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Book review: "Money Demand in Europe", edited by Helmut Luektepohl and Juergen Wolters, Physica Verlag, Heidelberg, 1999 (ISBN 3-7908-1182-3).

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The European Central Bank (henceforth ECB) adopted from the very start of the European Monetary Union (heceforth EMU) on January 1st 1999 a strategy of monetary targeting, following a well-established tradition in Germany and elsewhere. This book contains 13 timely essays on the appropriate specification and the stability of money demand functions in individual European countries and in the wider European Union (henceforth EU). There are 2 essays on methodological issues, one by Hendry and Mizon and one by Ericsson (which, however, also contains quarterly tests of money demand in the UK for the period 1964-89), 8 on money demand in individual countries (one each on Finland, Norway, Spain, the United Kingdon, Greece, Switzerland and 2 on Germany), 2 on EU wide money demand and 1 is a multi-country study. All essays are of high quality. They provide information which is very valuable for the ECB as its newly announced monetary strategy will be implemented and refined through the years. As an indication of the great relevance to the ECB of the type of applied research contained in this book, suffice to mention that out of the 17 contributors to this volume, 10 (almost 60%) work at research departments of National European Central Banks, at the ECB in Frankfurt, at the IMF and the Fed in Washington: a good example of fruiteful collaboration between academia and institutions involved in policy making. We should be grateful to the editors for bringing together such a distinguished group of scholars.

All essays are very technical and the reader should be warned that some knowledge of cointegration techniques, error correction models and stability analysis of parameters and functions is required for an in-depth reading, although the introduction of the book and the various chapters and the conclusions of each chapter contain a non-technical summary of the main results. Most essays use quartely data covering a period starting from 1964 to 1979, depending on the country, and ending from 1993 to early 1997, again depending on the country. The exceptions are the study on Finland which uses monthly data and the study on the UK which uses annual data from 1871 to 1993.

Besides addressing the issue of stability of money demand four essays: the one on Norway (Eitrheim), on Germany (Luektepohl and Wolters, henceforth LW), on Switzerland (Peytringet and Stahel), and on Germany, Italy and Denmark (Juselius) also look into the closely related question of the transmission of monetary impulses to inflation. All non methodological essays study the long run stability of money demand, not all present dynamic equations and address the issue of their short-run stability.

The main conclusions I draw from the book are that: 1) stable demand functions for money exist in all countries analysed and for the EU-wide area, at least when money is defined broadly (M2 or M3 rather than M1) and the long-run (cointegrating relationship) is considered, 2) the German Monetary Union (henceforth GMU) has not significantly unsettled the stability of German money demand (Scharnagl, LW), 3) around 1983 a significant break occurred in Germany but not in Italy in the transmission of monetary policy to inflation and to real output (Juselius), 4) currency substitution (henceforth C.S) among European countries did not play such an important role, except for Spain after 1989, 5) C.S. with the United States dollar has been even less important, 6) wealth is a significant determinant of EU-wide M2 and M3 (Fase and Winder), 7) overall the EU-wide money demand was more stable than the national ones which lends support to the monetary startegy adopted by the ECB, 8) using annual data is better than using phase-averaged data as Friedman and Schwartz did in their secular study on the United Kingdom (Ericsson, Hendry and Prestwitch).

I shall now discuss critically most of these findings. Two general considerations are in order. First the question of whether a function is stable is to a considerable extent a question of including enough explanatory variables (proxies for finanacial innovation, impulse and shift dummies) among the regressors. A regression which looks promising in the first estimation rounds can therefore almost always be "made" stable. How many added variables, shift and impulse dummies are "too many" is a matter of personal judgement and taste. Thus I find absolutely convincing and elegant what Ericsson did in his methodological essay with tests for the United Kingdom: he found a structural break caused by financial innovation in mid 1985 and after appropriately modelling changes in the relevant opportunity cost of holding money, his money demand function becomes stable for the whole sample period (1964-89). Similarly I find it convincing how in the paper on Spain Vega explains and then removes a 1989 structural break is the demand function: he inserts among the regressors a variable reflecting C.S.. In 1989 Spanish capital controls were relaxed and in June the peseta entered the Exchange Rate Mechanism (henceforth ERM) of the EMS. The second general consideration is that finding a stable long run function (cointegrating relationship) must be easier than finding a stable dynamic function, (a function which explains satisfactorily also the short run behaviour of the dependent variable), for the simple reason that functions of the former type are inherently more stable. Many of the applied essays presented in this volume limit themselves to an in-depth analysis of the stability of the long run relationship.

Having said this I have no quarrel with conclusion 1 above. I have instead some reservations in accepting conclusion 2, that German money demand was stable also after GMU (July 1st 1990). More specifically in the interesting essay by LW on the dynamic money demand function for M3 one finds the following dummy variables among the regressors: a step dummy called S90q3 which assumes the value of 1 after GMU and 0 before, an impulse dummy called I90q3 which is equal to 1 only in the

third quarter of 1990, and two more impulse dummies called I92q4 and I93q3 which are equal to 1 in the corresponding quarters. In addition the definition of the own rate of return on M3 is changed after GMU (p.119).The rationale for the inclusion of these dummies is very plausible: GMU for the first two, the 1992/93 crisis of the ERM and changes in the tax treatment of interest income for the latter two. So was money demand in Germany stable after GMU? The reader can make up his mind by himself, I do not know. In my own work on German money demand before and after GMU (Boero and Tullio, 1996 and Tullio, Giucca and De Souza, 1996) I found a stable demand function before GMU only after including a term for C.S. with the US dollar and that I was unable to find a stable function after GMU. However, my sample period starts later and ends earlier than LW and this could explain the difference.

