Centre of Policy Studies (Monash University) modelling of the car industry

The modelling initially commissioned from the Centre of Policy Studies by Allen Consulting on the closure of the car industry in Australia assumed that all car manufacturers who remain in Australia close simultaneously (Wittwer 2013). Allen Consulting determined that this was the appropriate modelling assumption after consulting with a range of industry stakeholders. While the study was being prepared, Ford announced its planned unilateral 2016 closure.

Over the past few years, the construction boom in mining has created jobs in that sector and driven up the Australian dollar. This has been to the detriment of non-mining exports and import-competing industries including cars. The forecast baseline for the modelling, which used a dynamic version of TERM, assumed that as the mining boom construction phase slows and mining output expands in response to the global boom in demand for minerals, mineral prices are likely to fall and the Australia dollar is likely to depreciate. This improves the competitiveness of non-mineral exports and import-competing industries, including motor-vehicle manufacturing. It also increases the likelihood that jobs will emerge in non-mining export industries.

The modelling indicates the likelihood that substantial shocks to the economy such as a closure of the car industry would not result in costless adjustment. Any modelling undertaken in a comparative static framework is unlikely to take account of adjustment costs. In a dynamic model, a sticky wages assumption implies that when the labour market weakens due to closure of the car industry, much of the short-term adjustment is borne by worsening unemployment rather than falling real wages. In the capital market, changes in investment eventually restore pre-simulation rates of return to all industries.

The terms-of-trade impacts may be a point of contention. These depend on the national export demand elasticities. Dixon and Rimmer (2002, p. 222-225) derived the algebraic link between single country export demand elasticities, as used in MONASH or TERM, and the Armington elasticities as used in a multi-country model such as GTAP. Use of the Dixon-Rimmer derivation enables us to check whether export demand elasticities as used in the CoPS suite of models align with Armington parameters as reported by the Productivity Commission (Zhang and Verikios, 2003). They do so (Dixon and Rimmer, 2010).

It is adjustment costs in the labour and capital markets, together with an induced deterioration in Australia's terms of trade that account for the adverse modelled macroeconomic effects of car-industry closure. Ultimately, the severity of the adverse short-term economic effects will depend on base-case economic circumstances. A boom in other sectors of the economy may alleviate job losses in the wake of a car industry closure. However, in the event of an economic downturn, net losses could be worse than those modelled.

The Centre of Policy Studies modelling was reported appropriately in the Financial Review on Monday 5/11/2013. However, on the ABC’s AM program, the net present value of welfare losses was reported as though it was an annual loss. This is incorrect.

Since the car closure scenario results in economic losses in the short term but eventual gains, the discount rate used in the study matters. At a discount rate of 4% or 5%, welfare losses in excess of $20 billion in net present value terms are modelled. At a discount rate of 2%, the impact turns positive. However, such a discount rate seems implausibly low in the long term.

Although the dynamic TERM scenario did not explicitly model the subsidy, it took account of the impact of abandoned foreign capital on net foreign liabilities. That is, the model includes the stock of net foreign liabilities on which interest is paid. When car manufacturing capital is abandoned, there is a reduction in net foreign liabilities within the model equal to the stock value of the abandoned capital. Since at least some of the ongoing subsidy would add to the value of the capital stock, the reduction in net foreign liabilities accounts for at least part of the subsidy reduction.

References

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