Economic Modelling 53 (2016) 345–353

Contents lists available at ScienceDirect

Economic Modelling

journal homepage: www.elsevier.com/locate/ecmod

Financial integration: The role of tradable and non-tradable goods

Cahit Guven

Department of Economics, Deakin Business School, Deakin University, Geelong, Australia

ARTICLE INFO

Article history:
Accepted 16 December 2015
Available online xxxx

Keywords:
Financial integration
Aggregate productivity
Institutions
Economic structure
Trade

ABSTRACT

This paper examines the potential benefits of financial integration focusing on the role of tradable and non-tradable goods. We construct a new country-level index for tradability of output using disaggregate sector level data on output, imports and exports. Cross-country regressions show that for the overall sample, there is a weak positive interaction of tradability of output and financial integration. When we focus on those countries within a middle range of institutional development, and thus within the middle range of income per capita, for these countries, the experience of integration is tempered significantly by increasing tradability of output. Sector-level regressions confirm the negative and significant interaction of trade and financial integration for this sample of countries.

1. Introduction

Neoclassical theory suggests that financial integration lowers the cost of capital in capital-poor developing countries, initiating a temporary increase in investment and growth and a permanent increase in income levels (Obstfeld, 1998; Rogoff, 1999; Henry, 2007). Evidence from stock market liberalizations (Bekaert and Harvey, 2000; Henry, 2000; Bekaert et al., 2005), for example, shows increased stock prices and lower dividend yields, both indicators of lower capital costs. We refer to such economy-wide effects of financial integration as the *neoclassical channel*, consistent with the theory's focus on the aggregate level.

This is not the only path by which financial integration may impact an economy, though. Sectors of the economy differ by average firm size, and by how tradable their output is on world markets. Tornell and Westermann (2005) document that two-thirds of firms in the tradable sector of developing countries can be classified as large (i.e. having more than 200 employees), while only one-third of non-tradable firms are large. Additionally, non-tradable firms are significantly more likely to face financing constraints, and rely more heavily on bank financing. Rancière et al. (2008) suggest that the capital flows resulting from financial integration go disproportionately to these small, non-tradable firms. Thus the overall benefits of financial integration for a country depend on the sectoral composition of the economy, something we refer to as the *credit channel*.[1]

Empirical work has been at odds as to the overall benefits of financial liberalization.[2] But most of this research focuses on changes in the aggregate growth rate or capital stock, implicitly assuming that the neoclassical channel predominates. Recent work by Levchenko et al. (2009) uses industry level data to document the positive effect of liberalization on capital accumulation, firm entry, and total employment within sectors. However, the authors do not explore the differential impact of liberalization by sector, and cannot distinguish if these positive effects arise from the neoclassical or credit channel. Tornell et al. (2004) document that the ratio of non-tradable output to tradable output increases following liberalizations, but do so using data at a highly aggregated level and do not address the relative importance of the neoclassical versus the credit channel.

[1] This effect is similar to the credit channel studied in the business-cycle literature. Gertler and Gilchrist (1994) documented that small firms react more strongly than large firms to a contraction of the money supply, owing to the fact that large firms are able to raise funds through equity and bond markets. Ramey (1993) finds that aggregate output responds to the relative amount of credit available to small versus large firms. Kashyap and Stein (2000) show that lending by small banks contracts more sharply than that of large banks following a monetary tightening.

[2] Rodrik (1998) and Stiglitz (2000) questioned the wisdom of liberalizing capital markets, and Eichengreen (2001), Edison et al. (2004), and Prasad et al. (2003) all found limited evidence of a positive impact of liberalization on growth. Gourinchas and Jeanne (2006) calibrate a neoclassical model and find small welfare gains from integration. In contrast, the previously mentioned work of Bekaert and Harvey (2000), Henry (2000) and Bekaert et al. (2005) suggests distinct gains to liberalizations working through a lower cost of capital. See Henry (2007) for a summary of the various arguments.

E-mail address: cahit.guven@deakin.edu.au.

http://dx.doi.org/10.1016/j.econmod.2015.12.019
0264-9993/

In the light of these discussions, the first contribution of this paper is to address the importance of both the neoclassical and the credit channel in the determination of capital per worker or output per worker. In order to do so, the paper develops a new measure of tradability of output using detailed sector level information on output and trade which is the second contribution of the paper. Finally, as a third contribution, the paper estimates not only cross-country but also sector-level regressions to study the importance of economic structure for the gains in financial integration.

We find a positive direct effect of financial integration on both capital and output per worker across all sectors: the neoclassical channel. We also allow for an interaction of country-level financial integration and sector-level tradability (or firm size), and find that this interaction is significantly negative. That is, a sector with more tradable output (or larger firms) will not gain as much capital per worker during integration as will a non-tradable sector. This provides evidence of the presence of the credit channel (Fig. 1).

