Volume Title: NBER International Seminar on Macroeconomics 2007

Volume Author/Editor: Richard Clarida and Francesco Giavazzi, organizers

Volume Publisher: University of Chicago Press

ISSN: 1932-8796

Volume URL: http://www.nber.org/books/clar07-1

Conference Date: June 15-16, 2007

Publication Date: January 2009

Chapter Title: Comment on "International Portfolios with Supply, Demand and Redistributive Shocks"

Chapter Author: Refet S. Gürkaynak

Chapter URL: http://www.nber.org/chapters/c3011

Chapter pages in book: (277 - 281)

Comment

Refet S. Gürkaynak, *Bilkent University and CEPR*

Introduction

Research on international portfolio holdings and flows have been reenergized with the introduction of data on gross portfolio holdings and analytical methods to solve for financial holdings in models with incomplete markets. This paper adds to that literature by addressing two of the most interesting stylized facts, described in the following, from within an innovative modeling framework. It is an important paper that asks the right questions and provides an initial answer using novel model solution methods.

My discussion will first point out the modeling devices that help the authors explain the stylized facts and then present a brief note on the calculation of the labor share, the variance of which is used in the calibration of the model.

Stylized Facts and the Model

The paper, beginning with the abstract, mentions three stylized facts of industrialized economies to be explained: (a) portfolio holdings are biased toward local equity; (b) international portfolios are long in foreign currency assets and short in domestic currency; and (c) the depreciation of a country's exchange rate is associated with net external capital gains. There are actually two stylized facts to be explained as (c) is directly implied by (b). If a country is long in foreign currency assets and short in domestic ones, a depreciation of its own currency will lead to capital gains on those holdings. Indeed, the authors only focus on obtaining (b) as a model prediction and treat (c) as being obviously implied by this.

The model is presented in two steps. First, there is a complete markets

version with two shocks and two assets that builds intuition into the workings of the mechanisms. Then a third shock is introduced, leading to market incompleteness, in which case the model is solved using the Devereux and Sutherland (2006) method. The qualitative predictions of the model are developed in the complete markets case, on which I will elaborate.

In the complete markets case there are two assets, equities and bonds, and two shocks: a relative demand shock for the goods produced by the home or foreign countries and a redistributive shock that changes the accrual of income between labor and capital within the country. The redistributive shock explains the home bias in equities because the income risk to workers due to this shock is hedged by holding claims on the return to domestic capital. In the state of the world where the redistributive shock transfers income from labor to capital the workers are perfectly hedged as they still receive the same income, this time in the form of capital income due to their domestic equity holdings.

The demand shock, on the other hand, explains the second stylized fact. The demand shock essentially redistributes income across home and foreign countries and having claims on the foreign country hedges this risk. An important contribution of the paper is showing that in general a supply shock would not lead to the same prediction due to terms of trade effects.

While the two shocks qualitatively explain the two stylized facts in the complete markets case, it is worthwhile to note that there is no interplay between these two in this case. The optimal portfolio holding response to the existence of one of the shocks (redistributive) explains the home bias in equities, while the response to the other (demand) explains the net long foreign currency holdings. Thus, the complete markets case presents a model with two separate channels operating independently, which is educative but is not completely satisfying. The model in this case also predicts extreme portfolio choices such as complete home bias in equities.

To have more interplay between the responses to the two shocks and to generate quantitative model predictions that are more in line with what is observed in the data, the authors move to an incomplete markets setting by introducing a supply shock. With two assets and three shocks, markets are incomplete and gross portfolio holdings are difficult to pin down. This difficulty is overcome with a very nice application of the Devereux-Sutherland solution method.

The downside of the Devereux-Sutherland solution, which involves

using a second-order approximation, is that it makes intuition building more difficult. While in the complete markets case it was clear which part of the model played which role in the results, this is no longer the case in the incomplete markets case. In particular, what exactly is the interplay between the three types of shocks that lead to the particular portfolio holdings? Understanding the nature of the interplay between these shocks and the portfolio holdings they give rise to will surely lead to more work in this field. In that regard, this paper has opened the door to a very interesting and potentially rewarding research avenue in international finance.

