
Fiscal Adjustment, Growth, and Global Imbalances

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20.1 Introduction

Over the medium term, significant fiscal consolidation seems inevitable in much of Europe and the United States in order to counter rising public-sector indebtedness. Fiscal consolidation is usually associated with shrinking current-account deficits and a slowdown in growth as demand for foreign goods falls along with demand for domestically produced goods. In this chapter we illustrate how combining fiscal consolidation with structural reform and coordinated fiscal policy can result in lower public-sector indebtedness, stronger growth, and a lessening of global imbalances for all participating countries.

The chapter starts with a high-level discussion of the virtuous circle that can be generated when fiscal consolidation is accompanied by productivity-enhancing structural reform and monetary easing. The chapter then goes on to describe the specifics of the hypothetical policy actions put into the model and the key features of the model in which the coordinated policy actions are embedded, followed by a brief review of previous studies of the macroeconomic effects of fiscal consolidation. The chapter then discusses the simulations results and ends with a brief conclusion.

20.2 Coordinating Fiscal Consolidation with Structural Reform

Four basic elements contribute to the virtuous circle created by coordinating fiscal consolidation with structural reform. The coordinated policy creating a virtuous circle is illustrated in figure 20.1.

Structural and fiscal reforms create the potential for the world economy to grow, which helps fiscal consolidation by contributing to higher tax revenues with a lower increase in tax rates than would otherwise be needed. Reform also contributes to increasing domestic demand relative to foreign demand, for example in China, which lessens global imbalances. Fiscal consolidation lessens global imbalances by reducing the need for public borrowing from abroad, but it results in reduced government

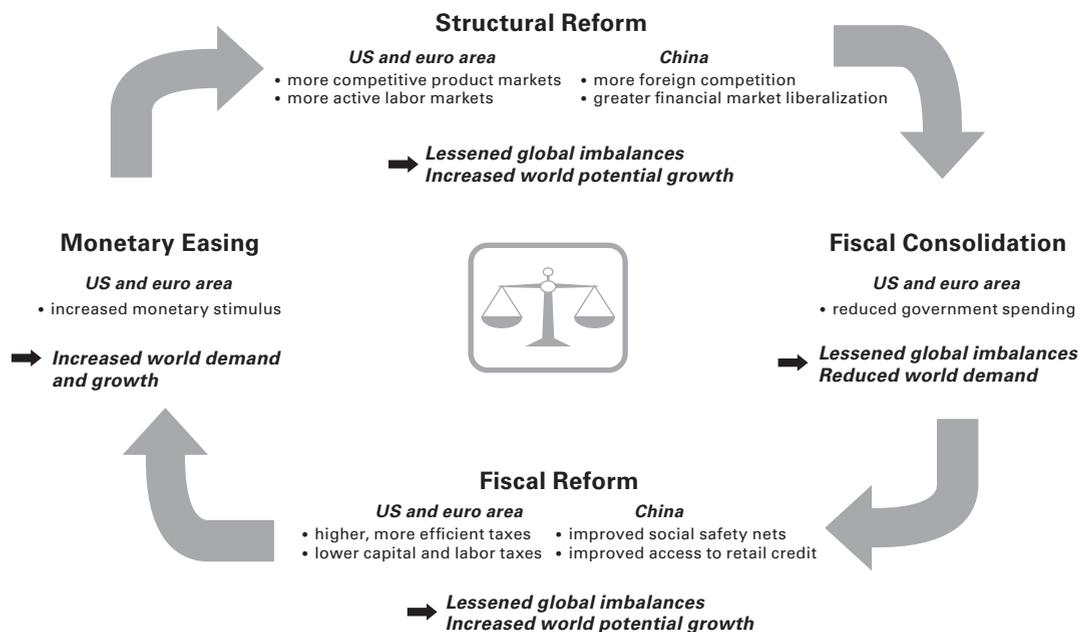


Figure 20.1
Coordinating fiscal consolidation with structural reform

consumption, lowering demand for world output. Monetary policy easing creates increased demand for world output, which offsets the reduction in demand from fiscal consolidation and helps the world economy reach a new and higher potential growth path.

