Chapter 1: Introduction

The recent developments in the field of international economics have resulted in the research agenda labeled as the “New Open Economy Macroeconomics” (NOEM). This research agenda was launched by the seminal work of Obstfeld and Rogoff (1995, 1996). The NOEM reflects the desire to formalize models with an explicit microeconomic foundation of the behavior of economic agents with an incorporation of nominal rigidities and imperfect competition. With the incorporation of lifetime utility functions a precise welfare analysis of different policy measures is possible and makes it easier to evaluate different economic policy actions.

The main intention is thereby to develop a new workhorse model for open economy macroeconomics that enriches or even replaces the traditional models of the Mundell-Fleming-Dornbusch type (Mundell (1962, 1963), Fleming (1962) and Dornbusch (1976)). These models have been criticized for several shortcomings. The main drawback refers to the assumption about the behavior of economic agents. Whereas in the NOEM the behavior is based on solid microeconomic decision making, the traditional literature is mainly based on ad-hoc assumptions. In addition, the analysis of the model dynamics following a shock is in most cases missing. The traditional models do not differentiate between medium and long run responses. An exception from this criticism is the overshooting model of Dornbusch (1976). Regardless of these shortcomings, the traditional models still enjoy great popularity in economic policy advice and analysis due to their simpler analytical structure. In contrast, due to the fully micro-based specification, the NOEM demands a lot of analytical rigor. The predictions of NOEM models are quite sensitive to the kind of particular specifications. Policy evaluation and welfare analysis are usually dependent on the particular specification of preferences and the kind of nominal rigidities. This, in turn, creates the need to agree on the “correct” of the best fitting specification of the microfoundations.

The literature on the NOEM has been a vivid and quickly developing research field. While on the theoretical side the NOEM is a very stunning research agenda, the NOEM literature still lacks some direct empirical proofs. Exceptions are the work of Bergin (2001) and Ghironi (2002). We focus in the following on a brief discussion on two of still open questions in the NOEM literature which are tackled in this dissertation and illustrate the structure of the dissertation.

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1 For an overview of the existing literature until 2002 see Lane (2001), Sarno (2001) and Fendel (2002).
2 The model of Sweder and van Wijnbergen (1989) can be seen as a precursor of the NOEM.
3 See for example Tille (2001).
Chapter 2 gives a short description of the baseline model of the NOEM literature, the so called Redux model, and sketches the dynamics as well as the results of the model following a monetary shock. The results of the model, in turn, depend on specific assumptions on the price setting decision of exporting firms in international trade. Two possible assumptions about the price setting in international trade can be implemented. they have completely different implications for the international transmission of shocks between countries via the exchange rate.

In the traditional models of open economy macroeconomics exchange rates play a central role for the transmission of shocks between economies. In detail, they have a stabilizing role in adjusting relative price differences in the aftermath of a shock, since nominal rigidities prevent price adjustments in the respective country. The idea behind this is that a nominal depreciation of the national currency translates in a real depreciation of the currency, leading to an increased world demand for the goods of the country which is called the “expenditure-switching effect” of the exchange rate. This is based on the tradition of the Mundell-Fleming world and on Keynesian tradition, which assumes that prices are sticky in the currency of the exporter (producer-currency-pricing or PCP), so that exchange rate changes lead to a one-to-one movement of import prices in domestic currency.\(^4\) As the Redux model also assumes sticky prices in the exporter's currency (PCP), it lies in the tradition of the Mundell-Fleming world.

The PCP assumes that the law of one price (LOOP) as well as the purchasing power parity (PPP) holds any time. This is equivalent with the assumption that exporters do not exercise price discrimination between different countries. Empirical tests of LOOP or PPP indicate evidence that deviations from LOOP and PPP are large and persistent.\(^5\) This means that the link between prices in the export country and in the country of origin is not connected with the exchange rate. In reality, export prices do not move one to one with the exchange rate or, in other words, the exchange rate pass-through (ERPT) from exchange rate changes to prices of imported goods is far from being complete.\(^6\) This finding raises doubts on the presence and the functioning of the expenditure-switching-effect which drives the transmission under PCP.

