

IMF Working Paper

In Search of Lost Revenue:
Why Restoring Fiscal Soundness After a
Crisis is Harder than It Looks

Masato Miyazaki

IMF Working Paper

APD

**In Search of Lost Revenue:
Why Restoring Fiscal Soundness after a Crisis is harder than it looks**

Prepared by Masato Miyazaki

Authorized for distribution by Anoop Singh

June 2010

Abstract

This Working Paper should not be reported as representing the views of the IMF.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

This note argues that because fiscal deficit after a crisis owe much to a drop in tax revenues and a sluggish revenue growth, its adjustment has to rely more on revenue augmentation than commonly thought. Cutting extra spending in the wake of the crisis would not balance the book, while a natural growth of tax revenue after the recovery may take a long time before financing the pre-crisis level of expenditure. Faced with unpopular choices, the government may implicitly prefer seeing higher inflation.

JEL Classification Numbers: E62, H68

Keywords: fiscal deficit, exit strategy, tax

Author's E-Mail Address: mmiyazaki@imf.org

TABLE OF CONTENTS

Executive Summary	3
I Introduction	4
II A Simple Model to Illustrate a Fiscal Exit	5
III A More Realistic Model That Envisages Long Sluggish Revenue Growth	6
IV Application to Some Examples	10
V Policy Implications	15
VI Conclusion	17
References	18
Appendix	19

Executive Summary

Growth tends to be sluggish for a few years after financial crises, which suppresses tax revenues, creating huge fiscal imbalances. Tax intake drops during the crisis, but it remains depressed while the economic growth is yet to return to the pre-crisis trend.

When the economy eventually returns to the pre-crisis trend growth line, tax revenues may also rise at its pre-crisis trend rate, but the level of tax revenues is far below the pre-crisis levels. Other things being equal, there is no reason to suppose tax revenues can continue to increase faster than before the crisis to recoup the lost ground and close the fiscal gap.

In exiting from extra fiscal measures, the government (and taxpayers) tends to assume a fiscal gap would close on its own once discretionary measures are terminated and the economy recovers. On the contrary, because of the shift in the tax revenue's trend line, an end to extra measures would still not eliminate budget deficit. While it is commonly accepted that spending cuts produce superior results to tax increases in the process of fiscal adjustment, when tax revenue has moved to a lower new equilibrium a burden on spending cuts could become so great as to render it unfeasible. Thus, after a crisis, tax increases would be indispensable.

If the government relies largely on spending cuts while relying on a natural growth in revenues, fiscal consolidation may take much longer than currently thought, and political support may be elusive. Mechanical simulations in this note show that, even if post-crisis expenditure is cut drastically and kept frozen at the pre-crisis level in nominal terms, in some advanced countries it would take many years for tax revenue to rise from a lower base to fully finance expenditure (excluding interest payments), even with generous assumptions about the rate of tax growth. Longer years may be needed thereafter to reduce the debt ratio to GDP, depending on the growth rate and interest rates.

A higher nominal GDP growth, which influences the pace of increase in tax revenues, would also shorten the adjustment period. However, because it is difficult and takes time to implement structural reforms that would raise potential output, the government may welcome, if not instigate, higher inflation, with a hope that it would disguise the pain of fiscal consolidation from the population. If this route is taken by the government, the central bank will face a serious dilemma between sticking to its low inflation mandate and force the population to go through a long and harsh fiscal adjustment, which could undermine popular support to itself, and cooperating with the government and erode its reputation.

Introduction

As the panic of 2008 subsides and the economies throughout the world are gradually returning to a recovery path, attention is now on the fiscal fall-out from the crisis. In many advanced countries, fiscal deficits in 2008 and 2009 were unprecedented. In some countries chronic fiscal weakness, exaggerated by the crisis, has led to international rescue programmes involving the IMF, in others an exit from fiscal stimuli is beginning to appear on the political agenda, while yet in others the government is keen to give an impression to the market that it has credible medium-term plans for fiscal consolidation. In a few countries, despite announcements of tough measures, market suspicion about the fiscal sustainability has not been totally allayed.

There are debates about the pace of the exit, but they remain almost commonsensical. A premature exit is to be avoided, but if it is delayed too much market confidence may be eroded, resulting in high inflation and/or high premium on sovereign borrowing.

Little has been discussed, however, as to where we should exit to. This question is pertinent, because the fiscal deterioration in the past two years owes as much, if not more, to the decrease in tax revenues as to the increase in spending. Historically, according to Reinhart and Rogoff (2009), “the biggest driver of debt increase is the inevitable collapse in tax revenues ... in the wake of deep and prolonged output contractions.”¹ Taking history as guide, this note argues that returning to the pre-crisis fiscal position is likely to take many more years than currently expected, owing to the slow return to the ex ante revenue levels and lost revenues during the crisis. Since consolidation efforts need to be maintained for a longer period, risks of derailment will also be higher. The note will look at a few possible policy measures that may help shorten the necessary time for consolidation. Cutting spending and/or raising taxes are the most natural measures to restore fiscal soundness, but it argues that the magnitude and length of the required adjustment will be very difficult for the general public to accept, in particular in countries where the ageing-related expenditure is expected to grow further. The note therefore speculates that the governments will inevitably welcome, if not instigate, higher inflation, hoping that at least some of the adjustment cost could be disguised. It is a narrow path to benefit from higher inflation in promoting fiscal adjustment, while keeping market confidence in its policy credentials. Potential risks would increase, if the government fails to persuade taxpayers to the need for tax increases.

This note first looks at the conventional wisdom of fiscal consolidation after the crisis in a simplified manner (Section II), then takes into consideration the effects of slow growth of tax intake (Section III). Real life examples of Japan, the United States, and the United Kingdom will be touched upon (Section IV) before policy implications are discussed (Section V) and the conclusion presented (Section VI).