For the euro area, the reforms are of the type envisioned by Cacciatore et al. (2012) and Bouis et al. (2012). Examples of such reforms are (1) a decline in product market regulation, (2) a reduction in barriers to entry for new firms, (3) a decline in the amount and duration of unemployment benefits, (4) a decline in job protection, (5) an increase in spending on training, (6) an increase in employment incentives, (7) an increase in the minimum retirement age, (8) a decline in payroll taxes, (9) a decline in capital taxes, and (10) an increase in value-added taxes. From the macroeconomic perspective, the net effect of these reforms is to increase labor and total-factor productivity, which is the way these measures are introduced into the macroeconomic model. The United States could improve the efficiency of its economy by selectively introducing some of these reforms—for example, increased training—but US product and labor markets are already relatively competitive compared to markets in the euro area.

For China, the reforms are of the type needed to transform an emerging economy reliant on export-led growth to a mature economy reliant on growth balanced between domestic demand and export demand. Such reform consists of opening Chinese markets to more foreign competition so as to supply more goods to stimulate Chinese consumer demand and greater financial market liberalization that will equate the availability and cost of credit in China to that in the developed world. From a macroeconomic perspective, the net effect of these reforms will be to transfer resources from satisfying foreign demand to satisfying domestic demand in China.

Fiscal consolidation is required only in those countries running large public-sector deficits. The net effect of the consolidation is to reduce deficit-to-GDP and debt-to-GDP ratios. Monetary easing is implemented in those countries that pursue fiscal consolidation. It is implemented by positing that the monetary authorities announce their tolerance for inflation temporarily to exceed the inflation target, and then engaging in quantitative easing. With sufficient monetary easing, the net result is an increase in the demand for domestic and foreign goods in the consolidating economies.

The virtuous circle is illustrated in two parts. First the structural and fiscal reforms are combined with fiscal consolidation in deficit countries to show that even without monetary policy easing the result of coordinated policy action is positive for participating countries. Then fiscal consolidation is combined with monetary easing to show that coordinating these actions is positive for the world economy and does not generate inflation in the major developed economies, even in the absence of increased potential growth from structural and fiscal reforms.

20.3 Specifics of Country Measures

20.3.1 United States

Structural Reform

- In the scenario, the US structural reforms consist of an increase in productivity consistent with what might be expected from product-market reforms and an increase in active labor-market policies as estimated by Cacciatore et al. (2012) and Bouis et al. (2012). The level of productivity in the traded-goods sector is increased by 3 percent over five years, with productivity in the nontraded-goods sector increasing by 1 percent over the same time period. Thereafter, the productivity growth rate stabilizes at one-half of a percentage point annual growth above the baseline growth rate in the tradable sector, and at one-quarter of a percentage point above baseline in the nontradable sector for the next ten years. Active labor-market policies are assumed to increase labor supply by almost 1 percent spread out over fifteen years.

Fiscal Reform

- The US fiscal reform shock consists of a change in the tax code toward taxes with a less distorting effect on the incentives that drive the supply side of the economy. Specifically, value-added taxes are increased to 1.5 percent of GDP over a number of years. This allows lower labor and capital taxes, each of which is posited to fall by 0.75 percent of GDP. These changes are constructed to be revenue neutral in that government revenue is unchanged in the long run. The resulting reduction in distortions to supply-side incentives does, however, have a positive effect on economic growth.

Fiscal Consolidation

- The shock that results from US fiscal consolidation produces a reduction in the government deficit of 3 percentage points of GDP in the long run. The increase in the surplus is achieved by lowering government consumption by over 2 percentage points of GDP gradually over the first four years of the simulation. Taxes are increased starting in 2015, with the increase cumulating in about 1 percentage point of GDP by 2020. Four years into the simulation, entitlement spending is significantly reduced by lowering general transfers to achieve and to maintain the approximate 3 percentage point of GDP increase in the government surplus. The improvement in the fiscal stance also lowers the debt-to-GDP ratio, which gradually brings down the interest-expense-to-GDP ratio.

