A Model to Analyze the Macroeconomic Interdependence of Hong Kong with China and the United States

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Summary

While the development experience of Hong Kong in the latter part of the 20th century has been a great success, the SAR economy has been, nevertheless, facing some unexpected and unprecedented difficulties since the 1997 turnover and the subsequent Asian financial crisis. The increasingly more globalized world economy and the new reality of an economically more powerful China are posing new challenges (and opportunities) for Hong Kong. Indeed, many people in the SAR feel quite uneasy about some recent developments in the world. These include: the economic slowdown of the U.S., China's accession to the WTO, possible devaluation of the Chinese RMB, greater integration of the Hong Kong economy with that of the Mainland, as well as the impact of economic cycles in China on Hong Kong. How might these events affect Hong Kong from a macroeconomic perspective?

Although there have been many articles written on these themes, they are mostly journalistic and therefore there is a general lack of analytical macroeconomic models for Hong Kong to answer those questions in a more rigorous manner. Consequently, in-depth studies at a theoretical level are few, and this has affected the quality of subsequent empirical research on the subject. The objective of this paper is to fill this gap.

In this paper, I develop a concise but analytically useful macroeconomic model for Hong Kong based on some stylized facts about the Hong Kong economy and its monetary arrangements. The model emphasizes the macroeconomic interdependence of Hong Kong with China and the United States, both in terms of merchandise trade and capital flow. More concretely, it reflects the fact that monetary conditions in Hong Kong are closely associated with those of the U.S., while real economic activities in Hong Kong are increasingly more and more dependent on those of Mainland China. Important macroeconomic variables for Hong Kong, such as the price level and nominal wage rate, as well as capital flow, are analyzed first in a static setting and then in a dynamic model. The model is then used to analyze macroeconomic adjustment of Hong Kong in response to a couple of contingent scenarios. These scenarios are: economic slowdown in the U.S. and devaluation of the RMB. Results are obtained both under the assumption of adaptive and rational expectations.

The paper is organized as follows. The introduction and the motivation of the study is included in Section 1. Some stylized facts about the Hong Kong economy and its monetary arrangements, i.e., the linked exchange rate system, are presented in Section 2. Section 3 describes a static macroeconomic model of Hong Kong that explicitly emphasizes its interdependence with the U.S. and China. Static equilibrium values of the price level, wage rate and capital flow to Hong Kong are obtained in Section 4 and the results are summarized in Proposition 1. Factors that influence net capital flow to Hong Kong, which is a crucial factor for the health of the financial services sector of Hong Kong, are analyzed in Proposition 2. Section 5 analyzes and establishes the macroeconomic stability of Hong Kong, and the results are summarized in Proposition 3. Section 6 extends the study to a dynamic model with rational expectations. The impact of economic slowdown in the U.S. and possible devaluation of the RMB on the price level in Hong Kong are summarized in Section 4. Concluding remarks and possible extension and refinement of the model are presented in Section 7.

For the moment, the purpose of the paper is rather modest, i.e., to think through the different issues in a conceptual way. Needless to say, it would be more interesting and highly desirable if one can obtain numerical results based on the model established in this paper and from past data or simulation. These will indeed be research topics for future work.