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Finance and Trade: A Cross-Country Empirical Analysis on the Impact of Financial Development and Asset Tangibility on International Trade

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Summary. — This paper investigates the interplay between financial development, asset tangibility, and international trade. Using industry-level data on firms' dependence on external finance and firms' asset tangibility for 27 industries in 42 countries, we find that economies with higher levels of financial development have higher export shares and trade balance in industries with more intangible assets. Using the same dataset, we also show that the interplay between property-rights protection and asset tangibility influences the pattern of trade. Higher levels of property-rights protection lead to higher export shares and trade balance in industries with more intangible assets.

Key words — cross-country analysis, external finance dependence, financial development, tangible assets, property-rights protection, trade balance

1. INTRODUCTION

A thin segment of the literature in international trade suggests that financial sector development can be a potential source of a country's comparative advantage. Using an augmented Heckscher–Ohlin model, Kletzer and Bardhan (1987) show that a well developed financial sector can theoretically lead to a comparative advantage in industries that rely more on external financing. Later, Beck (2003) and Svaleryd and Vlachos (2005) find empirical evidence supporting Kletzer and Bardhan's hypothesis. Specifically, they show that countries with a well developed financial sector enjoy easier access to external finance than those without, and tend to specialize in industries that are more dependent on external finance.

Access to external finance is not only influenced by the level of financial development but also by firms' asset structure. Bradley, Jarrell, and Kim (1984) empirically show that a larger amount of intangible assets reduces the borrowing capacity of a firm. Giannetti (2003) presents evidence showing that the ease with which a firm investing

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in intangible assets obtains loans depends on the legal system and the level of financial development of the country where the firm is located. It is therefore sensible to argue that both the level of financial development and firms' asset structure are likely to affect the pattern of trade.

The level of financial development and firms' asset structure are themselves closely related. A recent study by Braun (2003) shows that indeed, in countries with a low level of financial development, industries with more tangible assets are relatively larger in size and grow relatively faster than industries with more intangible assets. [1] In a similar spirit, Claessens and Laeven (2003) also study the interplay between the level of financial development and firms' asset structure. In that paper, they use the strength of the property-rights protection as a proxy for the level of financial development. In addition they also analyze the implication of the financial development and firms' asset structure on the growth rate of firms. Their main result shows that industries with more intangible assets experience growth rates that are disproportionately higher than industries with more tangible assets when they are located in countries with well protected property rights.

In this paper, we investigate the issue of how the interplay between a country's financial development and its firms' asset structure determines the trade flow of different industries. More specifically, we test the hypothesis that countries with higher (lower) level of financial development will have higher exports share and trade balance in industries with less (more) tangible assets. In this sense, our paper extends further the literature on the impact of financial development on international trade to cover the interplay between financial development and firms' asset structure.

The core of this paper rests on our premise that there exists substitutability between the level of financial development and asset tangibility in the following sense. Firms located in a country with an under-developed financial market require tangible assets to gain access to external financing. This is because the extent of moral hazard and adverse selection problems between lenders and borrowing firms tends to be more severe in this country than in a country with a well developed financial market. Hence, the risk of default increases. Tangible assets can be collateralized and thus provide protection for creditors against the risk of default. The role of collateralized tangible assets becomes more prominent in countries with an under-developed financial market than in countries with a well developed financial market.

We therefore argue that the interplay between the level of financial development and the level of asset tangibility should affect the pattern of international trade. This paper aims to formally investigate and test the validity of this hypothesis.

We find robust evidence that supports our hypothesis. Our results are also consistent to using different indicators of financial development. In order to test for the robustness of asset tangibility in providing protection against different characteristics of poor financial system, we use property rights. We find consistent estimates using different indicators of property rights. In the paper, we also control for the simultaneity bias and possible reverse causality.

The remainder of the paper is organized as follows. Section 2 presents the related literature and hypothesis. Section 3 describes the methodology and the data. Section (a) presents our main results and sensitivity test. Section 4 concludes.

2. RELATED LITERATURE AND HYPOTHESIS

Over the last decade, several studies have firmly established that financial development has a significant role in influencing countries' economic variables. For example, King and Levine (1993a, 1993b) and Levine (1997) showed that indeed there is a close link between the level of financial development on the one hand, and microeconomic and macroeconomic growth on the other hand. Later works by Rajan and Zingales (1998), Demirguç-Kunt and Maksimovic (1998), and Beck and Levine (2001) demonstrated that a well-developed financial sector helps countries securing access to external finance for investment projects. Most recently, Beck (2003) and Svaleryd and Vlachos (2005) established a positive relationship between financial sector development and the specialization pattern of international trade and comparative advantage.

Our paper aims at extending the latter works on the link between financial development and international trade. More specifically, it seeks to analyze the interplay between the financial sector development and the pattern of industrial asset structure on the one hand, and the industrial composition of countries' export shares and trade balance on the other hand. A key factor that influences the interplay is the degree of tangibility of firms' assets.