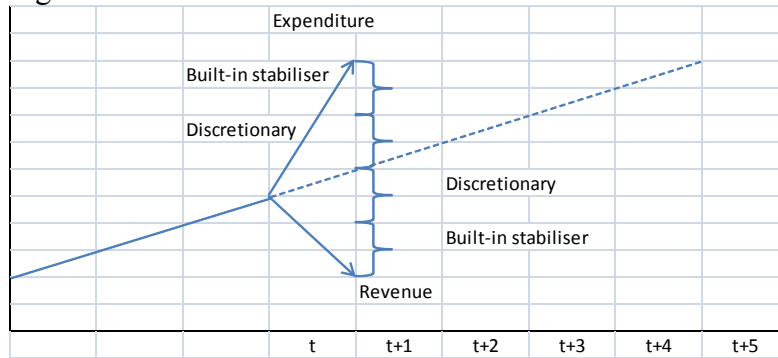
¹ Carmen M. Reinhart and Kenneth S. Rogoff, 2009, “This Time is Different: Eight Centuries of Financial Folly”, Princeton University Press, p.224.

I. A Simple Model to Illustrate a Fiscal Exit

During the latest crisis, a number of countries increased expenditure. Part of which was a result of automatic stabiliser, while the rest was due to discretionary spending. Similarly, in many countries tax revenues dropped, partly owing to the automatic stabiliser but in many cases taxes were also cut to stimulate consumption and investment. Here, a very simple model is presented to depict an exit from fiscal expansion in a way that is usually understood.

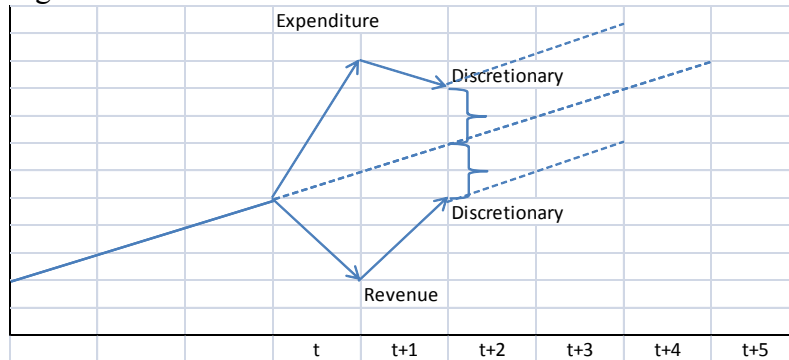
Assuming a balanced budget before the crisis, and assuming also that expenditure and revenue increase at the same rate as the economic growth, the figure 1 describes the initial impact of the crisis. It shows a jump in expenditure and a drop in tax revenue owing to the crisis at year t . For illustrative purposes, it is assumed that one half of the increase (in expenditure) and drop (in revenue) is due to the automatic stabiliser and the other half is discretionary.

Figure 1



Let us now assume that after one year from the crisis ($t+1$) the economy resumes a pre-crisis trend growth. The temporary effects of built-in stabiliser disappear, so that revenue grew faster, and expenditure slower, than the trend. Afterwards, revenue and expenditure are expected to resume an increase at the pre-crisis trend pace (Figure 2)

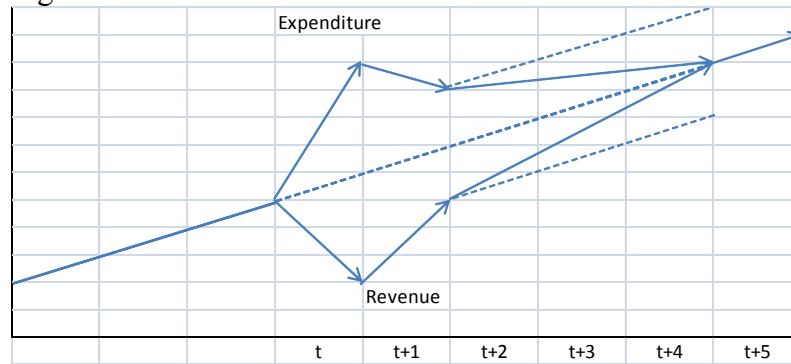
Figure 2



At the beginning of year $t+2$, confident that the recovery is well-trenched, the government starts to unwind discretionary measures. The only issue facing the government

now is at what speed the deficit should be narrowed, so that the fiscal condition can return to the balance *ex ante*. If, for example, it is decided that the fiscal gap is to be closed in three years at the point where the fiscal position should have been without the crisis, the expenditure should be contained considerably in nominal terms while the revenue (tax) needs to increase faster than its trend rate before the crisis. (Figure 3)

Figure 3



The combination of the termination of discretionary policies and the measured fiscal consolidation towards eventual elimination of the fiscal gap represents a successful “exit” which is being discussed of late. Naturally the speed at which the fiscal balance is restored can vary depending on the economic as well as political situation of the country in question, but it importantly presumes that after the consolidation (t+5), the real level of public services (expenditure) and the tax burden will be the same as one would have expected before the crisis. In other words, the standard of living can return to normalcy, cushioned by the accumulated public debt between t and t+5.

II. A More Realistic Model That Envisages Long Sluggish Revenue Growth

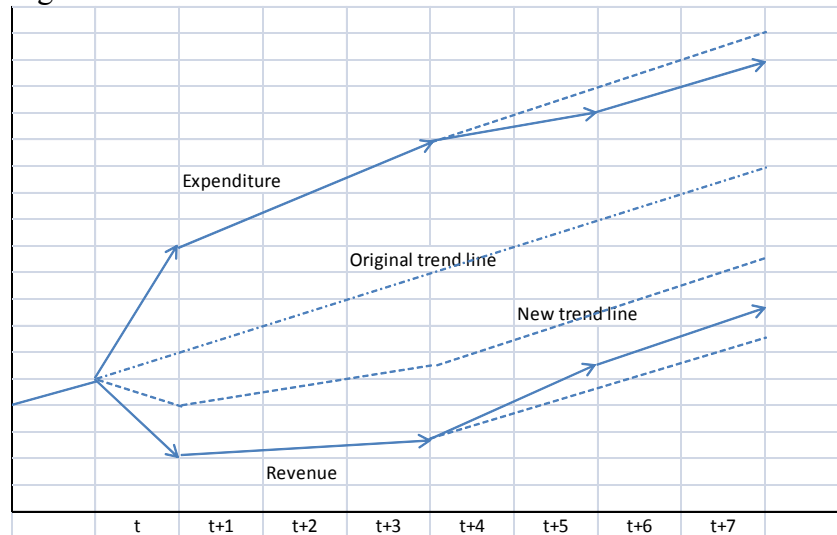
The somewhat simplistic view above needs to be adjusted to meet reality checks. As the World Economic Outlook in the autumn of 2009 argues, “the path of output tends to be depressed substantially and persistently following banking crises, with no rebound on average to the pre crisis trend over the medium term.”² In addition, even if the growth rate eventually returns to the pre-crisis trend line, “the medium-term output losses following banking crises are substantial. Seven years after the crisis, output has declined relative to trend by close to 10 percent on average.”³ In short, growth will return to the pre-crisis trend only very slowly and there will be a substantial loss in output in the meantime. Given the strong influence of growth on tax revenues and fiscal expenditure, a very depressed growth rate would complicate the fiscal situation for an extended period.