20.3.2 Euro Area**Structural Reform**

- Structural reform in the euro area scenario consists of a combination of product-market reforms and a broad range of labor-market reforms targeted at adding flexibility to European labor markets and increasing European labor force participation. The net effect is to increase productivity and potential output in the euro area. The level of productivity in both the tradable and nontradable sectors is assumed to increase by 3.5 percent over fifteen years. In addition, the labor supply is assumed to increase by 0.4 percent over fifteen years owing to increased labor force participation. These gains are assumed to be permanent.

Fiscal Reform

- The euro area fiscal reform shock consists of shift toward taxes that distort the supply-side of the economy less. Specifically, value-added taxes are increased gradually by 0.9 percent of GDP. The resulting increase in revenue is used to lower both labor and capital taxes, which both fall by 0.45 percent of GDP. As a result, the tax changes are revenue neutral, such that the government revenue does not change as a percentage of GDP in the long run. Nevertheless, taxes distort the supply-side

of the economy less, which has a positive effect on the potential of economy in the long run.

Fiscal Consolidation

- The fiscal consolidation shock in the euro area results in a reduction in the government deficit of 0.8 percentage points of GDP spread out over a number of years. The increase in the surplus is achieved by positing that government consumption is reduced gradually by a total of over 0.3 percentage points of GDP in the long run. As an offset, value-added taxes are increased over the first four years of the simulation by a cumulative total of about 0.15 percent of GDP. Moreover entitlement spending is cut by lowering general transfers over the first four years of the simulation by an additional 0.15 percent of GDP. The fiscal consolidation results in a lower debt-to-GDP ratio, which gradually brings down interest-expense payments.

20.3.3 China

In the scenario the contribution to coordinated action from China includes reforms to reduce underlying distortions, which shift the economy toward domestic demand-led growth and away from export-led growth. These reforms are summarized as follows:

Product Market Reform

- The scenario includes measures to (1) level the playing field between tradable and nontradable sectors of the Chinese economy, (2) open the economy further to foreign competition, (3) further reduce restrictions on service-sector producers, (4) strengthen corporate governance, and (5) increase R&D spending. The measures are assumed to increase productivity in the nontradable sector of the economy by 2 percentage points over five years.
- The scenario also includes measures to improve the quality of the nontraded and domestically produced traded goods and services, as well as making the goods and services produced in China conform better to the preferences of Chinese households for them. This change is implemented in the model as an exogenous increase in the demand for domestically produced nontraded goods and services in the final consumption basket of Chinese consumers.

Financial Market Liberalization

- The scenario includes greater financial market liberalization that equates the availability and cost of credit in China to that in the developed world. The net result is lower credit costs for Chinese households and a rise in the cost of capital for manufacturing firms. We implement the shock via an increase in the external finance premium of firms in the tradable sector by 100 basis points.

Financial Liberalization and Fiscal Reform

- Complementing the financial-market liberalization shock, the scenario also includes financial liberalization reforms to increase access to credit for households and small and medium enterprises (SMEs) in China. The posited fiscal reform in China aims to improve the social safety net by augmenting social insurance in areas such as pension, health care, and the education system. It also includes improving public infrastructure in rural areas. The financial liberalization shock is implemented as an increase in the share of households with access to credit institutions by 10 percentage points spread out over twenty years, with an assumed reduction in the level of household savings as a percent of GDP by 10 percentage points over ten years. The fiscal reform shock is implemented as an increase in government spending on health and education of 2 percentage points of GDP over five years (0.4 percent per year). The increase in expenditures is financed through an increase in labor taxes of 4 percent of GDP over ten years that matches the ten-year reduction in private savings.

