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Raising the Consumption Tax in Japan: Why, When, How?

A Team led by Michael Keen, Mahmood Pradhan, Kenneth Kang, and Ruud de Mooij

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EXECUTIVE SUMMARY

Japan faces a difficult road in restoring its fiscal health. Over the past two decades, Japan's gross public debt has more than tripled, to well over 200 percent of GDP. While social security spending has risen rapidly as a result of population aging, persistently weak economic growth has been associated with a fall in tax revenue (relative to GDP) to below mid-1980s pre-bubble levels. With limited room to reduce non–social security expenditure and spending pressures from an aging society, new revenue measures must play a central role in a medium-term strategy to bring down Japan's high level of public debt.

Among various revenue measures, raising the consumption tax is the most appealing. At just 5 percent, the rate of the consumption tax is among the lowest in the world and because it is broad based, by international standards, there is ample scope for raising additional revenue by raising the rate. Staff analysis reported here suggests that a gradual increase in the consumption tax from 5 percent to 15 percent over several years—a level that is still modest by OECD standards—could provide roughly half of the fiscal adjustment needed to put the public debt ratio on a downward path within the next several years. Other taxes may also have a role (the personal income tax remains porous, for instance), and spending measures can play an important role: caps on spending growth could provide the remaining adjustment. But without fuller exploitation of the potential of the consumption tax, it is hard to see how fiscal sustainability can be restored. Compared to other taxes, the consumption tax is also less distortionary, relatively easy to administer, and a stable source of revenue in an aging society. Moreover, raising the consumption tax may be fairer than other taxes in helping offset the imbalance in the distribution of lifetime pension benefits across generations.

Experiences elsewhere, as well as the specific circumstances of Japan, suggest that the strategy for raising the consumption tax be guided by the "*four Ss*"—it should start Sooner rather than later, be raised by Stepwise increases, Sustained for some time, and retain the very Simple current structure of the consumption tax:

- *Sooner rather than later*—to take advantage of the cyclical recovery expected in 2012 and to strengthen credibility of the fiscal adjustment.
- *Stepwise*—because a series of pre-announced modest rate increases may stimulate consumption and limit the initial adverse impact on growth.
- *Sustained*—so as to meaningfully advance consolidation.
- *Simple*—preserving the single rate structure—well-targeted spending measures being more efficient than rate differentiation (e.g., lower rate on food) to relieve the higher burden for low-income households—to limit distortions and ease implementation.

Japan's experience in raising the consumption tax will set an important example for other countries. Many advanced economies face the same challenge to lower public debt ratios over the medium term and address rising social security spending while at the same time preserving growth—but they will face it somewhat later, making Japan something of an early test case. For these economies, raising the consumption tax could also generate significant revenue while addressing some of the imbalances arising from an aging population.

I. INTRODUCTION

Even before the recent earthquake, Japan faced a long and difficult road to restoring its fiscal health. Over the past two decades, Japan's gross public debt has more than tripled, to over 200 percent of GDP. Contrary to conventional wisdom, this buildup of debt did not result from excessive stimulus spending during Japan's "lost decade" or the recent global financial crisis. Rather, the main factors were the uninterrupted rise in social security spending due to population aging and weak economic growth that shrank Japan's tax base (relative to GDP) to below 1980s pre-bubble levels. These factors—the steady rise in social security and low trend growth—remain unchanged after the earthquake and need to be addressed to put Japan's public finances on a sustainable footing.

Japan is not alone in grappling with such fiscal challenges. As highlighted by the IMF's *Fiscal Monitor*,[1] many advanced economies are now facing, or will soon face, the need for significant fiscal adjustment to bring down public debt and address aging-related spending pressures. The *Fiscal Monitor* identifies five such advanced economies that will need to improve their cyclically adjusted primary balance by over 8 percent of GDP during the next decade to bring down the gross debt-to-GDP ratio to more sustainable levels, the median level before the global crisis. Japan's efforts now in forging an adjustment strategy will provide important lessons—for good or ill—for other countries facing similar fiscal challenges.

