European Economic Review 70 (2014) 231–257

Contents lists available at ScienceDirect

European Economic Review

journal homepage: www.elsevier.com/locate/eer

Exit strategies

Ignazio Angeloni [a,b,*], Ester Faia [c], Roland Winkler [d]

[a] European Central Bank, Kaiserstrasse 29, Frankfurt am Main, Germany
[b] BRUEGEL, Belgium
[c] Department of Money and Macro, Goethe University Frankfurt, CFS and SAFE, Grueneburgplatz 1, 60323, Frankfurt am Main, Germany
[d] TU Dortmund University, Vogelpothsweg 87, 44227 Dortmund, Germany

ARTICLE INFO

Article history:
Received 25 June 2012
Accepted 23 April 2014
Available online 20 May 2014

JEL classification:
G01
E63
H12

Keywords:
Exit strategies
Debt consolidation
Fiscal policy
Monetary policy
Bank runs

ABSTRACT

We study alternative scenarios for exiting the post-crisis fiscal and monetary accommodation using a macromodel where banks choose their capital structure and are subject to runs. Under a Taylor rule, the post-crisis interest rate hits the zero lower bound (ZLB) and remains there for several years. In that condition, pre-announced and fast fiscal consolidations dominate – based on output and inflation performance and bank stability – alternative strategies incorporating various degrees of gradualism and surprise. We also examine an alternative monetary strategy in which the interest rate does not reach the ZLB; the benefits from fiscal consolidation persist but are more nuanced.

1. Introduction

The more experience we gain with this crisis and its aftershocks, the clearer it becomes that reversing the policies put in place in response to it and neutralizing their side effects will confront policy makers with more serious and enduring problems than the crisis itself. Fiscal policy is at the center of this challenge. In all industrial countries, public sector deficits expanded sharply since the second half of 2008 for the combined effect of automatic stabilizers, on both the expenditure and revenue sides, and discretionary measures to support the financial, corporate and household sectors. The extent and nature of the official support varied across countries, but the overall effect was impressive by all standards. Budget deficits increased by about 5 percent of GDP between 2008 and 2009 in both the US and the euro area. Long run simulations by the IMF (see e.g. Cottarelli and Vinals, 2009) show that the debt dynamics will, under favorable circumstances, lead to increases in public debt ratios in the order of 40 percent or more in the next 6 to 8 years in the advanced countries. An orderly exit from such imbalances will require sustained consolidation effort for decades, and in the meantime public finances will remain highly vulnerable to further shocks.

While the fiscal problem is paramount, the question of how to revert the anti-crisis measures and return to a normal policy setting (the "exit strategy" problem) is not limited to budgets. Central banks pegged interest rates close to zero

* Corresponding author.
E-mail addresses: ignazio.angeloni@ecb.int (I. Angeloni), faia@wiwi.uni-frankfurt.de (E. Faia), roland.winkler@tu-dortmund.de (R. Winkler).

http://dx.doi.org/10.1016/j.euroecorev.2014.04.006
0014-2921/

virtually everywhere in late 2008, and a number of enhanced monetary and credit support programs were enacted. Exiting the monetary expansion entails a dilemma. On one hand, delaying the exit may help the recovery and also fiscal sustainability, by reducing the interest burden. On the other hand, the exceptionally strong and protracted monetary expansion may encourage risk-taking in the financial sector, as demonstrated by recent evidence (see a brief survey and the macro evidence in Angeloni et al., 2010). In the long run, a protracted monetary expansion can become an obstacle to the restoration of balanced financial conditions. A dilemma arises also from the interaction between bank fragility and public finances: publicly funded bank support programs need to be reversed, lest overburdening public finances and fueling moral hazard. Moreover, financial sector reforms, underway in all major countries under the leadership of the G20 include as a central prescription a strengthening of bank capital. On both fronts, action is needed for structural reasons, but excessive front-loading risks delaying the recovery.

In analyzing exit strategies several interconnected factors must be taken into consideration. The fiscal adjustment is heavily influenced by the timing and modality of monetary exit, but the reverse is also true, because fiscal consolidation will affect a number of macro-variables that are in the informational radar screen of central bankers. These multiple interconnections suggest that the exit strategies should not be examined one at a time, but in combination. A comprehensive analytical framework is needed to approach the problem.

