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Discussion of a North–South model of structural change and growth" by Aristizabal Ramirez, Leahy, and Tesar

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This paper documents a set of empirical facts that feature investment dynamics and structural change across advanced and emerging economies, with special attention to capital market liberation in emerging markets in 1990s. In particular, the investment rate follows a hump shape over income in an unbalanced panel of 34 countries over the period 1950–2017. Interestingly and puzzlingly, the hump-shaped relationship for emerging markets is a leftward shift from that for advanced economies. Advanced countries reach the peak in the investment rate of 26 percent of GDP at the log-real-GDP-per-capita level of 9.9 (PPP), while emerging economies reach a similar level of the peak in the investment rate at the log-real-GDP-per-capita level of 8.8 (PPP). Moreover, emerging markets seem to follow a trajectory similar to that of advanced economies until 1991, while post 1991 emerging markets seem to invest slightly higher than predicted by advanced economies. In addition, both advanced economies and emerging markets experience similar structural transformation over their growth process: a decline in the agriculture share, an increase in the services share, and a hump in the manufacturing share.

The authors build a two-region model of the world economy with capital dynamics, structural change and intertemporal capital flows and quantify the gains from capital market liberalization. The model features three sectors—agriculture, manufacturing, and services—and different technological growth rates across sectors and time-varying preferences. The two regions share the same technology and preferences, while the emerging market region starts its growth process at a later point in time, at a lower level of per capita income, with different sectoral productivity levels. The two regions are in autarky before 1990 but can borrow and lend from 1990 on.

The quantitative model replicates well the data and finds that both regions, particularly the emerging markets, gain from the liberalization of capital markets. The authors also conduct a China experiment by introducing China to global capital markets in 2020. They find that advanced economies benefit from China's integration, while emerging markets may suffer a welfare loss from the increased cost of debt service.

The paper is interesting, insightful and relevant, which makes it a nice contribution to the literature on structural change. I appreciate the endeavor to study the impact of intertemporal capital flows across countries on structural change and investment dynamics. I also applaud the stylized modeling approach that the authors adopt to study such a complex phenomenon across sectors, countries, and time. I enjoy reading the paper. I have three comments on the paper.

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First, in the classical literature, structural change is well understood as endogenous consequences of the relative-price effect and the income effect. This paper adopts unconventional preferences:

$$U_t^i = \sum_{j=a,m,s} \left[\alpha_j \ln\left(C_{jt}^i\right) - \epsilon_{jt}^i C_{jt}^i\right],$$

which incorporate time-varying, exogenous, sector-specific processes ϵ_{jt}^i. These processes are important for generating structural change in the model, because there would be no movements in sectoral consumption expenditure shares and thus limited movements in sectoral value added shares when $\epsilon_{jt}^i = 0$ for all sectors and all time. These exogenous processes, calibrated to mimic the income effect under non-homothetic preferences, impact marginal utility of sectoral consumption and shape sectoral consumption expenditure shares. Although this modeling choice is convenient for the purpose of calibrating the model, it blurs the income and relative-price channels on structural change over the growth process. Moreover, these processes are taken as unchanged in most of the counterfactual analysis. Thus, the counterfactual analysis might be missing the implications through the endogenous income effects.

Second, while some counterfactual exercises illustrate the factors that matter the most to match the shape of the investment hump and the leftward shift of the investment-income relationship for emerging countries, the paper does not deliver a full story for these findings. For example, in the case of the mechanisms behind the hump-shaped relationship between the investment rate and income, Echevarria (1997) shows how the increasing part of the hump comes from nonhomothetic preferences. Economies, close to subsistence in early periods of development, invest little. Investment rises as the strong income effect declines. The results are different here: the counterfactual exercises show that the sector biased TFP growth rates and labor shares matter most. What are the stories behind these findings? What role does the level of the initial capital stock play here?

Finally, the China experiment assumes that China's integration led to an increase in the world interest rate. This causes capital to flow to China at the cost of emerging markets (debtors) and benefits advanced economies (creditors). This experiment abstracts from many important aspects of China's integration. For example, China's integration has been accompanied by net capital outflows, contributing to the savings glut phenomenon and the decline of the world interest rate since 2000. China's presence in global trade also impacts the production of manufactured goods across the globe, which contributes to global structural change both directly through sectoral trade imbalances and indirectly through the income and relative price channels.