Labor Market Reform

- The scenario includes an assumed reform of the Hukou system aimed at increasing the mobility of rural workers and enhancing the efficiency of labor-market turnover. The shock is implemented with a permanent 1 percent increase in the labor force participation rate every year for five years.

20.4 Base Model

The base model used to analyze the two coordination scenarios is global integrated monetary and fiscal model (GIMF). The model is flexible in that it can be configured to model a variable number of regions of the world. With the six-region version of the model used here, we can show the benefits of coordinating structural-reform and aggregate demand-management policies, on the one hand, and fiscal and monetary policies on the other. GIMF is a multicountry dynamic general equilibrium model used extensively inside the IMF, and at a small number of central banks, for policy and scenario risk analysis. The strength of GIMF for addressing fiscal policy coordination issues is the inclusion of a range of non-Ricardian features in the model that make both spending-based and revenue-based fiscal policy measures nonneutral. The nonneutralities give a more realistic rendering of the short-run effectiveness of fiscal policy changes. GIMF's rich structure also captures the longer run determinants of savings and investment behaviors, making it useful when the focus of analysis turns from short-run stimulus to longer run sustainability issues and the resolution of global savings-investment imbalances. GIMF has been constructed to answer questions about the relationships among fiscal deficits, real interest rates, crowding out,

and current account deficits. A complete description of the structure of GIMF can be found in Kumhof et al. (2010).

The six regions included in the version of GIMF used for the simulations in this chapter are the United States, euro area, China, emerging Asia, Japan, and remaining countries. This setup contrasts the need for fiscal consolidation in the United States and the euro area versus the other countries, and the global imbalances between the same two entities and China. All regions explicitly identified in the model follow inflation-targeting regimes.

20.5 Literature Review

The simulation results presented below are similar to those in previous studies. Coenen et al. (2012) look at fiscal consolidation in seven structural models used by policymakers and find that GDP multipliers from fiscal consolidation can be large if the effects originate from spending cuts, and that those effects are even stronger if monetary policy accommodates the change in fiscal policy. Although this study looked at the effects of a coordinated fiscal/monetary expansion where the effect of fiscal expansion was larger when accompanied by expansionary monetary policy, the results are consistent with the simulation shown above where the effects of a contractionary fiscal policy are offset by coordinating it with expansionary monetary policy. Freedman et al. (2009, 2010a, b) find similar results in simulations that coordinate fiscal and monetary policy in the IMF's GIMF model.

Kumhof and Laxton (2009c) look at a combination of fiscal policy and supply shocks, and find that effective fiscal policy requires increased tolerance for inflation deviating from target in the short run. Clinton et al. (2010) find that globally coordinated fiscal policy can effectively reduce global imbalances.

20.6 Simulation Results of Coordinated Implementation of Country-Specific Measures

The simulated scenario in this section illustrates the benefits of coordinating structural reform and aggregate demand-management policies. The simulations are run with countries in emerging Asia following flexible exchange-rate policies. Monetary policy is held neutral in the simulation to show the extent to which structural change can endogenously generate aggregate demand that offsets the short-run contractionary effects of fiscal consolidation.

20.6.1 United States

Figure 20.2 shows the effect of the structural reform under the fiscal consolidation coordination scenario as a deviation from a baseline scenario. The shock illustrates the fact that fiscal consolidation in the United States can have an immediate and

