6

Finance and Growth: VARs with Cointegration for the USA, the UK, and Japan

6.1 Introduction

A considerable literature has been developed so far, trying to find the effects of financial development on the real aspects of economic development and, particularly, on the growth of per capita real GDP, since the seminal work of Gurley and Shaw (1955, 1960). They argue that by offering more extensive sorts of saving instruments to households, the development of financial institutions (FIs) can increase saving flow from households and raise firms’ investment volume, with broader menus of loan packages and with risk reduction through the economy of scale and risk-pooling. The development can also enhance the quality (profitability) of investment by specialized screening techniques of FIs. In summary, the development of FIs occurs in advance of, and assists, the development of real economic activity through those avenues.

The above temporal and causal relationship may be called the ‘Gurley-Shaw hypothesis’ because they are probably the first to bring economists’ attentions to that causal pattern, although the naming is not a conventional one. More than two decades later, the same idea was put into econometric testing by Kormendi and Meguire (1985) and Barro (1991), which is now called cross country growth regression. All these regression analyses, as well as a recent one, namely Beck, Levine, and Roayza, (2000), detect temporal precedence (and causality) of financial development over real-side development (that is, per capita GDP growth). Barro (1997) and Levine (1997) offer a useful overview, and Levine and Renelt (1992), Quah (1993) and Mankiw (1995) present reviews on the literature from some critical angles.
Almost independently of this growth regression work, some papers in a different vein appeared, though smaller in number than growth regressions, using time series analysis and the concept of Granger causality (Granger 1969). They are concerned with causality relationships between financial development and real-side progress (GDP growth), where the measures of financial development take on various forms, typical ones being $m_2/GDP$ (Marshallian $k_2$) and commercial banks’ claims (or deposits)/GDP ratios, where $m_2$ is broader money supply including time deposits. One of the earliest papers in this group is Jung (1986) who shows, using Granger causality tests ($F$-tests), that causality from financial development to real-side progress was observed in a majority of countries he dealt with. Similar efforts were made by Demetriades and Hussein (1996) and Neusser and Kugler (1998), where the former focuses on 16 developing countries while the latter is concerned with 13 OECD countries.

Later, starting from the Granger causality concept, Toda and Phillips (1993) develop a more efficient causality testing method than traditional Granger tests. Luintel and Kahn (1999), following Toda and Phillips’ method, extend Granger tests to include cointegration and error-correction mechanisms and show that, for 10 developing countries, the causal direction is all uniformly bidirectional. Arestis et al. (2001) deal with five developed countries and point out that the directions of causality among developments of stock markets, banking, and the real-side (that is, per capita GDP growth) are different from country to country.


In this chapter we develop a framework including cointegration and error-correction mechanisms that involve, to secure the identification of cointegrated relations, economically plausible cointegration coefficients (a few cases which exhaust all the plausible sets of coefficients), and estimate the above mechanisms simultaneously and, therefore, more efficiently (than previous two-stage estimation).

A new methodological device here is that, using economic and statistical arguments, it is made possible to examine all the (but at most a few) economically plausible sets of cointegrated relations and show