Calculation of the Labor Share

Only in the incomplete markets case can the model be sensibly calibrated as the complete markets assumption leads to strong and counterfactual quantitative predictions. The calibration in the incomplete markets case uses time variation in the labor share, calculated from national statistics, to pin down the variance of the redistributive shock. This may be problematic for two reasons.

Attributing the interpretation of a redistributive shock to annual changes in the labor share is similar to trying to measure fundamental total factor productivity (TFP) changes from annual Solow residuals. Although over long periods of time (e.g., five or ten years) this may be reasonable, there are too many measurement issues that complicate the analysis at higher frequencies. Changes in reporting practices, labor hoarding, and so forth, all affect the measured labor share, given that the variation in this is small to begin with, it is hard to be sure that not all of the annual variation is due to measurement issues.

A second, more fundamental issue with the way this paper measures the labor share is that it defines the labor income as only compensation of employees. That is,

Labor Share = *Compensation of Employees*/(*GDP-Indirect Taxes*).

But even in industrialized countries not all labor is employee labor. Part of the labor income falls under the operating surplus of unincorporated enterprises (OSPUE) heading. As an example, table 5C2.1 shows the cost components of GDP in Italy in 1991.

The operating surplus of unincorporated enterprises in (4b) is the mom and pop stores' (small firms, as opposed to corporations) profits. As the owners' do not pay themselves wages, this proprietors' income is

partly labor income. This is a nontrivial part of the GDP—more than a quarter of the GDP is OSPUE—and not capturing this will cause under measuring the labor share.

This observation led Gollin (2002) and Bernanke and Gürkaynak (2001) to look for ways of dividing the OSPUE between labor and capital. One way of doing this is to assume the labor share in OSPUE is the same as in the rest of the economy. Another way is looking at the composition of the labor force and inflating the employee compensation by the fraction of the labor force that are not employees. Table 5C2.2 shows the labor force composition in Italy in 1991.

As can be seen, employees make up only about 70 percent of the workforce, with the remaining 30 percent's labor income being excluded from the labor share calculated from employee compensation only. The Italian labor share calculated this way is only 0.5, while it is a much more reasonable 0.65 to 0.7 when corrected for the labor income of the nonemployees.

The current paper uses the standard deviation of the labor share to calibrate the variance of the redistributive shock. Thus, mismeasuring its level may not be an issue by itself. However, both the share of the op-

Table 5C2.1
Cost components of GDP, Italy 1991

1. Indirect taxes, net	133,361
2. Consumption of fixed capital	168,539
3. Compensation of employees by resident producers	647,792
4. Operating surplus	477,879
4a. Corporate and quasi-corporate enterprises	71,312
4b. Private unincorporated enterprises	403,714
4c. General government	2,853
5. Gross Domestic Product	1,427,570

Source: UN National Accounts Statistics

Table 5C2.2
Labor force composition, Italy 1991

Employers and own acct. workers	5,228,000
Employees	15,478,000
Unpaid family workers	886,000
Not classifiable by status	2,653,000
Total	24,245,000

Source: ILO Yearbook of Labor Statistics

erating surplus in GDP and the composition of the labor force show annual time variation of the same order of magnitude as the variance of the labor share calculated by the authors. That suggests that calibrating the variance of the redistributive shock this way and from highly aggregated data, independently of whether such a shock is theoretically appealing or not, may not be very appropriate.

Conclusion

This paper identifies some of the most important open questions in the literature and shows how new modeling devices can be used to provide answers to them. While there are issues about the modeling choices and calibration preferences, this way of thinking about the relevant questions will surely lead to more research on these topics and a better understanding of international portfolio holdings. Research that especially asks how much of the observed portfolio choices can be explained solely by hedging behavior, as in this paper (as opposed to informational and other issues) would be most welcome. Such research will undoubtedly benefit from the model and insights provided by this paper's authors.

References

Bernanke, B., and R. Gürkaynak. 2001. Is growth exogenous? Taking Mankiw, Romer, and Weil seriously. In *NBER Macroeconomics Annual* Vol. 16, 11–57. Cambridge, MA: MIT Press.

Devereux, M., and A. Sutherland. 2006. Solving for country portfolios in open economy macro models. University of British Columbia. Working Paper.

Gollin, D. 2002. Getting income shares right. *Journal of Political Economy* 110 (2): 458–74.