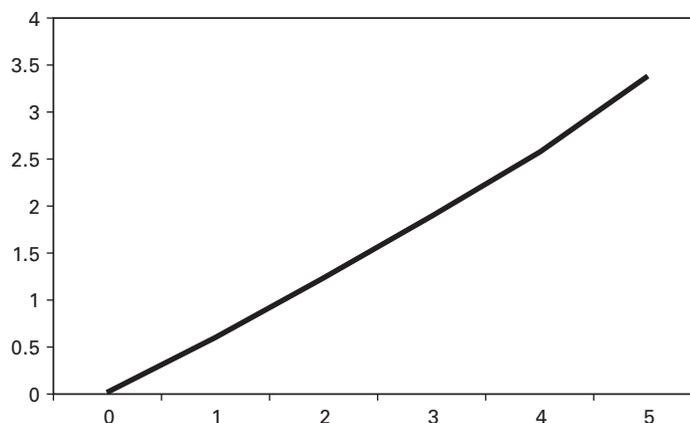


Figure 20.2
Coordinated implementation of country-specific measures: United States—fiscal balance (percent of GDP deviation from baseline)
Source: GIMF simulations

positive effect on the government-balance-to-GDP ratio provided it is combined with a productivity-enhancing structural reform. The current account also immediately improves and the improvement grows over time. The shock is having the desired effect on the United States with government balances improving and global imbalances diminishing.

The effect of the policies on the US economy is not quite so positive in the short run, even though the gain from the structural reform starts almost immediately as real interest rates fall in anticipation of the improvement in economic efficiency from the structural reform. The fiscal consolidation does create a small loss of GDP in the United States that lasts for about three years (figure 20.3). The loss occurs despite the increase in potential output from structural reforms. Essentially, the full gain from the structural reforms takes time to impact the economy, and without a source of additional demand in the short run, there is nothing to offset the reduction in demand coming from fiscal consolidation. Over time, however, investment rises significantly above baseline as firms respond to the rise in productivity. The investment contributes to demand but also puts in place the capital to create additional GDP that displaces slowing imports from China. By year five the US economy has more than made up for the output lost in the first three years of the simulation. The United States has effectively grown its way out of its fiscal problem and global imbalances have improved.

The US real interest rate is stubbornly high in the first year as monetary policy is not very accommodating despite the slowdown in the US economy. Eventually, however, the real interest rate falls in response to the slowdown of GDP, but the move is

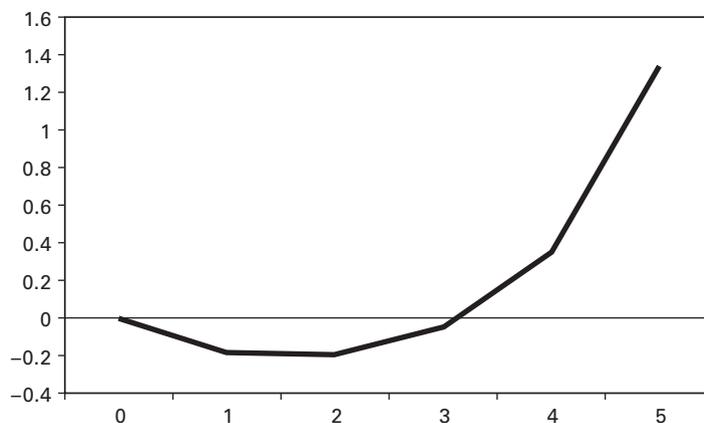


Figure 20.3

Coordinated implementation of country-specific measures: United States—real GDP (percent deviation from baseline)

Source: GIMF simulations

small reflecting the modest size of the slowdown. In effect the real interest rate is not contributing much to the dynamics of the simulation.

The US real effective exchange rate does the heavy lifting in the scenario. It depreciates significantly, which boosts foreign demand for the goods and services produced by the more productive American economy. It is the resulting increase in exports of American-made goods that lies behind the significant improvement in the American current account surplus seen in the earlier panel.

20.6.2 Euro Area

Fiscal consolidation in the euro area also results in improved fiscal and current account balances. However, the improvement is not so dramatic as for the United States owing to less assumed fiscal consolidation and stickier prices resulting in less depreciation of the real effective exchange rate. The improvement in the current account surplus is indeed significantly less than it is for the United States.

