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Fundamentals, information, and international capital flows: A welfare analysis

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Abstract

In the recent discussion surrounding the design of a new international financial architecture, enhancing transparency has widely been proposed as a policy essential for increasing the efficiency of international capital markets. This paper uses a simple two-country (two-agent) general equilibrium model with incomplete markets and production to explore the welfare consequences of an increase in public information about country-specific fundamentals (increase in transparency). An improvement in the quality of information has two effects on the ex ante welfare of individual countries: A direct effect that increases the efficiency of global capital allocation and welfare, and an indirect general equilibrium effect that increases asset price volatility and may decrease welfare. When the degree of risk-aversion is low, at least one country will gain from an increase in information quality. If the degree of risk-aversion is high, then there are robust examples of economies for which an increase in information hurts all countries. The paper also discusses how certain institutional arrangements (international derivative markets, international agency) could ensure that all countries gain from better information by providing insurance against information-induced asset price risk.

JEL classification: D52; D60; G15

Keywords: Information; Welfare; International capital markets; Incomplete markets

1. Introduction

Beginning in the early 1970s, there has been a worldwide trend towards integration of national financial markets resulting in a strong increase in cross-border financial transactions and capital flows. More recently, capital flows from industrial countries

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to emerging market economies have dramatically surged.[1] In the wake of the recent financial market crises, policy makers and prominent academics have made several proposals for a "new international financial architecture". Although opinions on the exact nature of this new architecture differ, there seems to be almost unanimous agreement on at least one point: Information about country-specific fundamentals (transparency) has to be improved.[2] This unanimous agreement seems somewhat surprising since it is well-known that with incomplete markets more information may decrease the ex ante welfare of all agents because of its negative impact on risk sharing (Hirshleifer, 1971).[3] However, the previous formal literature on the welfare effect of public information in general equilibrium models has focused on exchange economies, and the neglect of production might have led this literature to overstate the case against information. This paper therefore explores the welfare implications of an increase in the quality of public information within the context of a two-country (two-agent) general equilibrium model with production and incomplete asset markets.

The model is a one-good economy with exponential (CARA) utility functions and normally distributed random variables. Each country has access to a country-specific linear production function with capital as the only input factor. In addition, countries have the opportunity to trade a risk-free bond in competitive markets (international borrowing and lending without default). There are country-specific shocks to economic fundamentals (technology and/or fiscal policy shocks), and countries make investment decisions after they have received a public signal about the future shock realization. This paper derives a closed-form solution for all endogenous variables and uses this solution to discuss how a change in the precision of the signal variable affects the equilibrium values of the bond price (interest rate), capital flows (investment), and welfare (ex ante expected utility of each country).

The analysis shows that an improvement in information quality (more transparency) always leads to an increase in the volatility of capital flows and the bond price (interest rate). In other words, a decrease in the conditional variance of future fundamentals increases the unconditional variance of equilibrium prices and quantities. The net effect on the welfare of individual countries is in general ambiguous since there are two opposing effects: A positive direct effect due to a more efficient global capital allocation, and an indirect general equilibrium effect due to the change in the mean and volatility of the bond price. The indirect effect on welfare may or may not be negative. This paper shows that when agents are not too risk averse, at least one country will gain

[1] See the latest issues of the IMF's World Economic Outlook for a general discussion, and in particular IMF (1995) for more details.

[2] See, for example, Rogoff (1999) and IMF (1999). In accordance with this general view, the IMF and other international organizations have recently taken several concrete steps to increase the availability and quality of information about the fiscal position and other economic fundamentals of individual countries. For example, the IMF has established a general data dissemination standard (GDDS), has developed a "Code of Good Practices of Fiscal Transparency", and is in the process of developing a "Code on Good Practices on Transparency in Monetary and Financial Policies". Moreover, up-to-date information on major macroeconomic variables of 49 countries is now available on the Internet, and the IMF has made strong efforts to increase the transparency of its own operation.

[3] This Hirshleifer effect relies on the assumption that asset markets are incomplete in the sense that they do not provide complete insurance against information-induced asset price movements.