Discussion of "Get Real: Interpreting Nominal Exchange Rate Fluctuations"*

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1. Introduction

"Facts never tell their own story."
Alfred Marshall, 1920

There is, for sure, no dearth on work on nominal exchange rate fluctuations—quite the contrary, in fact. In the European case, incidentally, the absence of a nominal exchange rate variable (a.k.a. national monetary policies) to cushion (temporary) shocks (mainly to aggregate demand) is seen, at least by a number of U.S. economists, as the decisive hurdle to potentially right the malaise in some euro-area member countries. But, of course, the launch of Economic Monetary Union (EMU), on the back of the asymmetric and fragile system of pegged exchange rates (the European Monetary System), was reflecting Europe's preference for stable *nominal* exchange rates.[1] To some extent, EMU therefore derives from a market failure diagnosis: Nominal exchange rates were seen, at least within Europe, as potentially too volatile and too disruptive to allow for reaping all of the benefits of Europe's single (integrated) market. And members of the euro area do everything they can to prevent falling back into an environment where nominal exchange rates play a role.

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[1] Of course, in the case of a need of adjustment, and given that there was no fiscal insurance mechanism in place as well as the fact that cross-border migration was comparatively low, adaptation to changing circumstances was assumed to come via relative prices (mainly wages), i.e., internal depreciation.

2. The Gist of Richard Clarida's Argument

Nominal exchange rates do, of course, play a very important role beyond Europe. And since they do and did, they have been a major field of research for a long time. What is more remarkable is that Richard Clarida breaks new ground. He does it in a provocative and thought-provoking way. The provocation comes in his almost radical economizing on assumptions. In deriving a relationship between the nominal exchange rate, relative price levels, and observed yields on inflation-linked bonds, Clarida unsparingly applies Occam's razor. He does not, unlike most of the relevant literature, assume

- the possibility for market participants to insure against all relevant contingencies (markets are not perfect);
- typical views on utility functions/preferences over consumption, implying homogenous (representative), rational agents; or
- knowledge of a model's parameters on the side of agents, etc.

Nonetheless, Clarida produces an encompassing framework which he relates to, and shows to be consistent with, relevant models. In doing this, he derives an empirical metric which captures the foreign exchange risk premium as the difference between the observed and the fair-value, or fundamental, exchange rate. This fundamentally anchored exchange rate is the upshot of an indifference proposition which must hold in equilibrium—otherwise, arbitrage would arise. When the no-arbitrage proposition prevails, there is clearly no incentive to reallocate funds across markets separated by exchange rates.

Clarida thus provides a new approach to deal with the perennial forward premium puzzle which also comes under the heading of the forward-rate bias—new compared with the alternatives like, for example, the consumption-based capital asset pricing model (CAPM), stochastic discount factor explanations of the foreign exchange risk premium, or term-structure-based approaches.

Quite obviously, there is a whole and rather large industry involved in understanding this venture—in academia as well as in the more mundane real world of finance. Here, this approach—or, to be more precise, understanding deviations from it—is particularly

valuable for carry trades (which, for efficiency purposes, the perspective of the social planner, one of course hopes to be self-defeating). In Clarida's model the risk premium is, very plausibly, configured as a variable wedge—as variable and at times literally shocking as uncertainty. The analysis starts with an important assumption:

$$m_{t,n} - z_{t,n}\frac{P_t}{P_{t+n}}.$$

It is the treatment of the z variable which produces the parsimonious characteristics—this variable was much richer, for example, in Campbell and Clarida 1987. It is, to be more precise, one restriction being decisive (as well as rather intuitive) for the argument's power: the real price of an asset is a function of the real value of the promised cash flow at time of delivery. It is here where the institutional invention of markets for inflation-protected bonds becomes important.[2] The equilibrium exchange rate (in logs) follows the following dynamic:

$$s_t = p_t - p_t^* + n(r_{t,n}^* - r_{t,n}) + q - \varphi_t.$$

Here φ stands for

$$\exp(-\varphi) = \frac{E_t\left(z_{t,n} \cdot 1 \cdot \frac{Q_{t,n}}{Q}\right)}{E_t(z_{t,n})}.$$

Now, this is the wedge or the risk premium, which depends on the covariance between the real exchange rate (in a state of maturing inflation linker) and the stochastic discount factor—for example, negative φ means a positive risk premium on a UK inflation-protected bond, which the investor requests as compensation.

From here follows the definition of the risk-neutral, fair (or fundamental) value:

$$\tilde{s}_t = p_t - p_t^* + n(r_{t,n}^* - r_{t,n}) + q.$$

[2]Without inflation-indexed bonds, early research had, of course, to take a different course. It had also to do with much more circumscribed capital flows; for a concise and fine summary on this, see Frankel (1992).

This equation separates movements of the exchange rate into divergences from fair (or natural) rates or the risk-neutral fair value as well as movements in risk premiums.

Thus, to an approximation, here we have a very attractive accounting device to tell the difference between fundamentals and period-varying, environment-contingent risk premiums. This, again, sounds utterly sensible—it is, of course, also a feature having been put into the fore in the literature which empirically illustrates the spiking of volatility (for example, in exchange markets) ever since the early 1980s. Asset prices do have a non-homogenous variance. And this is most plausibly related to changing perceptions of risk.

3. A Novel, Parsimonious Approach: Lots for Nothing?

From a practical point of view, Clarida's applying his approach to the data is therefore particularly interesting. Given my somewhat biased interest, I will focus on how he, retrospectively, tries to understand what happened to the euro. We can immediately see that in real time f/x movements usually show a strong correlation with the evolution of the risk-neutral fair value. They are apparently driven by fundamentals. From here one can back out the risk premium, capturing changing levels of uncertainty, which is simply the complement to the fair value. In the case of European Monetary Union this, most recently, is especially an issue about changing (and deteriorating) views on (as they have come to be called) peripheral euro-area sovereign debt. Against a background of reduced assurance about EMU's prospects, this quite obviously implies a higher risk premium to hold that debt.

Clarida attempts to understand movements in the wedge. He uses an attractive—i.e., equilibrium—condition to come up with his decomposition. But, of course, things are jointly determined. Therefore, interpretation is not as simple as it appears at first blush. In any case, one has to put a judgment on the data. Interpretation does not come theory-free. Or, to refer back to the Marshall quote, data do not tell their own story.

In any case, Clarida's approach is particularly fruitful when thinking about shifting risk perceptions. This is especially useful in thinking about the euro's evolution ever since the sovereign debt crisis broke—as we now date it—in the fall of 2009 (on the back of

and closely related to the financial upheaval before). And Clarida is right in highlighting that the decomposition is in need of some economic theory. But an additional fundamental question arose after the start of the debt crisis: The notion of a risk-free rate is rapidly fading. What does that mean for counterparty risk? What in particular does it imply for the certainty value that we can put on inflation-indexed bonds? Humpty Dumpty—the risk-free rate—has fallen apart. Can it be made whole again?

These are very much European questions also—notwithstanding the obvious, namely that we do not have *nominal* exchange rates anymore in EMU. But we do have to face up to fundamentals—and their logical corollary in Clarida's argument: uncertainty. And we are left with interest rate spreads, reflecting very substantial uncertainty. This is an urgent issue indeed. Which interventions (short term) and institutions (medium run) are necessary in EMU to push back uncertainty? While this might be seen as a parochial perspective, I find Richard Clarida's approach very useful in structuring and disciplining reflections about this. Hence, I appreciated very much the opportunity to think about his fine argument.

References

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