Explanations for the deviations from the LOOP and the PPP can be provided by trade barriers, geographical distance or transportation costs (Engel (1993)). A somewhat different explanation of the deviations can be the phenomenon which is called pricing-to-market (PTM). PTM assumes that firms

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\(^6\) See for example Rogoff (1996).
do have market power to charge market specific prices for their goods in
different markets. This means that they can exercise price discrimination
between certain sales markets. When, in addition, the price is set in the currency
of the importing country and then kept to be constant in the local or buyer’s
currency we refer to this as the so called local currency pricing (LCP). This kind
of price setting can be motivated by defending or even expanding market shares
in the importing country in times of volatile exchange rates (Krugman (1987)).
Exchange rate changes are then reflected in changes in the mark-up of the
exporters and the ERPT in a world with full LCP would be zero. We would have
a complete disconnection of exchange rates and goods’ prices and a missing
expenditure effect.

The empirical evidence on LOOP and PPP motivated further research to
modify the price setting assumption of the Redux model. Specifically Betts and
Devereux (1996, 2000), Chari Kehoe and McKettingan (1998), Devereux and
Engel (2003) introduce LCP in the Redux model or similar model versions.
Firms set their prices directly in currencies of their destination markets where
they sell their goods. This modification has large implication for the role of the
exchange rate in the transmission of shocks.\footnote{A third assumption on the price setting behavior in international trade is the so called dollar
pricing. Under this setting all prices of traded goods are quoted in one common currency
which plays then the role of a vehicle currency in international trade. For a theoretical
discussion of the dollar pricing see Corsetti and Pesenti (2006).}

When import prices are sticky in the local currency of imports, a
depreciation of the home currency fueled by a home monetary expansion does
not translate in an expenditure switching effect in favor of home goods. Instead
mark-ups of home exports rise since the export revenue expressed in home
currency increases. In contrast to PCP, a depreciation of the home currency has
no effect on relative prices of imports faced by domestic consumers. This
weaken the allocative effect of exchange rates. Because prices show little or
low response to exchange rate changes, the exchange rate changes may be
consistent with observed regularities of exchange rates e.g. higher variability
than fundamentals like relative prices (Corsetti (2006)). In contrast to the PCP
setting, LCP generates a greater co-movement of production between the two
countries whereas the co-movement in consumption falls. In addition, as we will
see in the Redux model, an expansionary monetary policy is welfare-enhancing
in both countries.\footnote{See Chapter 2 of this dissertation.} Under LCP, the domestic monetary policy, in contrast,
increases only the welfare in the domestic country whereas the welfare in the
foreign country is decreased. Therefore, the domestic monetary expansionary
policy is a “beggar my neighbor policy”. In this context the question of fixed
exchange rate regimes is also discussed in the literature (Bacchetta and van
Wincoop (2000)).
The issue of the appropriate price setting assumption is still an open and heavily discussed question in the literature. Even though the explicit theoretical modeling of the different price setting assumption within the NOEM research agenda has been done in detailed manner, the question of fitting the theoretical models to empirical observed features is still an open question. We take this unsolved aspect as a motivation for our research. In a first analysis related to the price setting issue, we examine the export price setting of German exporters with data collected in a survey in 2004. The results of this questionnaire-based study are summarized in chapter 3. In a second analysis, we estimate in an empirical study the exchange rate pass-through, the reaction of import prices due to exchange rate changes for central and eastern European countries. Chapter 4 of this thesis gives the results of the ERPT estimation.

