South Africa and the global economic crisis: Assessing the effects using a static CGE model

Topic: CGE and econometric input-output modeling 3
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The aim of this paper is to estimate how the Global Financial and Economic Crisis may have affected the South African economy. We present the key macroeconomic transmission channels of the crisis in South Africa, a developing country whose financial sector had not been significantly exposed to the toxic assets that instigated the crisis, but whose strong trade and investment links with affected countries placed further strain on domestic pressures, leading to South Africa's first recession in 17 years.

We consider trade and foreign capital flows to be the most relevant transmission channels, and focus on those in the analysis. As the relative size of remittances and foreign aid is marginal, these movements are ignored in the model.

This analysis makes use of a static computable general equilibrium model. The PEP-1-1 standard model by Decaluwé et al (2009) is given minor changes and calibrated to a 2005 SAM and used to analyse the effects of an export volume shock, a shock in world export and import prices, and a decline in capital inflows to the country. There are 54 productive sectors and commodities. Capital and labour are the only production factors included, with the latter divided further into four broad skill types. Households have been disaggregated by income deciles.

Preliminary results indicate particularly severe effects of the crisis on the South African economy. As expected, exports and imports fall considerably. Diminished capital returns and transfers reduce the income and savings of firms. Household income, savings and consumption fall dramatically in response to lower wage rates, with lower income deciles facing harsher declines. As South Africa has a persistent high rate of unemployment of approximately 25 per cent and relatively inflexible wage rates, we plan to use a wage curve or similar mechanism to incorporate these features into the model.