In Japan, much of the fiscal discussion has centered on the need to raise the consumption tax. At 5 percent, the rate of the consumption tax (value added tax, VAT) is among the lowest in the world,[2] and well below the European average of 20 percent. For aging societies like Japan, increasing revenue from raising the VAT is especially appealing for a number of reasons:[3] it provides a stable source of revenue in an aging society (consumption being smoother than, for instance, income); it distributes the tax burden more equitably across current cohorts (ensuring that those entering retirement pay a fair share toward the cost of their retirement support); and, the evidence suggests, is less detrimental to growth compared with other taxes. While the economic merits for raising the VAT are reasonably clear, a political consensus for action has yet to emerge.[4] But the picture may now be changing, with recent polls, including those after the earthquake, showing growing public support for raising taxes not just to defray the near-term cost of reconstruction but also to pay for social security.

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[1] IMF (2011).

[2] Iran has the lowest VAT rate of 3 percent; Taiwan POC and Nigeria also have a 5 percent rate.

[3] See, e.g., IMF (2010b).

[4] On June 2, the government issued a draft report proposing a gradual increase in the VAT from 5 percent to 10 percent by FY2015, but there has not yet been a political consensus on this proposal.

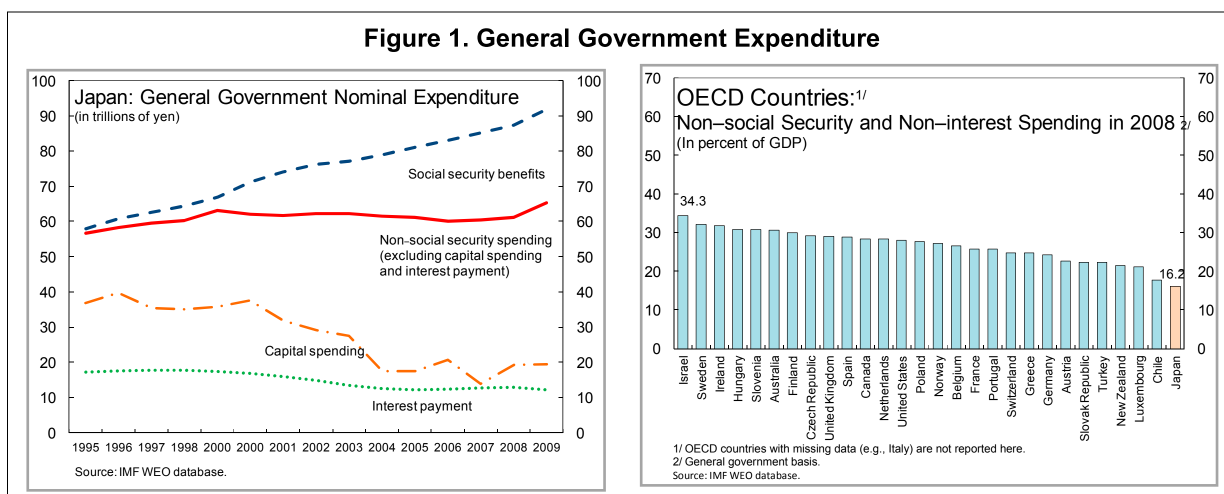
This note draws on international experience to develop and flesh out the case for raising the VAT in Japan. It argues that the strategy for doing so should follow four principles, dubbed here the "*four Ss*"—it should (i) start sooner rather than later, (ii) be done in steps, (iii) be sustained for some time, and (iv) be simple in design. First on timing, the VAT should be raised *sooner* rather than later to strengthen credibility of the fiscal adjustment. Second, the increase should be done gradually in a *stepwise* manner to minimize its negative impact on growth. A series of pre-announced modest rate increases may even stimulate spending initially. Third, it should be *sustained* over a long period to meaningfully advance consolidation. Finally, to reap the full economic benefits and avoid distortions, the tax increase should be *simple*, based on a single uniform rate combined with well-targeted spending measures to relieve the higher burden for low-income households.

The rest of this Staff Discussion Note is organized as follows. Sections II and III set out the case for raising the VAT, compared with other tax options, and analyze the implications for Japan's debt dynamics. Section IV examines the possible impact on growth and inflation, and discusses the distributional impact of raising the VAT and ways of meeting equity concerns. Section V reviews some options for using the VAT revenue, and section VI concludes by drawing lessons for other countries looking to embark on similar large-scale fiscal consolidation using the VAT.