The main focus of the research within the NOEM literature beside the price setting aspect is directed on monetary shocks and their transmission channels. This agenda is in line with the experiences of the 1970s when the Dornbusch model and the monetary approach dominated the literature in open economy macroeconomics. Several reasons can explain why fiscal policy topics have been left aside. The first reason is the fact that most criticism on stabilization policies fell on fiscal policy measures because fiscal policy and fiscal stabilization played the major role in the 1950s and 1960s. With the conclusion that Keynesian fiscal stabilization policies do not work as expected, the academic world experienced a paradigm shift from fiscal policy to monetary policy. Secondly, several drawbacks have been attributed to the use of fiscal policy, e.g. the rigidity concerning the implementation of specific fiscal policy measures within the political decision making process. Thirdly, the inflexibility to change already implemented fiscal policies in a timely fashion, the potentially small effects of fiscal policy and the fact that fiscal policy is often used for political instead of economic goals contributed to the criticism (Meyer et al. (2002)).

Since the first publication of a NEOM style model many contributions of the literature have focused on the understanding of the effects of alternative monetary policy issues and their spillover effects by altering and extending key assumptions of the model. However, very little attention has been paid to the effects of fiscal policy. The channel of transmission and the impact of fiscal policy have been identified in the Redux model, but welfare effects from different fiscal policy experiments and, moreover, possible welfare effects from international policy coordination have not received the same rigorous treatment as the monetary policy.

In the Redux model Obstfeld and Rogoff restrict the analysis of fiscal policy to the case of a balanced budget increase in government spending. The

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9 An exception from this research direction is the work of Botman et al. (2006), Breton (2004), Coutinho (2005), and Ganelli (2003, 2005).
case of a debt financed increase in government spending is left aside because of the existence of Ricardian equivalence. Ricardian equivalence occurs in the Redux model because agents have an infinite horizon. Therefore, they recognize that they have to pay for the debt-financed increase in government spending in the future through an increase in future taxes. To be prepared for the increased tax payments in the future they decrease consumption today and, therefore, counteract against the increased government spending impulse (Tervala (2004)).

The experiment of a balanced-budget increase of government spending in the home country in the Redux model leads to a worsening of the situation in the home country. The analysis reveals that changes in the welfare level for foreign agents are positive and negative for home agents. Domestic households have to work more because of increased governmental demand for home produced goods and consume less due to higher taxes to finance the increased government spending. Foreign agents, in contrast, work less and consume more. Therefore, the fiscal policy experiment of a balanced-budget increase in government spending is a “beggar myself policy” instead of a “beggar my neighbor policy” in the Mundell-Fleming-Dornbusch world.

Ganelli (2005) adopts an alternative setup and enriches the Redux model structure by introducing an overlapping generations framework. This opens the possibility to examine alternative fiscal policy experiments like a debt-financed increase in government consumption or just a tax cut without altering government spending. In this model, where Ricardian equivalence does not hold, it is possible to show that a domestic tax cut leads to an improvement in home welfare and is, therefore, not a “beggar myself policy”. This occurs because the tax cut increases domestic consumption. This is due to the finite horizon of households since they might not survive to the following periods when they do have to pay higher taxes to finance the debt burden. The debt burden is passed through to the next generations. The increased consumption at home and the decreased consumption abroad, accompanied by a terms of trade improvement for the home country, lead at the end to a “beggar my neighbor policy”.

A second shortcoming of the Redux model as well as in the whole NOEM literature is that the two countries considered in the model are constrained to be symmetric. This constraint is necessary when the model is solved and closed form solution is looked for. The usual solution method is the log-linearization around a well defined steady state. In order to find the steady state we need symmetry between the two countries. This means both countries are of equal size concerning population, output, consumption, government spending etc. The total symmetry assumption reduces the value of the model. Except the international trade of goods there are no connections between the countries. Home agents only hold shares of home firms and foreign agents only hold shares of foreign firms, which means we have a complete home bias in income from shares. A model version with an ease of complete portfolio home bias
would be more realistic. In Chapter 5 we tackle this constraint and allow agents of one country to hold property shares of the other country firms’ and vice versa. These property shares in the other country are results of past investment decisions. In addition, we chose the overlapping generation setup of Ganelli, because we look for a model structure that allows us to examine efficient monetary as well as fiscal policies in the case of infinitely lived agents. Chapter 6 concludes the thesis and summarizes the main results and findings. An outlook gives motivation for further research.