² World Economic Outlook, October 2009, International Monetary Fund, p.122

³ Ditto, p. 125

In a real world, a post-crisis recovery tends to be weaker for a few years before returning to the pre-crisis growth rate. This observation translates into a continued lower revenue growth and faster expenditure growth, owing to the remaining effects of the automatic stabiliser and also possibly to additional discretionary stimuli. (Figure 4)

Figure 4



Here, GDP growth drops in the year of crisis (t) and remains sluggish for 3 years before returning to the pre-crisis trend. Revenue also drops in t , and grew even slower than GDP growth in the following 3 years owing to, e.g., the built-in stabiliser and additional discretionary measures. When the economy returns to the trend growth, as the effect from the built-in stabiliser disappears, revenue should increase faster than GDP growth, but unlike the simple model above, it could take longer to dissipate the effect in the real world (i.e. longer than one year). Similarly, expenditure jumps in t , increases faster than GDP growth during the sluggish period, and then gradually dissipates the effect from the built-in stabiliser.

Thereafter, after $t+6$ in this model, the rates of increase of both revenue and expenditure would return to the pre-crisis trend rate, which would constitute a new equilibrium. How distant the new equilibrium from the old depends on the country. Structural changes tend to occur during a prolonged recession: for instance, corporate may reduce employees by shifting production base overseas, which could decrease income tax intake and increase unemployment benefit pay-out. Employment may shift towards temporary contract, with similar fiscal effects. If much revenue had been generated from financial or property transactions in the run-up to the crisis, it would be lost for a very long time, if not forever, after a bubble burst. On the other hand, there would be new start-ups and innovations, which could enhance tax revenues.

In any event, it is very unlikely that the new equilibrium would close the fiscal gap on its own. The government must therefore embark on fiscal adjustment at an opportune time. An attempt at speedier adjustment could derail the economic recovery, and shift the trend line further downwards, making the fiscal challenge even more daunting. On the other hand,

the market may not tolerate a seemingly slow progress, penalising the government by imposing higher borrowing costs.

The model presented here is admittedly very simplified. For instance, it implicitly assumes that the fiscal gap needs to be closed, as before the crisis. But, in reality, most countries (especially advanced countries) entered the crisis already with a sizeable deficit. It may also be argued that closing a fiscal gap is not necessary as long as the debt-to-GDP ratio remains stable at an appropriate level. That said, if a country's debt-to-GDP ratio is already high and/or its long-term interest rate is higher than the nominal GDP growth rate, the country needs not only to close a fiscal gap (excluding interest payment) but also to record primary surpluses for a number of years. In such cases, adjustment would naturally be more painful to the public than a mere return to a balance envisaged in the model.

The model also ignores feed-back effects from a progress in fiscal adjustment: it is reported that in a number of countries fiscal consolidation raised GDP growth, especially when the adjustment relied more on spending cuts. As such, the new trend line in this model could move up as the adjustment proceeds. On the other hand, the extent of positive feedback may be limited if, for instance, the country in question already has relatively low long-term interest rate.

Finally, the model did not adopt a cyclically-adjusted approach, because there could be large structural changes following a deep crisis such as the latest one, making it difficult to make a judgment on the elasticity for tax revenue and spending. Moreover, because this note focuses on political economy of fiscal adjustment, more precisely the pain felt by the general public, cyclical adjustment does not have much sense: higher tax would not be less painful to ordinary people, if they are told this year's cyclically-adjusted deficit is smaller than last year.

Finding empirical evidence is unfortunately hampered by the lack of coherent data. While growth rates of nominal GDP and tax before and after the crisis for 73 cases since 1990 up to the latest crisis were examined, it is very difficult to draw a statistically meaningful observation owing to evident data problems, apart from noting a few cases that appear to fit the model presented here, including Argentina (1995), Croatia (1998), the Philippines (1997), Sweden (1991), and Thailand (1997).⁴ (Appendix)

However simple, the model reinforces important messages.

First, it shows that economic recovery is key to fiscal adjustment. Yet, even after the growth rate returns to the pre-crisis trend, the fiscal gap cannot be expected to close on its own. The problem is even harder to solve, because, in real life, the expenditure (especially

⁴ 73 cases are within the 115 systemic banking crises identified by Luc Laeven and Fabian Valencia, 2008, "Systemic Banking Crises: A New Database," IMF Working Paper 08/224, International Monetary Fund

social welfare-related spending) could increase faster than nominal GDP growth, in particular in the advanced, fast ageing economies.

Second, it is argued that adjustment through spending cuts produces superior and long-lasting results compared to efforts through tax increases, because spending cuts enhance credibility in government commitment towards fiscal adjustment, and also improve efficiency on the supply side including by containing unit labour cost. But, when the fiscal deterioration after a crisis is so insurmountable, emphasis on spending cuts could undermine, instead of enhance, government commitment. Unlike fiscal adjustments in normal times, cutting bloated government spending and increasing efficiency would bring the fiscal position nowhere near the balance. Spending cuts are still prerequisite, but it is an illusion to think that spending cuts alone would go a long way towards adjustment. Given the new, lower equilibrium for the revenue, if the government tries to align the expenditure to the level of the revenue, it will mean a huge deterioration in benefits, investment, etc. provided by the public sector. Many democratically-elected governments will find it difficult to “sell” a package that consists of far lower public services and constant (or even higher) tax burdens to the taxpayers.