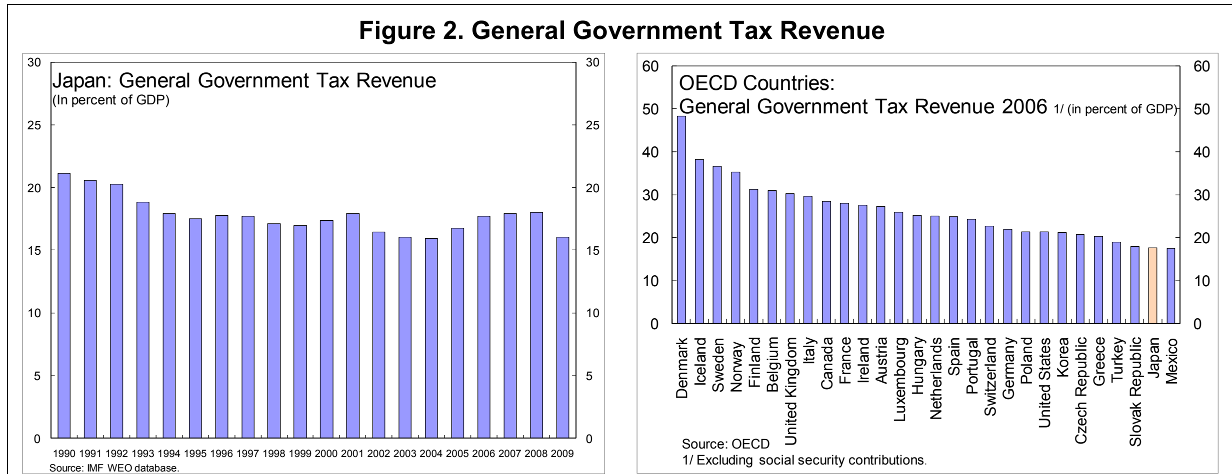
II. Case for Raising the VAT in Japan

Contrary to popular perception, the main factor behind the surge in Japan's public debt has been rising social security spending. On a general government basis, spending on social security benefits has risen by almost 60 percent over the past 15 years (Figure 1). This is largely due to rapid population aging, which has affected Japan earlier than other countries. On the other hand, non–social security current spending has been well contained in nominal terms, and capital spending has been on a trend decline, leaving little room for further spending cuts in these areas. Indeed in 2008, non–social security discretionary spending in Japan as a share of GDP (16 percent) was one of the lowest in the OECD (Figure 1). This implies that Japan would need to contain social security spending and raise taxes to carry out meaningful fiscal consolidation.

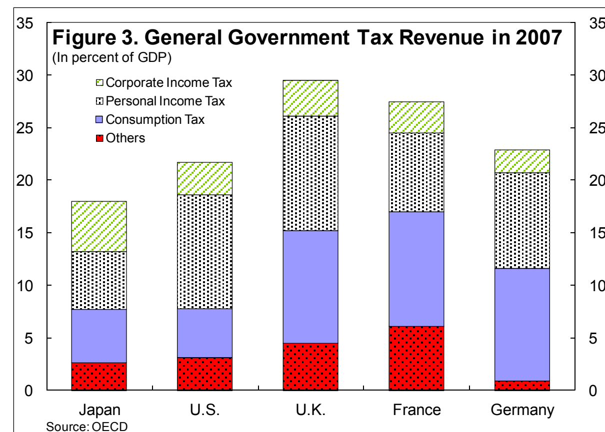
Figure 1. General Government Expenditure



Weak economic growth in Japan has pushed tax revenue to levels prevailing in the 1980s. Following the bubble two decades ago, tax revenue as a share of GDP steadily declined until the mid-2000s (Figure 2). This reflected both a weak cyclical recovery after the bubble burst and permanent tax cuts intended to stimulate the economy. Tax revenue expanded modestly during the mid-2000s, but again fell sharply following the global financial crisis to the 1980s pre-bubble levels.



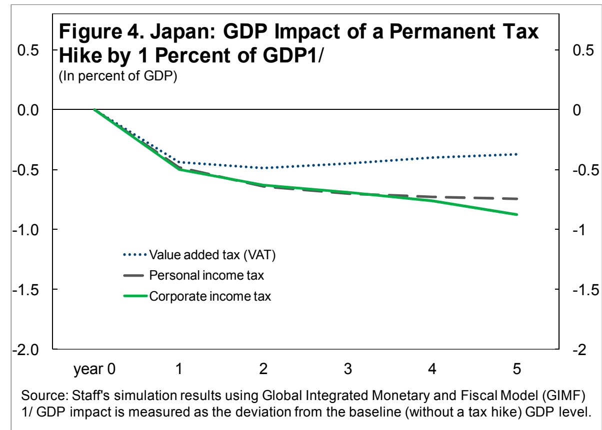
There is considerable room to increase tax revenue. Overall tax revenue at around 17 percent of GDP is one of the lowest among OECD countries (Figure 2), primarily reflecting lower consumption and personal income tax revenue (Figure 3).[5] Compared with other countries, Japan's personal income tax allows for ample deductions and lower marginal rates for middle-income households.[6] By contrast, Japan's corporate income tax rate of 40 percent and revenue of around 5 percent of GDP are relatively high.