The euro area does not suffer a loss of GDP from the fiscal consolidations, unlike the United States, as the fiscal consolidation is smaller (figure 20.4). Nevertheless, the increase in real GDP after five years is similar to that in the United States, showing the effectiveness of productivity-improving structural reforms in Europe. The increase in investment in the euro area is less than that in the United States reflecting the relative bias toward reforms that improve labor force participation.

The real interest rate in the euro area rises only slightly in the scenario as monetary policy does not accommodate the shock. The real effective exchange rate

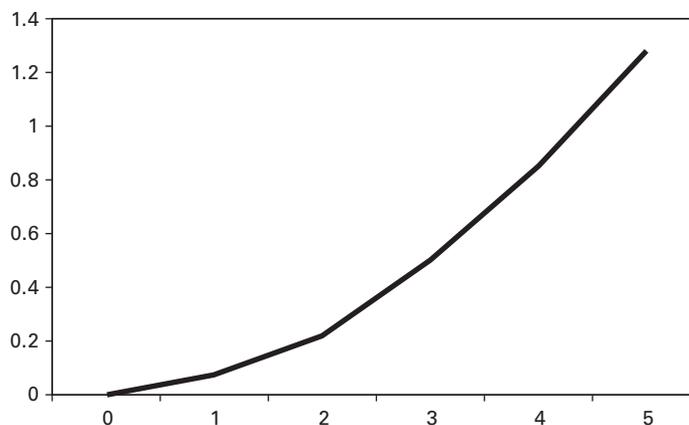


Figure 20.4
Coordinated implementation of country-specific measures: Euro area—real GDP (percent deviation from baseline)
Source: GIMF simulations

depreciates, raising foreign demand for European goods and services, but the depreciation is not as large as that in the United States owing to greater product market rigidities compared to those in the US economy. This explains why the current account balance in Europe did not improve as much as in the United States.

20.6.3 China

Fiscal reform in China has little effect on the Chinese fiscal balance as the policy was aimed at stimulating domestic demand and therefore had a significant increase in government expenditures that offset increased tax revenues. Global imbalances improve with the increase in domestic demand, resulting in a reduction in the Chinese current account surplus. The reduction in the current account surplus as a proportion of Chinese GDP is larger than that in the United States or the euro area as those economies are larger than the Chinese economy.

Despite reduced exports, China does not suffer any loss of GDP as increased domestic demand more than makes up for the lost foreign demand. Indeed, after five years the increase in Chinese GDP is proportionally greater than that in either the United States or the euro area (figure 20.5). This result illustrates the potential power of coordinated fiscal consolidation and structural reform policies in that all participating countries can be made better off. China also experiences a slowdown in investment spending as nontraded goods and services tend to be less capital intensive than traded goods and services.

The real interest rate rises significantly in China illustrating that the increase in GDP is not the result of easing monetary policy. In addition the real effective ex-

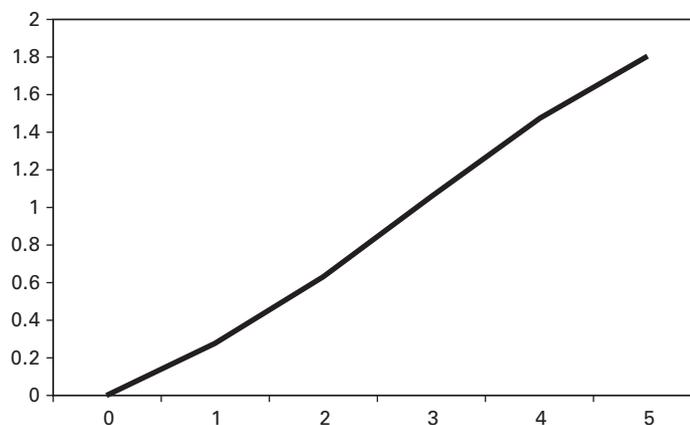


Figure 20.5

Coordinated implementation of country-specific measures: China—real GDP (percent deviation from baseline)

Source: GIMF simulations

change rate appreciates illustrating that the increase in GDP is also not the result of increased exports. Rather, the growth comes from increased domestic demand for consumption goods resulting from improved access to retail credit and the greater attractiveness of domestically produced goods to Chinese consumers. The rise in real interest rates and the appreciation of the real exchange rate reflects the improvement in the welfare of Chinese consumers.

