Global Intermediate-Good Price Stickiness and the Determinants of the Real Effects of Monetary and Government Spending Shocks

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Abstract

As industrialization and globalization are spread across the world, price competition is growing fierce in the final-good sector while many intermediate goods are enjoying global imperfect competition. Hence, when prices of intermediate goods are globally sticky in LCP (local-currency pricing) but consumer prices are flexible, the determinants of the short-run real effects of monetary and government spending shocks are explored in an open economy model with labor market inefficiency and global sourcing. Major findings are as follows: first, in the presence of a structural inefficiency in labor market, monetary and government spending shocks have ambiguous effects on the demand for domestic intermediate goods; second, even if there is price stickiness in the intermediate-good sector, monetary and government spending shocks may not affect final output in the short run; third, the natural rate of unemployment, the natural rate of productivity growth, and the trade-off between unemployment and inflation play a key role for exchange rate changes to bring forth beneficial real effects.

- **JEL Classifications:** F12, F41, F42

- **Key words:** intermediate-good price stickiness, real effects, money shock, government spending shock, the new open-economy macro model
I. Introduction

Recently, as globalization becomes a trend, global imperfect competition is growing. The event such as Micron Technology’s attempt to acquire Hynix or US Justice Department’s investigation into the allegations of international semiconductor companies’ price collusion illustrates the importance of this development vividly. It seems that anti-trust is becoming a typical issue of world economy.

One can expect that global imperfect competition will be deeper in the intermediate-good sector than in the final-good sector. Increasing competitive pressures due to the worldwide industrialization and globalization trend cause many firms to combine domestic and international sourcing while price competition is growing fierce in the final-good sector. As the relationship such as personal computer versus Intel chip or cellular phone versus CDMA chip indicates, firm’s market power will depend heavily on whether the company can produce key components based on high technology. This tendency leads final-good prices to be flexible but intermediate-good prices to be rigid. In practice, many intermediate goods are supplied at fixed prices according to the contracts in the short run while nowadays many final-good dealers feel difficulties to sustain the local prices due to the penetration by global arbitrageurs such as parallel importers and re-importers.

This paper introduces a new open-economy model with involuntary unemployment and global sourcing where prices of intermediate goods are globally sticky with monopolistic competition but consumer prices are competitive and flexible. Then the determinants of the short-run real effects of monetary and government spending shocks are examined. Although there have been many models on open-economy dynamic general equilibrium since the publication of Obstfeld and Rogoff(1995), this line of research is few, as shown in Lane(2001), Obstfeld(2001), Bowman and Doyle(2003) which provide a comprehensive survey on ‘the new open-economy macro model’.

This paper has three distinctive characteristics, compared with other researches. First, the model introduces a hybrid of two kinds of the short-run price change (i.e. flexible consumer prices and rigid intermediate-good prices). In general, there are two types of pricing assumption in the new open-economy macro models. One is the PCP(producer-currency pricing) model, where nominal prices are fixed in the producers’ currencies, so that the prices for consumers change proportionally in the short run to changes in the nominal exchange rate(e.g. Obstfeld and Rogoff(1995),