[5] Japan's overall government revenue, including social security contributions, is also one of the lowest among OECD economies.

[6] For example, in Japan, the effective personal income tax rate for average middle-income households (two adults and two children) is only about 5 percent, while the corresponding tax rate in other G-5 economies is between 10 and 20 percent.

For Japan, raising the VAT is appealing for a number of reasons:



- *An increase in the VAT rate is likely to be less distortionary than other sources of additional revenue*. The VAT has a broader base than a tax on labor income because it also falls on spending financed from social transfers; unlike a tax on capital income it does not distort household saving decisions, it does not distort investment decisions or trade,[7] and in part the burden of an increase in the rate will fall on spending financed by past saving, and—since past decisions cannot be changed—will be completely non-distorting.[8] This does not mean that there would be no distortions from increasing the VAT rate: it could, for instance, lead to a reduction in compliance. But it does mean, especially given the low starting level of the tax, that this is likely to be a more efficient source of revenue than the alternatives. Importantly, there is evidence too that the VAT is less damaging for economic growth than personal or corporate income taxes (Arnold, 2008), though the different distributional effects of these taxes also matters. Simulation results using the IMF's GIMF model for Japan find similar results (Figure 4).[9] The less distortionary feature of the VAT is particularly relevant for aging societies such as Japan's, where there may be a relative shortage of labor.

- *Japan has one of the lowest VAT rates in the world.* The VAT in Japan was introduced in 1989 at the rate of 3 percent and, despite rising to 5 percent in 1997, is still the lowest among advanced economies that have a VAT[10] (Figure 5). The revenue yield of the VAT in Japan is correspondingly low, at approximately 2½ percent of GDP—again the lowest among the same group of advanced countries.

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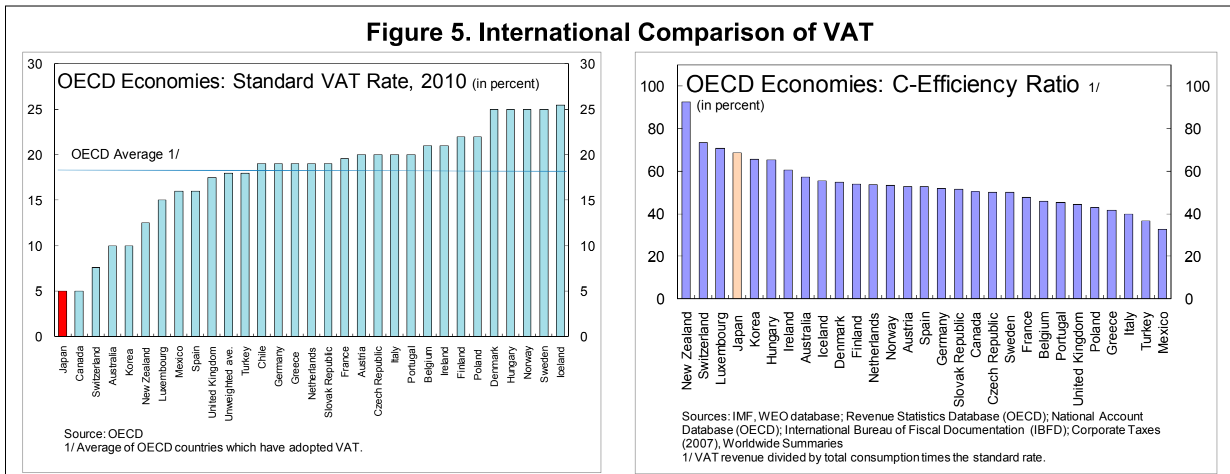
[7] Unless the rate is expected to change over time—a point of some importance in the present context, and taken up below.

