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International capital mobility: What do national saving–investment dynamics tell us?

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Abstract

We interpret the relationship between national saving and investment in the long-run as reflecting a solvency constraint, and interpret the ease with which a country can run current account imbalances in the short run, before it has to ultimately reverse the transaction at some future date to satisfy the solvency constraint, as being positively related to the degree of international capital mobility. We apply panel error-correction techniques to data for 20 OECD countries from 1960 to 1999. We find that saving and investment display a long-run cointegration relationship that is consistent with the interpretation that a long-run solvency constraint is binding for each country. Over time, however, deviations from this long-run equilibrium relation have become more persistent, which suggests that capital mobility has increased.

JEL classification: C23; F32

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1. Introduction

Feldstein and Horioka (FH) (1980) identify a close cross-section association between period-average data on annual national saving and investment rates for a sample of 16 OECD economies from 1960 to 1974 and interpret it as evidence of low international capital mobility. The authors argue that a *systematic* relationship between national saving and

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investment would not be expected if each country faced a large international capital market to which it supplied its national saving, or from which it obtained its means for investment purposes. Obtaining a saving rate coefficient that differs significantly from the benchmark value of zero in an investment rate regression implies a systematic relationship between saving and investment, and would thus be inconsistent with the view that there is sufficiently high capital mobility. A number of studies have re-estimated this relationship. The estimated saving–investment association often becomes weaker as more recent data are included, but it nevertheless remains significantly different from zero.

FH's results have generated a large literature on the saving–investment relationship, although already for some time now many authors have argued that simple saving–investment correlations may not be informative about international capital mobility.[1] Several recent studies of this relationship have interpreted the finding of a close long-run saving–investment relation as indicating a solvency constraint, rather than low capital mobility. Specifically, since the intertemporal budget constraint of an open economy should not allow countries to run current account deficits indefinitely (Sinn, 1992), there must be a long-run relationship that ties national saving and investment together. Consequently, identifying empirically that saving and investment cointegrate are uninformative about capital mobility, because it reflects only the solvency constraint (Coakley et al., 1996, 1998; Coakley and Kulasi, 1997). For example, if productivity shocks have a permanent effect, then productivity will be non-stationary, and so will be output, saving and investment. These properties may be reflected in a cointegrating relationship between the latter two variables, but identifying such a relationship does not provide information about capital mobility, as it is the solvency constraint that requires the current account to be stationary. Jansen (1996, 1998) suggests that the short- and long-run dynamics of the saving–investment relationship could be used jointly, however, to detect the degree of international capital mobility. Consider that a long-run cointegration relationship between saving and investment exists, reflecting the existence of the solvency constraint. Identifying that the two variables are not one-to-one inversely related to each other, *i.e.* that their cointegration vector is different from $(1, -1)'$, could then be interpreted as evidence of capital mobility. Under such circumstances, the current account would be a non-stationary variable, which would only be feasible if capital mobility was high.

We interpret the close long-run saving–investment relationship as reflecting a solvency constraint and focus on the short-term saving–investment relationship to assess the degree of capital mobility. In particular, we interpret the "speed" of an economy's adjustment to shocks, as measured by the estimated error-correction coefficient from a saving–investment error-correction model, as an indicator of capital mobility.[2] To see why, consider that saving and investment cointegrate in the long-run because of the existence of the solvency constraint. If the error-correction coefficient, λ, were equal to minus one, then adjustment to the long-run equilibrium would be immediate. Under these circumstances, the solvency constraint would already be binding in the short run, and the capital account would always be balanced. By contrast, capital mobility allows the current account to be different from zero, and saving and investment would be allowed to deviate temporarily from each other. One example is if λ was

[1] See e.g. Harberger (1980), Murphy (1984), Obstfeld (1986, 1995), Bayoumi (1990), Cardia (1991), Mendoza (1991), Baxter and Crucini (1993), Taylor (1996) and Coakley et al. (1998).

[2] Our approach focusing on the speed of adjustment estimated using an error-correction model is closest to Jansen (1996, 1998). It is also similar to Moreno (1997), Taylor (2002), and Hoffmann (2004). Moreno uses a VAR approach to make inferences about capital mobility from the "speed" at which variables return to their long-run equilibrium relationship once they have deviated from it. Taylor (2002) and Hoffmann (2004) use vector error-correction techniques to measure the univariate persistence of variables to shocks, with greater persistence indicating higher capital mobility.