Third, on the other hand, it will be also difficult to “sell” a package that consists of the same level of public services and far heavier tax burdens. Taxpayers will justifiably ask why they have to pay extra to enjoy the same public services. They may conclude that the extra tax burden became necessary to cover extra spending, perhaps to assist banks. Thus they may request banks to finance the cost of their rescue. Or, they may request the government to eliminate wasteful spending. Or, they may request tightening tax loopholes that presumably benefit the rich. The truth is, although these claims have merit, taxpayers still have to pay more taxes simply to get the same public services, because the problem is not the extra spending that had to be financed but the shift of the trend line for tax revenues, and because it is difficult for revenues to automatically move from this new equilibrium back to the old equilibrium.

III. Application to Some Examples

There is a perfect contemporary example of a lengthy sluggish revenue growth in Japan. At the same time, some concerns are expressed for the ability of the United States and the United Kingdom to restore fiscal soundness quickly. In this section, three countries' recent experience is exhibited, and their future paths are extrapolated in a simple, mechanical manner.⁵

(1) Japan

Japan's fiscal difficulties in the past few decades are well known.⁶ Since the stock market and property bubbles burst in 1991-1992, there have been a number of stimulus packages that include both spending and tax measures. At the same time, whenever the economy showed signs of robust recovery, attempts were made to narrow the fiscal gap. These attempts were mostly in the form of spending cuts, owing to the political reticence to campaigning for unpopular tax increases in the face of chronic deflation.

As a result, expenditures were practically frozen in nominal terms for a decade until 2008. Tax revenues, however, collapsed since 1998 until 2003, and gradually increased until 2007. The collapse of revenue was partly owing to the sluggish growth, partly to structural changes, and partly to the repeated tax cuts. Then, expenditure shot up and revenue fell dramatically again in 2009 as the global financial crisis hit the Japanese economy.

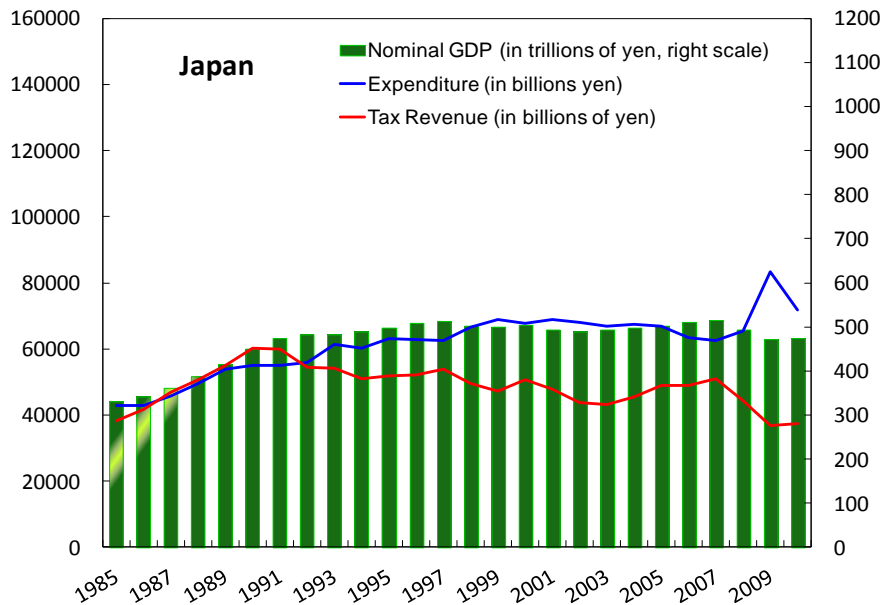
If the model set out above is applied, it took tax revenues until 2003 to reach a new equilibrium, from where they started to increase. The pace of the increase was higher than nominal GDP growth: between 2003 and 2007, nominal GDP grew on average by 1.1 percent annually, while tax revenue increased by 4.2 percent with few changes in tax codes. A simple calculation suggests that, if the expenditure had been frozen in nominal terms at the level of 2003, revenues should have eventually exceeded it after 11 years, i.e. in 2014, assuming a constant annual revenue growth of 4.2 percent. Of course, it is difficult to freeze spending for such a long time. There will likely be cyclical movements, which would initiate the built-in stabiliser to work. There indeed came something more than a cyclical movement: a global crisis in 2008-2009, which saw a jump-up in expenditure and a drop in revenue, derailing years of adjustment efforts. Thus, the government now needs to start a fresh consolidation effort, testing the patience of the population.

⁵ For Japan, the figures are for the general account. Revenue excludes non-tax revenues, while expenditure excludes the transfer to the sinking fund. For the United States, the figures are for on-budget. Revenue excludes non-tax revenues, while expenditure excludes interest payments for national debt. For the United Kingdom, revenue consists of taxes and social security contributions, while expenditure excludes interest payments for national debt. The 2010 figure for all three countries are derived from the respective budgets.

⁶ For an overview of Japan's fiscal consolidation efforts since the 1970s, see Miyazaki (2006).

Looking at the present situation, it is not clear whether the fall in tax revenues from the latest financial crisis has reached a new equilibrium. Hence, it is difficult to say whether fiscal adjustment should begin or wait. That said, for the sake of illustrating the challenges ahead, a simple scenario analysis may be useful. Of course, a long-term fiscal projection needs to be more elaborated, if accuracy is pursued. Yet, the purpose here is not to make a forecast, but to demonstrate a rough magnitude of the challenges in the near future by conducting a mechanical simulation.

Chart 1: Revenue, Expenditure and GDP in Japan



(Source: the Ministry of Finance, Japan)

It is assumed that, from 2011, tax revenue grows annually by 4.2 percent, the average growth rate between 2003 and 2007, and expenditure is reduced by 13 percent in 2011 to the pre-crisis level (in 2007) and kept frozen in nominal terms thereafter.⁷ In this simple example, expenditure will be financed by tax revenues alone only in 2024, i.e., 13 years after the start of fiscal adjustment.

Given the difficulty in freezing expenditure in nominal terms, especially in a country of rapid ageing⁸, and given the likely cyclical disruptions during such a long period, this

⁷ Spending cuts may be spread over the adjustment period, though it will raise the debt-to-GDP ratio higher.