[8] The VAT also does not impose a direct burden on exports, which are zero rated under the destination principle. Thus, the VAT does not worsen competitiveness. However, a higher VAT may be passed on to other prices. For instance, to the extent that the VAT leads to higher wage demands by laborers, it may indirectly raise producer costs and export prices. Most likely, therefore, the VAT will have similar implications as direct taxes on the current account balance.

[9] See Kumhof et al. (2010) on the GIMF model framework.

[10] The United States is the only member of the OECD that does not have a VAT.



- *Japan's VAT is relatively efficient and easy to administer.* Japan's VAT is a relatively simple tax with a broad base and uniform rate. The C-efficiency ratio (VAT revenue divided by total consumption times the standard rate—a crude indicator of how far a VAT is from the benchmark of a single rate levied on all consumption) is nearly 70 percent: this is the highest among G-7 economies and one of the highest in OECD countries (Figure 5), indicating that Japan's VAT is broad based with relatively strong compliance.[11]

- *The VAT is a stable and robust source of revenue in an aging society.* Aging implies dissaving by households (spending exceeding income), making the VAT base more robust than that of taxes on labor income, which will grow more slowly than spending as the population ages. Indeed in Japan, private consumption has grown by about ½ percentage point per year faster on average over the past 10 years than labor income (in nominal terms).

III. Raising the VAT to Secure Fiscal Sustainability

Restoring Japan's fiscal health will require a significant and sustained adjustment in the primary balance. Staff analysis indicates that stabilizing Japan's debt-to-GDP ratio by the mid-2010s and putting it firmly on a downward path requires a gradual but sustained improvement of 10 percent of GDP in the structural (primary) balance over the next 10 years.[12] Given the limited room for reducing non–social security expenditure and spending pressures from an aging society, a combination of new revenue measures and caps on spending growth is needed as part of a credible fiscal program.

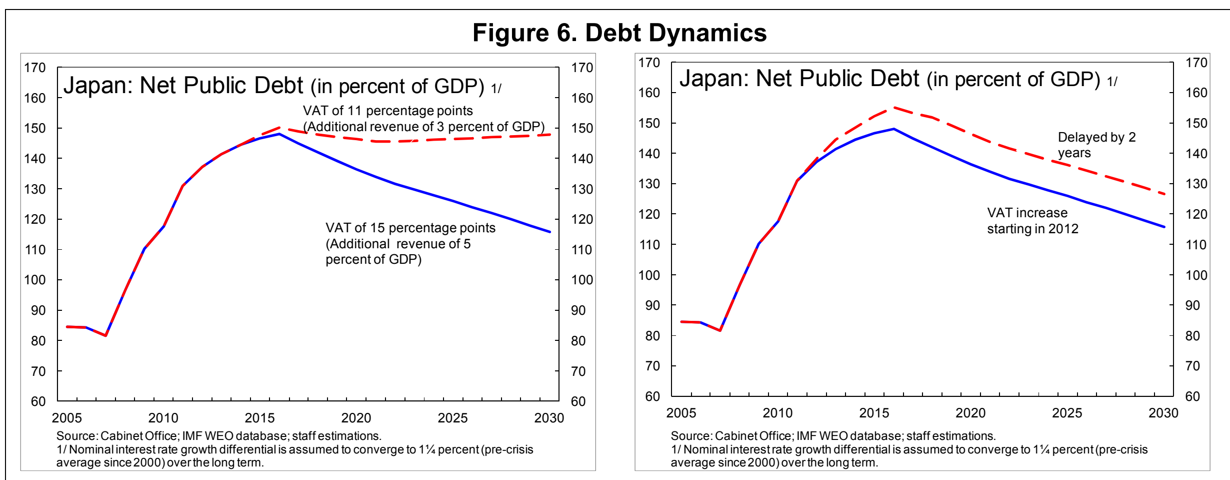
[11] Ebrill et al. (2001) discuss the strengths and limitations of C-efficiency as an indicator in assessing VATs. Lower C-efficiency ratios in other advanced economies largely reduced rates on basic goods, such as food. In addition, higher VAT rates can lower C-efficiency ratios by encouraging tax avoidance and evasion.

[12] See IMF (2010a) for more information on the recommended adjustment strategy.

