are percent of the total by type of response.
Statement 1: “I would support removing the currency board and moving towards a float.”
Statement 2: "I would vote for a party that proposes removing the currency board and letting the lev float.”
Statement 3: "It is very difficult to predict what the inflation rate would be if we remove the currency board.”

Table 2: Explaining the support for the currency board.

Probit analysis with robust standard errors.

National Surveys, Bulgaria 2010.

Dependent Variable: Support for the currency board						
	(1)	(2)	(3)	(4)	(5)	(6)
Uncertain	0.252***	0.294***	0.0901***	0.363***	0.180***	0.386***
	(0.0506)	(0.0325)	(0.0258)	(0.118)	(0.0661)	(0.0743)
Education	0.0741	0.150***	0.0714	0.0871	0.0819	-0.0673
	(0.0533)	(0.0486)	(0.0529)	(0.106)	(0.106)	(0.123)
Male	0.0399	0.0493	0.0378	0.0595	0.0610	-0.0347
	(0.0458)	(0.0370)	(0.0457)	(0.0936)	(0.0938)	(0.0927)
Age	0.0601***	0.0444***	0.0599***	0.152***	0.156***	0.114***
	(0.0139)	(0.0111)	(0.0137)	(0.0282)	(0.0279)	(0.0195)
Income	0.0208**	0.0304***	0.0204**	0.0669***	0.0681***	-0.0103
	(0.00864)	(0.00703)	(0.00862)	(0.0177)	(0.0177)	(0.0176)
Unemployed	-0.0382	-0.0116	-0.0393	0.00973	0.0123	-0.0606
	(0.0689)	(0.0555)	(0.0689)	(0.142)	(0.143)	(0.115)
Risk averse	0.154***	0.102***	0.160***	0.226**	0.230**	0.246***
	(0.0480)	(0.0370)	(0.0475)	(0.0986)	(0.0981)	(0.0796)
Constant				-0.270	0.198	-0.429***
				(0.271)	(0.355)	(0.112)
Constant				0.626**	1.087***	
				(0.256)	(0.347)	
Constant				1.580***	2.038***	
				(0.259)	(0.351)	
Constant				2.668***	3.130***	
				(0.273)	(0.365)	
Participation Equation	Dependent Variable: 1 if the respondent provided an answer, 0 otherwise					
Education						0.735***
						(0.147)
Male						0.244***
						(0.0907)
Age						-7.30e-06
						(0.0231)
Income						0.104***
						(0.0186)
Employed						0.0204
						(0.0972)
Constant						-0.346**
						(0.159)
Model Wald Chi(7)	56.04***	129.77***	48.33***	52.34***	52.76***	271.94***
Wald test of ind. Eq. Prob>chi2						0.4218
Number of Obs.	533	809	533	533	533	809

Notes: The reported coefficients in columns (1), (2), and (3) are marginal effects. Columns (4) and (5) report coefficient estimates of an ordered probit model. Column (6) reports the coefficient of a Heckman selection (probit) model. Standard errors in parentheses. *** (**,*) indicates statistical significance at the 1 (5, 10) percent level.

Table 3: Explaining the support for the political party that will maintain the currency board.

Probit analysis with robust standard errors. National Surveys, Bulgaria 2010.

Dependent Variable: Support a pro-currency board political party						
	(1)	(2)	(3)	(4)	(5)	(6)
Uncertain	0.249***	0.329***	0.0816***	0.343***	0.149**	0.406***
	(0.0520)	(0.0338)	(0.0249)	(0.116)	(0.0594)	(0.0893)
Education	0.154***	0.199***	0.150***	0.294***	0.289***	0.135
	(0.0501)	(0.0492)	(0.0500)	(0.105)	(0.105)	(0.130)
Male	0.0255	0.0276	0.0239	0.108	0.107	-0.0650
	(0.0453)	(0.0385)	(0.0450)	(0.0938)	(0.0938)	(0.0998)
Age	0.0480***	0.0324***	0.0479***	0.0647**	0.0667**	0.0939***
	(0.0138)	(0.0115)	(0.0136)	(0.0285)	(0.0282)	(0.0297)
Income	0.0234***	0.0337***	0.0229***	0.0351*	0.0354**	0.000274
	(0.00853)	(0.00724)	(0.00848)	(0.0180)	(0.0179)	(0.0193)
Unemployed	-0.00331	0.00406	-0.00600	-0.0441	-0.0440	-0.0245
	(0.0669)	(0.0571)	(0.0674)	(0.158)	(0.158)	(0.128)
Risk averse	0.167***	0.121***	0.174***	0.125	0.133	0.304***
	(0.0479)	(0.0388)	(0.0473)	(0.101)	(0.101)	(0.0872)
Constant				-0.861***	-0.515	-0.372
				(0.264)	(0.331)	(0.258)
Constant				-0.340	0.00261	
				(0.260)	(0.335)	
Constant				0.600**	0.935***	
				(0.262)	(0.340)	
Constant				1.538***	1.873***	
				(0.272)	(0.350)	
Constant				2.591***	2.931***	
				(0.298)	(0.373)	
Participation Equation	Dependent Variable: 1 if the respondent provided an answer, 0 otherwise					
Education						0.725***
						(0.148)
Male						0.242**
						(0.0975)
Age						0.00214
						(0.0286)
Income						0.108***
						(0.0203)
Employed						0.0148
						(0.108)
Constant						-0.377*
						(0.225)

Wald Chi(7)	61.60***	147.96***	43.29***	35.58***	32.23***	48.22***
Wald test of ind. Eq. Prob > chi2						0.7131
Number of Obs.	533	809	533	533	533	809

Notes: The reported coefficients in columns (1), (2), and (3) are marginal effects. Columns (4) and (5) report coefficient estimates of an ordered probit model. Column (6) reports the coefficient of a Heckman selection (probit) model. Standard errors in parentheses. *** (**,*) indicates statistical significance at the 1 (5, 10) percent level.