⁸ In theory, keeping the expenditure constant under the deflationary conditions, in which Japan remained, means a real increase in expenditure, and thus there should be room for further nominal cuts in spending. In practice, however, nominal reduction in entitlement proved difficult. For instance, until 2004 Japan's pension payment was linked to previous year's CPI development, so when CPI began to decline in 1999, pension allowance should have been reduced. However, in the face of strong political resistance, the government kept the allowance unchanged for 3 years until it was cut, for the first time, by 0.9 percent in 2002. Cumulatively, the pension allowance should have been reduced by 1.7 percent between 1999 and 2001. On the other side of the

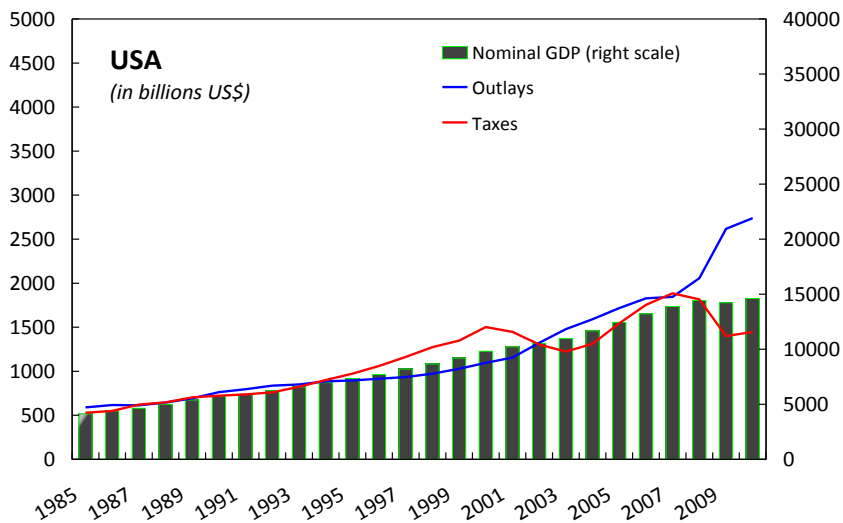
(continued...)

simulation demonstrates the importance of taking pro-active measures to narrow the fiscal gap as quickly as possible, especially on the revenue side. Because over-sized fiscal deficits have been financed without disruption in Japan for many years, changing the existing balance between cost (tax burden) and benefit (level of public services) would likely meet strong dissatisfaction from the population, requiring steely political determination with nimble flexibility with due regard to economic development.

(2) The United States

Tax revenue began to increase faster than GDP growth in the late 1990s, but declined from 2001 until 2003, owing partly to the burst of the IT bubble and to the phased implementation of the Bush tax cuts. As the economy recovered and then created another bubble in housing, tax revenues recorded another fast increase until 2007. The average rate of increase in tax revenues between 1995 and 2000 was 9.1 percent, while between 2003 and 2007 was 11.4 percent, when nominal GDP grew by 6.0 percent and 6.1 percent respectively. Although the US economy has begun to show signs of recovery, it is unclear when such a robust revenue growth will return, especially if such high growth was a result of unsustainable economic and financial activities, i.e. a bubble.

Chart 2: Revenue, Expenditure and GDP in the United States



(Source: Historical Tables 2010, the Office of Management and Budget)

The growth in expenditure slowed in the late 1990s, and accelerated in the early 2000s, but, over the long-term expenditure increased almost in line with nominal GDP growth. Between 1985 and 2007, expenditure grew on average by 5.1 percent, while nominal GDP grew by 5.7 percent. A rise in spending since 2007 is more dramatic, amounting to an increase of 39 percent in three years. While there is no doubt that measures will be taken in

coin is that under the deflationary conditions increasing tax burdens in nominal terms will be felt even heavier by taxpayers.

the next few years to contain and turn around the increase in expenditure, it is not clear how far and how soon the expenditure can be pared back.

To demonstrate the challenge, as in Japan, it is assumed that, from 2011, tax revenue grows annually by 10.3 percent, average of the two best periods of revenue growth as described above, while expenditure is reduced by 32.6 percent to the pre-crisis level (in 2007), and kept frozen in nominal terms thereafter. Even under this unrealistic scenario, expenditure can be financed by tax revenues alone only after 3 years.

Perhaps more realistically, let us assume that expenditure will be reduced to the 2007 level in real terms, while tax revenue will grow by a long-term average of 7.2 percent annually from 2011.⁹ In this scenario, it has to wait until 2016 for tax revenue to exceed expenditure. Even if the economy is already robust enough to withstand spending cuts of such magnitude, some sort of tax increase, maybe beyond the termination of the Bush tax cuts, appears necessary to regain fiscal soundness relatively quickly.

(3) the United Kingdom

Taxes and social contributions grew faster than nominal GDP in the late 1990s and in the second half of the 2000s, which may have reflected an increase in financial activities and a property boom. On the other hand, expenditure grew slowly throughout the 1990s, while it increased much faster than the economy in the 2000s. In 2009, expenditure is estimated to have increased by 9.2 percent, and the budget indicates an increase of another 11.2 percent in expenditure in 2010. The revenue is estimated to have fallen by 8.2 percent in 2009, in line with the sharp slowdown of the economy, and also owing to the shrinkage of financial activities and to the reduction in the VAT rate. On the other hand, the 2010 budget expects an increase of 1.8 percent in the revenue in 2010.

