

Report on
Essays on International Business Cycles Transmission
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The essay is made up by three chapters.

The first chapter analysis the role of consumer durables and capital goods in shaping the business cycle dynamics of key macro variables in a New Keynesian small open economy model. There is a vast literature analysing the transmission of shocks in dynamic stochastic general equilibrium (DSGE) open economy models. The literature can be split between real business cycle (RBC) models, and models featuring some source of nominal rigidities (New Keynesian). Those models constitute the mainstream approach in the analysis of fiscal and monetary policy in an open economy. New Keynesian models are also the workhorse models used in policy circles, both for policy analysis as well as forecast. Notwithstanding this, all those models share a common drawback, as they all lack the ability to match the observed volatility of imports and exports, and the positive cross-correlation between imports and exports. Up until recently, another common feature of those models was the trade in durable consumption and investment goods was not allowed for. This is in stark contrast with the empirical evidence presented in Engel and Wang (2011). Looking at average values for a sample of 25 OECD countries in 2000, Engel and Wang (2011) show that once energy products are excluded from trade, durable goods constitute 68% of imports and 64% of exports. Based on this empirical evidence, Engel and Wang (2011) develop a two-country RBC model featuring both durable and non-durable goods. Durable goods can be consumed or used to create new capital goods. Only durable goods can be traded. Having trade in durable goods seems to improve the ability of the model to match the volatilities and cross-correlations of trade variables. Their model has two limitations: First, there is no role for monetary policy, so that it is not possible to study how/if the introduction of trade in durable goods affects the transmission channel of monetary policy; Second, it does not allow for trade in non-durable goods. In a related paper, Erceg, Guerrieri and Gust (2008) introduce trade in investment goods in a New Keynesian two-country model, and show that the introduction of nominal rigidities does not alter the ability of the model to replicate the business cycle dynamics of the trade variables. However, differently from Engel and Wang (2011), they do not allow for trade in durable consumption good. In the first chapter, Beka extends the model by Engel and Wang (2011) to a New Keynesian context with the introduction of monopolistic competition and nominal price rigidity. This means that, differently from Erceg, Guerrieri and Gust (2008), Beka also allows for trade in durable consumption goods, thus keeping the model structure closer to the empirical evidence on trade provided in Engel and

Wang (2011) as compared to Erceg, Guerrieri and Gust (2008) that instead excluded this type of trade. This is a very interesting extension to the existing models as trade in durable consumption goods, combined with nominal price rigidities and monetary policy shocks, does not generate a clear theoretical sign for the correlation between imports and exports, i.e., trade in durable consumption goods in a New Keynesian model does not necessarily always improves the ability of the model to match the dynamics of trade variables. The key contribution of this chapter is to show that when prices are rigid results are very sensitive to the durability of the consumer durable goods. In particular, under the baseline calibration, the model delivers a correlation between export and imports that is too high as compared to the data (but lower than the one in both Engel and Wang (2011) and Erceg, Guerrieri and Gust (2008)) and a volatility of the real exchange rate which is too low as compared to both the data and the previous two other contributions. Reducing the durability of durable consumption goods would improve in terms of cross-correlation but at the cost of further reducing the volatility of the real exchange rate. Overall, the model does a good job in matching the other key variables.

The second chapter studies the impact of oil price fluctuations on oil-importing developing countries, having Georgia as benchmark economy. While there is a really vast literature studying the consequences of oil price movements on developed economies, far less is known on their consequences on developing economies. Therefore, this chapter fills an important gap in the literature. When studying the transmission of oil price shocks, two factors can play an important role, and at the same time the incidence of those two factors can vary substantially between developed and developing economies. One such factor is monetary policy. There is no agreement in the literature about the role played by monetary policy on the transmission of oil price shocks, with for example Blanchard and Gali (2009) arguing for a substantial role played by improved monetary policy credibility in explaining the different impact that oil price shocks had on the U.S. economy in the 1970s as compared to the 2000s, and Kilian and Lewis (2011) arguing for only a marginal role. Either way, monetary policy is typically less credible and thus less effective in developing economies, so it is natural to expect that this channel will play a smaller role in developing as compared to developed economies. At the same time, the other channel that can play an important role is international trade, especially when oil price movements are mostly driven by changes in global economic activity. When this is the case, small open developing economies can be more exposed to this channel as compared to developed economies. To investigate the role played by the different channels in the case of a developed country, this chapter takes Georgia as case studies and, using Bayesian techniques, estimates a small open economy New Keynesian DSGE model featuring price and wage rigidity, incomplete exchange rate pass-through, oil imports used both in consumption and production, and a weak interest rate channel due to a high degree of dollarization (around 60% for deposits and loans). The model is estimated over the period 2001Q1-2014Q2. The main finding is that indeed the interest rate channel is less effective in Georgia, though still quantitatively relevant. As for the rest, results are in line with what found by previous literature for developed countries.

The last chapter is quite similar in nature to the second one, as it studies the effects of oil price shocks on developing economies. However, instead of resorting to Bayesian techniques, it uses SVAR methodology, and considers the case of Armenia (using quarterly data over the sample

2000:Q2-2013:Q2) alongside Georgia (using quarterly data over the sample 2000:Q2-2012:Q4). The main finding from this chapter is that, similarly to what emphasises in Kilian (2009) for developed economies, the nature of oil price shocks matters. In particular, and again similarly to Kilian (2009), most of the action comes from oil price movements induced by shocks to world real activity, while oil supply shocks play a small and insignificant role on the dynamics of the other variable included in the SVAR. Increased world oil price driven by increased world economic activity (i.e., oil demand shock) has significant negative effects on CPI and GDP in Georgia, and negative but insignificant effect on CPI in Armenia.

Overall, the dissertation thesis satisfies formal and content requirements for a PhD thesis in economics, and I therefore recommend the dissertation for the defense.

References

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