Conclusion 3 (a change in the transmission mechanism of monetary policy in Germany after 1983), there is by now a large body of evidence that sometime around 1983-85, after the so-called French U-turn of March 1983, structural breaks occurred in the equations explaining several important European national variables (inflation, inflationary expectations, wages, interest rates). For instance in a book which I edited with De Grauwe and Micossi on inflation and wage behaviour in Europe from the mid 1970s to the early 1990s (De Grauwe et al. 1996) convincing evidence is presented on this issue. We conclude, in agreement with other authors, that around that time the ERM became more credible. I find therefore the results of Juselius very convincing (including her finding that the transmission mechanism of monetary policy did not change significantly in Italy because capital control remained in place until March 1990). Juselius' findings for Germany, the structural break found by Vega in the Spanish money demand function, the evidence of structural breaks in several country equations presented in De Grauwe et al. (1996), of an increasing role of C.S. in the German money demand after 1984-85 (Boero and Tullio, 1996) and the undeniable fact that capital mobility did increase significantly around the mid 1980s raise the interesting question of how to reconcile all this with conclusions 1 and 2 of this book (that money demand functions are stable in most countries even after GMU). Evidently, despite the progress in econometrics and the discovery of cointegration and error correction models, which by the way bear a close resemblance with the work of Bergstrom and Wymer (1976) and Wymer (1972) on disequilibrium models and continuous time estimation, we still have no clear definition of when a function is stable and when it is not. Human judgment is apparently hard to get rid of! And this is one of the reasons why Central Banking will always remain an art and not a science.

Conclusion 4, that C.S. is in general not very important (except for Spain where the inclusion after 1989 of the average interest rate on US$ and DM assets turns an unstable function into a stableone), was my impression after the first cursory reading of the book. However, if one scratches below the sufrace, the tests presented in this book allow a different reading. First in the demand functions for Germany (LW), Greece (Ericsson and Sharma) and Finland (Ripatti) there are dummy variables reflecting periods of turmoil in foreign exchange markets (for

the two peaks in the long ERM crisis of 92/93 in LW, for the turmoil preceeding the general realignment of March 1983 for Greece and the not clearly defined dummy DSPEC for Finland). Second for Norway the effective exchange rate index has a significant and negative effect on money demand. Finally in the multi-equation models for Germany (LW) and Switzerland domestic inflation is a significant explanatory variable of real money demand and in both essays domestic inflation is significantly influenced by import price inflation (which contains the rate of change of the nominal exchange rate). In sum, this book suggests that one way or another C.S. among European countries has been important for literally all continental countries considered at least in periods of echange market turmoil. This conclusion is reinforced by the fact that capital flow liberalization became something to be reckoned with only in the second half of the 1980s and by the fact that significantly less than 50% of the observations can be classified as pertaining to the free capital mobility regime. It should therefore not come as a surprise that the only country considered in the volume for which C.S. is not found to play any role is the UK: in the study by Ericsson, Hendry and Prestwich the sample period is 1871-1993 and in the one by Ericsson 1964-1989.

But why bother about C.S.? After EMU C.S. among member countries does not matter any more since it has been internalized. However, not all European countries have joined EMU and above all C.S. between the EURO and the US dollar which is also likely to have increased steadily through time will never disappear. On this intercontinental form of C.S. the essays in this book have nothing to say with the exception, again, of the one by Vega on Spain. For a very nice discussion of the effects on EU wide estimates of the aggregation bias, of statistical averaging and of asymmtric shocks, including C.S., see Fagan and Henry, on pages 229-236.

If C.S. between the EURO and European outsider currencies and especially between the EURO and the US dollar have become more important after 1985 and a significant determinant of money demand, if wealth is a significant determinant of money demand as shown by Fase and Winder and by Mauleon (1996) and if this effect is not appropriately taken into account by the ECB in formulating monetary targets, if financial innovation will accelerate in the next years and if the negative covariances between national money demands will weaken because of the disappearance of internal C.S. and of the increased importance of common shocks, what should we make of the monetary targeting startegy of the ECB?

I do hope that the top officials of the ECB will not take it too seriously, especially in the initial years, but use the information coming from the development of EU-wide monetary aggregates as just one piece of information among many. Even assuming that EU-wide money demand is and remains perfectly stable, the monetary targeting startegy adopted ties the ECB's hands for one year during which many things can change. For instance after the Russian crisis of August 1998 the Fed changed rapidly the course of monetary policy and managed very successfully first to keep US economic growth on track and second to play a responsible

role of "importer of last resort" and thereby help the recovery of the countries affected by the crisis. The Bundesbank first and the ECB later moved too little too late also because they were tied by the annonced monetary strategy and their backward looking "stability oriented policy". As a result Europe suffered much more that the US from the Asian /Russian crisis and above all it did not contribute to the stabilization of world output as much one would expect from an area with such a large weight in the world economy. However, the problem is not only that monetary targets make quick changes of course and a truly forward looking policy (à la Alan Greenspan in 1998) more difficult but also that, as suggested by Paul Krugman, a target inflation rate of between 1 and 2 % per year is much too low. This is because in the case of large negative shocks such a low inflation target exposes a whole continent to the risks of ending into a "liquidity trap" (like in the 1930s and like in Japan in the 1990s). For this reason and because of the transformations which the EU economy will hopefully experience in the next decade, it would be better to aim at an inflation target of between 3 and 4%.

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