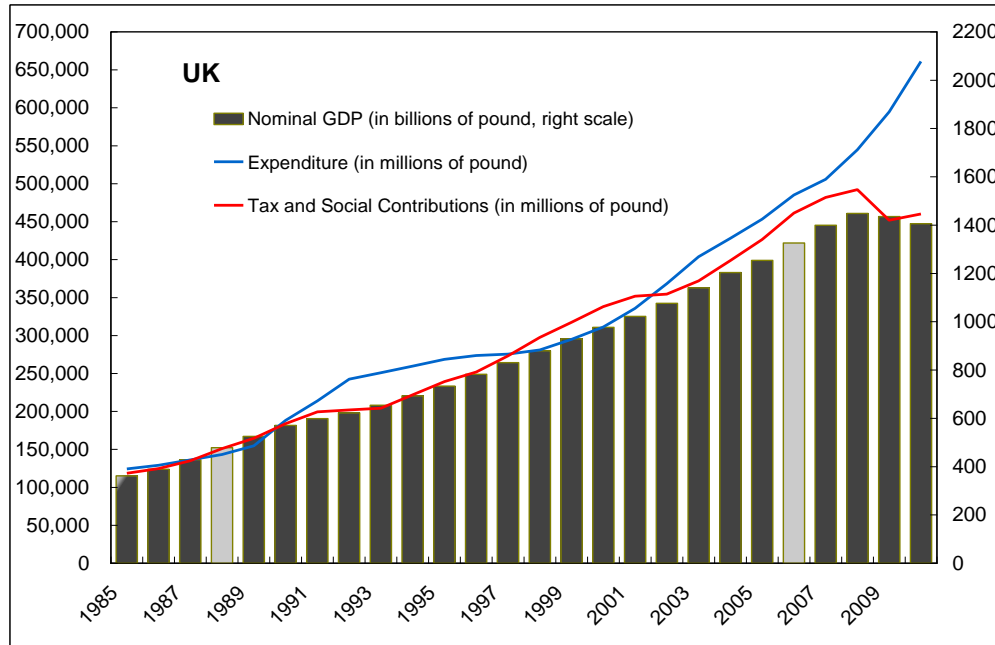
The average rate of increase in tax and social contribution revenues from 1985 to 2008, the last year of the increase in the revenues, is 6.4 percent. If the government manages to reduce expenditure to the pre-crisis, 2007-level in the 2011 budget, a reduction of 23.5 percent from the 2010 budget, and if the revenues increase by 6.4 percent from 2011, the annual tax and social contribution revenue will soon exceed the expenditure in 2012, making it the shortest adjustment period among the three countries. Even if the expenditure is reduced only to the real 2007 level, the revenue would exceed it in 2014. Such short adjustment periods are counter-intuitive, given the tone of recent press reports. It may be explained by a relatively small fall in the revenues compared to the other two countries, which may reflect differences in the tax structure.¹⁰ Of course, the above calculations assume

⁹ The long-term tax growth (7.2 percent) is over the period between 1985 and 2000. To calculate the 2007 expenditure level in real terms, CPI in the World Economic Outlook (2010) is used, so that inflation from 2011 onward is fixed at 1.7 percent. The real 2007 expenditure in 2016 is 29 percent smaller than the real 2010 expenditure in the same year.

¹⁰ Between 2007 and 2010 budget, the revenue fell by 26.7 percent in Japan, 23.2 percent in the United States, but only 4.5 percent in the United Kingdom, where the revenues still increased in 2008.

a turn-around in the revenue in 2010: there is still a possibility that a new revenue equilibrium has not been reached yet.

Chart 3: Revenue, Expenditure and GDP in the United Kingdom



(Source: Time Series Data - Public Sector Finances, Office for National Statistics)

(4) Some observations

As for the United States and the United Kingdom, if the expenditure is reduced to the pre-crisis expenditure level (in 2007), a natural growth in tax revenues seems to take care of the fiscal adjustment in relatively short periods. This may sound good news. The bad news, however, is that the magnitude of spending cuts required is in fact substantial: 6 percent of GDP in the United States, and 11 percent in the United Kingdom. Achieving spending cuts of such magnitude, even including build-in stabilizers and spreading over some years, would not be easy. As for Japan, the initial budget for 2010 envisages a decrease in spending compared to the estimated outturn for 2009, although it is customary that subsequent revisions to the budget would result in much larger spending and/or lower tax intake. Thus, the amount of spending cuts that would be required to return to the 2007 level could end up much greater than that envisaged here (2 percent of GDP) based on the 2010 budget. The required cuts calculated in this note for the three countries appear much greater than the successful cases shown in Alesina and Perotti (1997), putting a question mark on their feasibility.¹¹

¹¹ Alberto Alesina and Roberto Perotti, 1997, "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects", IMF Staff Papers Vol. 44, No. 2. The authors describe that successful fiscal

(continued...)

In all three cases, therefore, spending cuts may not proceed as expected. The strength of the recovery could also limit the prospect for a large reduction in expenditure. If such large cuts cannot be made in a timely manner, even a buoyant tax revenue growth in line with the pre-crisis trend would take longer to close the fiscal gaps in these countries. It would take even longer, if tax revenues remained sluggish for a while before finding a new trend growth rate, as argued in this note. On the other hand, compensating the shortage of spending cuts by larger tax increases would not only delay the recovery, but also face political difficulties because tax payers tend to prefer spending cuts which could fall on someone else to tax increases which would unmistakably affect their own pockets.

IV. Policy Implications

In many advanced economies, expansive fiscal policy has been critical in cushioning the blows incurred by the global financial crises. As the recovery takes hold, present policy discussions tend to focus on when and how to exit from such extraordinary measures, as if removing these measures would return the fiscal conditions back to the pre-crisis days in a steady manner. As discussed above, however, this is unlikely to be the case. Moreover, given the natural resistance from the public towards changes in the balance between cost (tax burden) and benefit (public services), plans to reduce budget deficit annually at a pre-determined pace, say by 1 percent of GDP every year, could frequently become subject to revisions driven by political necessity to keep and renew support from the public

In addition, closing a budget deficit in one year may not be enough to recover fiscal soundness. In many countries where lowering the debt to GDP ratio is required to ensure a long-term fiscal sustainability, consolidation efforts must go on for long to accumulate primary surpluses after the budget gap (excluding interest payments) is closed.

This is a very tall order. As discussed above, tax increases are indispensable to fiscal adjustment after a crisis, though voters are more likely to resist them as opposed to a proposal for spending cuts. Worse, such adjustment needs to be maintained for a long period, with rising tax burdens and declining (or at least stalled) public services including social entitlements. It may pose an insurmountable political difficulty to any governing parties. Yet, ignoring the problem by continuing to rely on borrowing will not be sustainable: sooner or later, the market will force the government to face up with tough choices.

It is easy, and right, to state that these economies should have been well prepared before the crisis by reforming entitlement systems etc. Yet, saying “prevention is better than cure” to a critically ill patient is not a very productive move. What, then, can be done *ex post*, once the economic recovery is firmly on track? There may be a few ways to help limit the pain that needs to be borne by taxpayers.

adjustment cases in OECD countries involve, on average, a cut in cyclically-adjusted primary expenditure of 2.1 percent of GDP and tax increase of 0.8 percent of GDP.