For this purpose we use an adapted version of the model by Angeloni and Faia (2013), henceforth AF. AF integrate a risky banking sector, following the relationship lender theory spelled out in Diamond and Rajan (2000, 2001) (henceforth DR) in a conventional macro framework and analyze the transmission of monetary and other shocks in an economy with fragile banks as well as the effects of different types of dynamic bank capital buffers. Banks determine their leverage and balance sheet risk endogenously, influenced by several factors including the stance of monetary policy. Other things equal, a protracted monetary expansion increases bank leverage and risk. Bank risk in our model is measured by the probability that the bank experiences a run on its short term uninsured liabilities,[1] an event that triggers costly liquidation of investment projects. In this respect we follow the notion of "fundamental bank run"[2] in which the collective action is triggered by news of a shock on the investment returns (the fundamentals). Banks in this context raise liquidity through short demandable uninsured liabilities "deposits" that, due to a service constraint, do not require the payment of rents (as opposed to bank capital): when the interest rate is low and in order to economize on rents, banks tend to increase the share of demandable deposits, thereby exposing themselves to run and increasing bank riskiness.[3] Hence, in addition to the usual channels of monetary policy, there is also a "risk-taking" channel, affecting macroeconomic outcomes via the extent of risk present in the bank balance sheets.

We extend the AF model in three directions. First, we add a fiscal sector, including policy functions for public spending, labour and consumption taxes, as well as debt accumulation. This detail is needed to study alternative mixes of fiscal consolidation strategies and to account for debt dynamics. Second, we augment the bank capital accumulation process by adding in a further component, given by publicly funded bank recapitalization. We call this "unconventional" fiscal policy, to distinguish it from the "conventional" one consisting in (different combinations of) public spending increases and tax reductions. This adds realism to the model in the post-crisis phase, where both types of fiscal interventions were put in place in virtually all industrialized countries. Third, we apply newly developed methods to analyze and compare complex sequences of shocks and policy responses, with different timing and informational assumptions. We start from a crisis scenario triggered by a combination of adverse shocks, which increases bank risks and generates a recession. We examine two alternative monetary policy responses, one consisting in hitting the zero lower bound (ZLB) and "exiting" it endogenously, following a standard Taylor rule, the second in smoothing the downward interest rate movement so as to avoid hitting the ZLB. The fiscal exit is modelled as a change in the fiscal rules (conventional and/or unconventional), in the direction of a faster consolidation of public debt. We examine a variety of such rules that differ for the speed of debt consolidation, the information provided to economic agents, the composition of fiscal adjustment, etc. This approach permits us to pose questions that are relevant for many current discussions on exit strategies, such as gradualism versus preemptive action, sequencing and delay (who should exit first, fiscal or monetary policy? What is the cost or benefit from delaying?) and communication policy (should exit strategies be pre-announced)?

Our main conclusions can be summarized as follows. First, exiting the post-crisis expansionary fiscal policy stance is beneficial; almost any fiscal consolidation strategy leads to an improvement in terms of our evaluation criteria (intertemporal changes in output, inflation, bank risk and agents' welfare) relative to the status quo, i.e., the indefinite continuation of the post-crisis accommodative fiscal policy course. The gain is greater in the medium-long term; in the short run (first 20 quarters) the results are mixed. Not all exit strategies are alike, though. Proactive fiscal strategies, geared to an ambitious debt consolidation target, dominate gradual ones. Announced fiscal consolidation plans tend to dominate – with some qualifications – surprise ones. The composition of fiscal policy matters; spending-based fiscal strategies are superior to tax-based ones – less so, however, when the interest rates hits the ZLB. The results concerning

[1] In the years prior to the 2007 crisis banks on both sides of the Atlantic increasingly financed themselves by rolling-over short term uninsured liabilities, such as asset backed securities and repos. In spite of their (apparent) high degrees of seniority and triple A rating, the ensuing crisis resulted in a dry up or a run on those assets. See Gorton and Metrick (2012).

[2] The alternative notion is that of a self-fulfilling bank run as in Diamond and Dybvig (1983). For early formulation of the notion of fundamental bank run see Gorton (1985), Diamond and Rajan (2000) and Allen and Gale (2007).

[3] Notice that runs triggered by fundamentals arise since they play the role of discipline devices for the bank.