These results provide another answer to why capital does not flow from rich to poor countries (Lucas, 1990). Reinhart and Rogoff (2004), Lane (2004), Portes and Rey (2005) and Stulz (2005) all suggest that frictions in international capital markets prevent flows from occurring. Tornell and Velasco (1992) and King and Rebelo (1993) suggest that fundamental differences in technology, policies, and institutions are responsible for the small observed flows, a view supported by the empirical work of Alfaro et al. (2008). Work by Caselli and Feyrer (2007) suggests that marginal products of capital across countries are roughly equal, once they take into account the relatively high price of capital in poor countries, in line with the findings of Hsieh and Klenow (2007). These works have focused on the neoclassical channel, examining economy-wide factors and their determination of capital flows.

Our findings suggest that the composition of the economy is equally important. Small flows of capital to a developing country may reflect industrial composition. As the number of large, tradable good producing firms increases, the need for foreign capital apparently declines. This suggests that studies of the effects of financial market integration require a consideration of both the credit channel alongside the typical neoclassical elements (Fig. 2).

The paper proceeds as follows. Section 2 describes the regression strategy used to identify the effect of financial integration, firm size, and tradability of output on capital accumulation. This section includes a discussion of the sector-level data used for these regressions. Section 3 performs a simple accounting exercise using the regression results to determine how important the neoclassical channel is relative to the credit channel. Section 4 concludes.

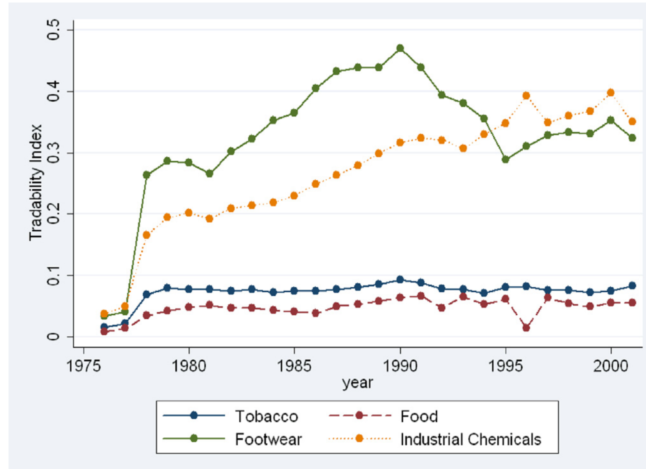

Fig. 2. Sector level tradability over time.

2. Related literature

The literature on the benefits of financial integration and liberalization could be classified in to three groups. First group of researchers have found some negative or insignificant effects. For instance, Stiglitz (2010) argues that full integration may not in general be optimal. When faced with a choice between two polar regimes, full integration or autarky, autarky may be superior when underlying technologies are not convex, then risk-sharing can lower expected utility. In a cross-section of countries over the periods 1986–1995 and 1976–1995, Klein and Olivei (2008) find no effects of capital account liberalization on financial deepening among

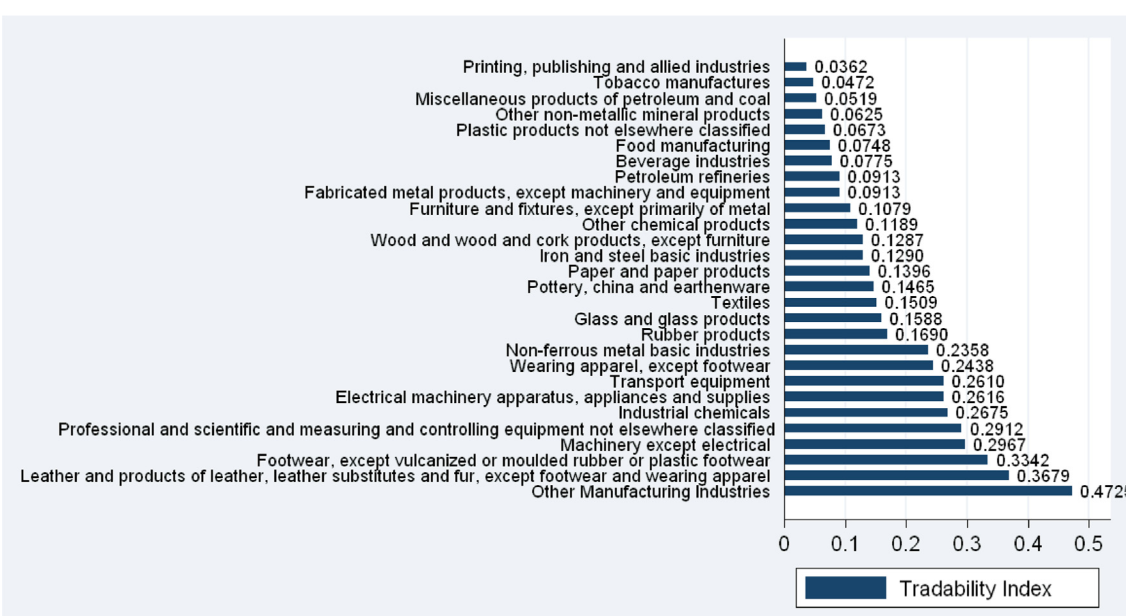

Fig. 1. Descriptive statistics on sector level tradability indices.