First, the government should raise non-tax revenues as much as possible, depending on the country-specific conditions. Sale of the government-owned assets, including state-owned enterprises, should be accelerated, while paying due attention to avoiding unwarranted market disruptions. Contributions from the central bank to the revenue could be increased. Charges to public services may also be raised, to the extent that it will not discourage the disadvantaged segment of the population from requesting rightful services. That said, there is a limit to what and how much the government can collect as non-tax revenues.

Second, the tax system can be reformed so that more taxes will be collected with the same economic activity. For instance, the tax base can be broadened and exemptions can be reduced. These are desirable measures on their own right. The problem is that taxpayers justifiably see them as a tax increase without much benefit in return, which may oblige them to save more or spend less, affecting a recovery path.

Third, the government can rationalise expenditure, so that the same public services may be provided at a smaller cost. For instance, procurement rules can be changed to allow more efficient start-up corporations can win government contracts. There should be scope for more outsourcing of government services. Further IT modernisation may also bring down costs. Such efficiency gains should be pursued with full vigour, though their effect on containing expenditure will be relatively modest compared to the magnitude of the problem. For example, even if the Japanese government fires all civil servants working for the central government to realise ultimate efficiency gains, it will reduce the expenditure by only 5 trillion yen, while the fiscal gap is more than 34 trillion yen. Who will take care of the remaining deficit in the following years is also a legitimate question.

Fourth, the government therefore would look beyond simply trying to raise more revenues or reduce spending in a given economic situation: it can aim at achieving higher real GDP growth. Again, this is a right goal for all governments, with or without fiscal problems. It could also contribute to rebalancing of the growth pattern among major economies. However, it is always difficult to implement structural reforms that will raise the productivity of the economy, such as deregulation, labour market reforms and financial sector reforms, because they must tackle vested interests within society. Even if these reforms are implemented quickly, it is unclear how soon their effects on real growth would be felt and tax revenues enhanced, which could undermine popular support for such reforms down the road.

Fifth, the government could then implicitly encourage higher inflation, with the hope that nominal GDP growth, and hence tax revenues, would be higher than otherwise. A rise in inflation is also seen to reduce the real debt burden of the government, especially when the country is in deflationary conditions. It would be more effective in narrowing a fiscal gap, if price-indexed entitlements on the expenditure side were reformed in parallel, so that higher inflation would be only partially reflected to the payout. Needless to say, this is a dangerous path, which of course hurts segments of the population, notably the poor and the aged (pensioners). Moreover, it is unclear whether inflation can be created even if desired. Efforts in that direction could result in damaging imbalances elsewhere in the economy. It is also

unclear whether inflation can really reduce real debt burden in the long run, if the market demands higher premium to compensate for higher inflation.¹² Still, because of the expected high political cost of alternatives (long and harsh spending cuts, outright tax increases, resistance to structural reforms, etc.), governments may be inevitably attracted to it, effectively passing on the hard decision on tax increase and spending cuts to future governments. Should this route be adopted by the government, the central bank would be placed in a delicate position. An independent central bank can preempt the government's wish by monetary tightening. But, if a long and harsh fiscal tightening is attributed to the central bank's intransigent pursuit of low inflation, popular support to its mandate and independence could be undermined. Then the government's problem would turn to the central bank's dilemma.

V. Conclusion

Crises not only take away a large portion of tax revenues, but they are also likely to depress tax intake for a number of years ex post. Even when the economy and tax revenues begin to grow at their pre-crisis pace, the revenues do not match the expenditure levels that have been taken for granted by the population. Therefore, an "exit" from fiscal expansion during the crisis to a budget balance must mean more than simply terminating temporary measures. The end of temporary spending increase, or tax reduction, will not lead to a budget balance, but to a continued fiscal hole. Thus, expenditure needs to be lower, and, more importantly, taxes higher, than before the crisis.

It will be painful, and maybe incomprehensible to many taxpayers who may think that their living standards (public benefits and its costs) should return to the pre-crisis state after the shock. The government would aim at collecting more taxes with the same GDP growth, or at raising nominal GDP growth itself. For the latter, because it is difficult to raise real growth in a short term, it may inevitably be attracted to turn to higher inflation. If this course is selected by the government, consciously or unconsciously, the central bank will face a serious dilemma as to whether it should cooperate with the government or it should alienate the population by sticking to low inflation and thus appear to forcing them to go through harsh fiscal entrenchment.

¹² IMF (2010) argues that because the real benefit from higher inflation is limited, and because using higher inflation for debt reduction would carry major costs and risks, this option should not be included in the policy mix. Strategies for Fiscal Consolidation in the Post-Crisis World, IMF Policy Paper, February 4, 2010

References

Alberto Alesina and Roberto Perotti, 1997, “Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects”, IMF Staff Papers Vol. 44, No. 2

Carmen M. Reinhart and Kenneth S. Rogoff, 2009, “This Time is Different: Eight Centuries of Financial Folly”, Princeton University Press

Luc Laeven and Fabian Valencia, 2008, “Systemic Banking Crises: A New Database,” IMF Working Paper 08/224,

International Monetary Fund, 2010, “Strategies for Fiscal Consolidation in the Post-Crisis World”, IMF Policy Paper

Masato Miyazaki, 2006, “Framework for Fiscal Consolidation: Successes and Failures in Japan”, OECD Journal of Budgeting, Volume 6 – No4.

World Economic Outlook, October 2009, International Monetary Fund

Resources

“Settlement of Accounts” 1985 to 2009, and “Budget for 2010”, Ministry of Finance, Japan

“Time Series Data - Public Sector Finances”, Office for National Statistics, the United Kingdom