20.7 Simulation Results of Coordinated Monetary and Fiscal Actions

The simulated scenario in this section illustrates the advantages of the international coordination of fiscal and monetary policies in avoiding the risk of deflation that could result from a fiscal consolidation that is not accompanied by offsetting policies to stimulate aggregate demand. The analysis uses the same six-region version of the GIMF used in the simulation above, but without the structural reform measures that stimulate aggregate demand but also increase potential output. Rather, the offsetting increase in aggregate demand is achieved by easier monetary policy.

The easing in monetary policy addresses two vulnerabilities associated with undertaking extensive and coordinated fiscal consolidation at a time when interest rates are already very low: (1) the high risk of deflation and (2) limited scope for a further easing in monetary policy by the traditional means of lowering the policy interest rate, in an environment where policy interest rates in the G3 economies have been near the zero lower bound over an extended period.

In the scenario the G3 monetary authorities implement easier monetary policy with two key measures. First, they simultaneously signal that to close output gaps more quickly they will tolerate paths for inflation that exceed their inflation targets over the near term. They do this by publishing inflation forecasts that exceed their inflation target for a period of time. Second, they pursue monetary policy quantitative easing by buying bonds from the government with the government then spending the newly created money via fiscal transfers.

The success of this strategy will depend on the ability of the central banks to effectively communicate that they are serious about raising the rate of inflation in the near term and that the higher rate of inflation is temporary and unacceptable in the longer run. With this assumed credibility, the stimulus to domestic demand from the monetary injection starts to eliminate output gaps quickly and reverses the downward momentum in inflation from fiscal consolidation. With the nominal policy rate at zero, the rising inflation reduces real interest rates providing additional stimulus to domestic demand.

An important point to note is that the G3 currency depreciation in the scenario helps close output gaps, but does not imply a loss in GDP below baseline in other countries. The increase in incomes in the G3 countries from the easing monetary policy results in an increase in demand for foreign goods that more than offsets the reduction in demand from the higher price of foreign goods owing to the depreciation. GDP growth in the world outside the G3 also increases, leaving all regions of the global economy better off.

20.7.1 United States

In figure 20.6 the solid line represents the baseline case before fiscal consolidation coordinated with monetary policy easing action. The dashed line represents the case with fiscal consolidation and monetary policy action. The simulation starts in 2012, which is a period of extremely low interest rates in the United States, so the monetary policy action takes the form of announcing a reduction in the weight on the goal of containing inflation in the short term and quantitative easing.

The tightening of fiscal policy has an immediate effect of bringing down the debt-to-GDP ratio in the United States. Surprisingly, the output gap closes faster with fiscal consolidation than without. Part of the reason for the relatively stronger economy is that the easing in monetary policy gives an additional boost to aggregate demand. But the simulation also shows that the high debt levels in the United States are becoming a drag on economic activity. And the higher inflation from the easier monetary policy reduces real debt burdens. The simulation shows that in a situation of high indebtedness, readjusting aggregate demand-management policy away from debt-augmenting fiscal policies and toward real debt-reducing monetary policies helps the economy find its maximum potential equilibrium more quickly.

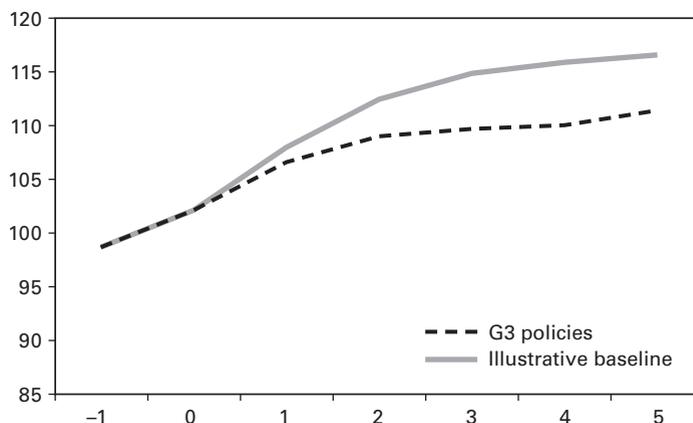


Figure 20.6

Coordinated monetary and fiscal actions: United States—debt-to-GDP ratio (percent of GDP deviation from baseline). The results in this section are created by developing an illustrative baseline scenario and then adding additional policies. Obviously these additional policies would need to be recalibrated if the baseline changes in response to new information about the economy or any new policies that are implemented. (For examples of applications using GIMF, see Kumhof and Laxton 2009a, b, c.)

Source: GIMF simulations

The increase in inflation from the easier monetary policy is noticeable but not dramatic. Inflation comes down from 2011 rates but does not drop below 2 percent per year, and it rises in the outer years of the simulation. In contrast, in the baseline scenario, inflation decelerates through 2013, reaching a low of about 1 percent per year, before rising toward 2 percent per year in the outer years of the simulation. This persistent, but short-term, higher rate of inflation reduces the real debt burdens of Americans, thereby reducing a drag on consumption.

20.7.2 Euro Area

The decline in the debt-to-GDP ratio in the euro area owing to fiscal consolidation is similar to that in the United States. The debt ratio in the euro area is not as high as that in the United States at the start of the simulation, and it starts to decline in the baseline owing to the fiscal consolidation that is already taking place, which means that public-sector indebtedness is on a clear downward track by the end of the fiscal consolidation simulation.

The coordinated policy combination of tighter fiscal policy and looser monetary policy closes the output gap in the euro area very rapidly. In part this is because the output gap in the euro area closes more quickly than that in the United States, since its gap is smaller to begin with. But also the inflation rate is higher in the euro area with this policy combination, so the real reduction in the debt burden is greater,

which has a greater effect on reducing the drag on consumption coming from a heavy indebtedness burden.

With the easier monetary policy, inflation in the euro area falls little in the near term and rises to just under 3 percent per year by 2015. This results in inflation persisting about its target level for a number of years, which could damage ECB credibility if not explained well.

20.7.3 Japan

Fiscal consolidation in Japan of a size suitable for the United States and the euro area barely makes a noticeable dent in their debt-to-GDP ratio, given that the debt-to-GDP ratio is initially high. Nevertheless, the easier monetary policy has the effect of closing the Japanese output gap within two years and sends the economy into a slight excess demand.

The effect on Japanese inflation is noticeable in that it rises to 2 percent per annum by 2014, when it stabilizes.

20.7.4 Remaining Countries

In the scenario the policy of coordinated fiscal consolidation and monetary expansion is limited to the United States, euro area, and Japan. The remaining countries of the world do not change their aggregate demand-management policies. Growth in the remaining countries is not much affected by the policy change as the increase in aggregate demand in the G3 regions is largely a short-term increase in the level of GDP. Inflation, however is persistently above what it is in the base case as inflation expectations around the world rise in response to the purposefully easier monetary policy in the G3 region.

20.7.5 World

The increase in GDP in the G3 region is sufficient to lift world GDP growth for two years. Subsequently some of the growth is given back as the increase in GDP is a level shift upward that has but a transitory effect on world growth.

20.8 Conclusion

The simulations in this chapter show that fiscal consolidation need not depress world growth, provided that it is accompanied by a package of significant fiscal reform, productivity-enhancing structural reform, and monetary policy easing. Such a policy mix can generate a virtuous circle that increases the potential of the economy and stimulates aggregate demand sufficiently to offset the negative short-run effects on growth of reduced government expenditures and higher taxes.

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