“Historical Tables 2010”, the Office of Management and Budget, the United States

“International Financial Statistics Database”, the International Monetary Fund

Estonia	Nominal GDP	1992	n/a	n/a	n/a	n/a	n/a	37.4	38.1
	Tax		n/a	n/a	n/a	538.9	116.2	66.0	28.1
Finland	Nominal GDP	1991	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		19.5	13.6	4.4	-4.5	0.5	-3.2	10.0
Georgia	Nominal GDP	1991	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Guinea	Nominal GDP	1993	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		29.8	14.6	31.5	n/a	n/a	n/a	n/a
Guinea-Bissau	Nominal GDP	1995	-18.5	12.1	91.8	-1.4	9.5	20.0	-25.3
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Guyana	Nominal GDP	1993	51.6	148.7	19.9	26.5	27.5	17.1	12.2
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Haiti	Nominal GDP	1994	8.6	5.8	32.5	55.5	14.0	32.3	15.8
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hungary	Nominal GDP	1991	17.4	19.6	21.3	19.6	17.8	20.6	23.0
	Tax		17.3	13.3	18.3	10.9	16.1	21.9	18.5
India	Nominal GDP	1993	17.0	14.9	14.6	14.8	17.9	17.7	15.7
	Tax		11.5	17.0	10.8	0.2	23.4	20.5	15.8
Indonesia	Nominal GDP	1997	15.9	18.9	17.2	17.9	52.3	15.1	26.4
	Tax		31.7	16.8	7.4	32.6	42.2	24.2	n/a
Jamaica	Nominal GDP	1996	38.2	32.9	28.1	18.7	8.5	7.8	7.9
	Tax		55.0	30.5	30.0	12.9	7.8	11.7	11.2
Japan	Nominal GDP	1997	1.0	1.4	2.0	2.1	-2.1	-1.4	1.1
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Kenya	Nominal GDP	1992	13.5	14.0	14.7	17.9	26.1	20.1	16.2
	Tax		11.8	21.2	23.2	2.6	19.9	59.3	14.3
Korea, Republic of	Nominal GDP	1997	17.0	17.2	12.5	9.5	-1.4	9.4	13.9
	Tax		19.0	20.0	16.4	8.4	n/a	n/a	n/a
Kyrgyz Republic	Nominal GDP	1995	700.9	622.4	124.5	34.3	44.9	31.1	11.4
	Tax		n/a	n/a	121.7	37.9	21.2	30.3	26.7
Latvia	Nominal GDP	1995	600.8	46.0	39.2	15.6	19.7	16.1	9.3
	Tax		n/a	n/a	n/a	17.4	22.6	33.0	12.8
Lebanon	Nominal GDP	1990	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Liberia	Nominal GDP	1991	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		18.2	n/a	n/a	n/a	n/a	n/a	n/a
Lithuania	Nominal GDP	1995	n/a	n/a	52.9	58.6	25.2	20.2	11.1
	Tax		n/a	n/a	63.6	42.1	26.1	42.3	12.0
Macedonia	Nominal GDP	1993	n/a	n/a	n/a	n/a	147.5	15.8	4.1
	Tax		18.2	n/a	n/a	n/a	n/a	n/a	n/a
Malaysia	Nominal GDP	1997	13.5	13.8	14.1	11.1	0.5	6.2	18.5
	Tax		17.3	11.1	13.3	6.6	n/a	n/a	n/a
Mexico	Nominal GDP	1994	28.5	18.6	11.6	13.1	29.4	37.5	25.7
	Tax		26.8	20.0	10.2	8.8	27.0	36.8	28.7
Nicaragua	Nominal GDP	1990	n/a	n/a	n/a	n/a	n/a	24.1	19.9
	Tax		n/a	n/a	5244.0	6380.3	3159.8	36.8	13.0
Nicaragua	Nominal GDP	2000	14.1	18.3	16.9	13.0	10.4	4.0	8.0
	Tax		26.0	25.1	14.8	16.3	n/a	n/a	n/a
Nigeria	Nominal GDP	1991	33.4	54.8	15.9	24.3	69.7	27.6	30.4
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Norway	Nominal GDP	1991	4.7	6.7	5.8	5.4	2.8	5.1	4.8
	Tax		1.6	2.1	7.6	6.1	0.4	2.3	8.2
Paraguay	Nominal GDP	1995	17.1	21.0	20.6	19.8	13.7	7.3	11.7
	Tax		29.9	12.7	34.0	35.8	4.7	7.8	11.1
Philippines	Nominal GDP	1997	14.8	12.6	14.0	11.7	9.8	11.7	12.7
	Tax		17.9	14.5	18.5	12.0	1.1	3.6	6.6
Poland	Nominal GDP	1992	299.3	373.5	44.4	42.1	35.5	44.5	49.8
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	33.9
Romania	Nominal GDP	1990	0.8	1.4	-6.6	7.2	156.9	173.6	232.3
	Tax		1.9	3.0	6.1	179.7	173.1	174.9	198.1
Russian Federation	Nominal GDP	1998	135.8	39.7	17.4	9.8	87.5	51.5	23.0
	Tax		n/a	n/a	n/a	n/a	84.5	76.0	33.4

São Tomé and Príncipe	Nominal GDP	1992	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sierra Leone	Nominal GDP	1990	184.9	52.7	62.7	76.3	134.1	47.4	28.5
	Tax		239.3	51.8	92.2	46.2	229.0	99.9	50.1
Slovak Republic	Nominal GDP	1998	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		n/a	n/a	5.0	4.7	4.2	10.5	0.8
Slovenia	Nominal GDP	1992	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Tax		n/a	n/a	n/a	n/a	46.5	28.2	19.2
Swaziland	Nominal GDP	1995	14.8	21.0	13.6	22.3	11.8	14.8	9.2
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sweden	Nominal GDP	1991	9.1	11.0	9.9	7.8	-0.2	2.9	6.7
	Tax		10.1	11.5	13.2	-1.1	-0.9	-13.4	0.9
Thailand	Nominal GDP	1997	14.7	15.3	10.1	2.6	-2.2	0.2	6.2
	Tax		17.9	17.0	12.0	-1.9	-14.4	-3.7	8.6
Togo	Nominal GDP	1993	2.5	2.4	-2.1	-20.6	54.9	40.9	9.5
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tunisia	Nominal GDP	1991	7.8	10.7	12.8	11.2	13.9	7.0	7.8
	Tax		6.9	12.8	15.0	10.8	14.2	9.2	10.3
Turkey	Nominal GDP	2000	95.2	143.5	49.0	59.3	44.1	45.9	29.8
	Tax		144.7	92.1	56.1	67.1	56.7	n/a	n/a
Uganda	Nominal GDP	1994	39.3	66.1	8.4	30.5	15.7	9.4	11.5
	Tax		n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ukraine	Nominal GDP	1998	352.9	49.5	14.5	9.9	27.1	30.4	20.1
	Tax		n/a	n/a	n/a	n/a	n/a	33.3	15.6

(Source: International Financial Statistics Database, the IMF)