Raising the VAT should be the key revenue measure. The 10 percent of GDP adjustment could be achieved by striking a balance between spending and revenue measures. For example, curbing growth in social security spending and freezing non–social security spending could yield 5 percent of GDP over the next 10 years. On the revenue side, a gradual increase in the VAT rate to 15 percent over the medium term (from the current 5 percent) starting in 2012 (through 2017)—the structural merits of which were set out above—could deliver the remaining 5 percent of GDP.[13] This need not preclude a role for strengthening other taxes, such as the porous personal income tax, which is also needed to enable a reduction in the rate of corporation tax (which at 40 percent is now very high by international standards).[14] But it is only the VAT that seems capable of raising the considerable sums required. Falling short of the 10 percent of GDP adjustment in the primary balance would keep public debt at high levels over the long term. For example, the left chart of Figure 6 shows that raising the VAT to 15 percent[15] would steadily reduce debt over the long run, while targeting a lower rate of 11 percent[16] would at most stabilize the net debt ratio at around 150 percent of GDP.

To maximize the beneficial impact on debt dynamics and enhance credibility, the VAT should be increased sooner rather than later. The right chart of Figure 6 shows that delaying the increase by two years to 2014 would leave the debt level higher by 10 percent of GDP over the medium to long term. Given that the market's capacity to absorb public debt will likely shrink as private saving declines,[17] the additional debt raises the risk of financing pressures and higher interest rates. Delaying the tax increase may also miss taking advantage of the cyclical recovery expected in 2012.

Figure 6. Debt Dynamics



[13] In these simulations, we assume a 2 percentage point VAT hike in 2012 and 2013, and a 3 percentage point hike in 2015 and 2017. The calculations assume that the C-efficiency remains unchanged, which may be somewhat optimistic as a higher rate could lead to increased noncompliance.

[14] Discussed for instance in Keen (2008).

[15] The expenditure adjustment of 5 percent of GDP is assumed.

[16] This corresponds to additional revenue of 3 percent of GDP relative to the current VAT revenue. The total adjustment is 8 percent of GDP, including the expenditure measures.

[17] See, for example, Tokuoka (2010).

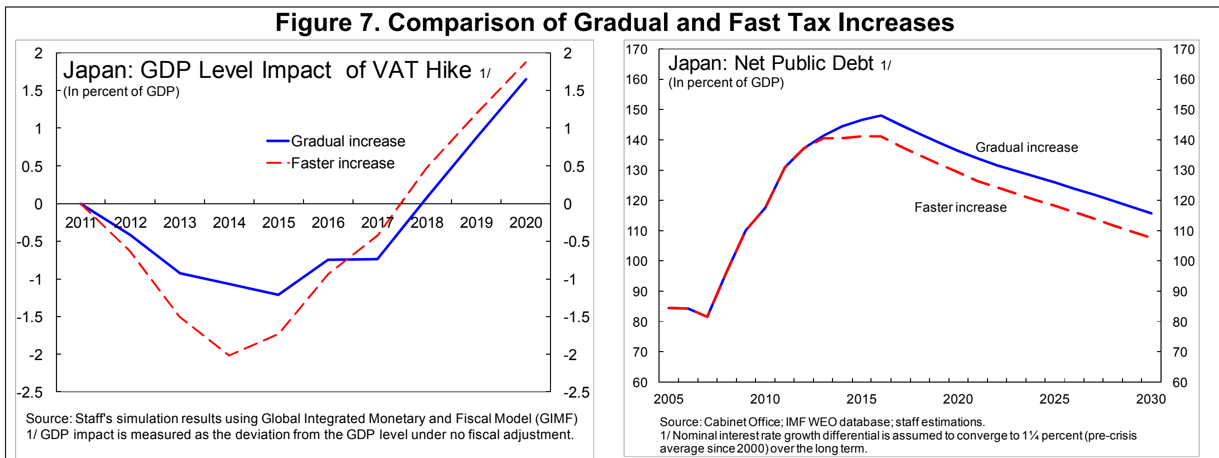
IV. Impact of a VAT Increase on Growth, Inflation, and Equity

Growth

Many have expressed concerns about the short-term impact of a VAT increase on the level of activity, but Japan's own experience does not strongly support such views. For example, Japan's VAT rate increase in 1997:Q2 from 3 percent to 5 percent is often cited as the main reason Japan fell back into recession in late 1997. However, private consumption started to grow in 1997:Q3, only one quarter after the tax increase, and other factors—such as the Asian financial crisis and the weak banking sector—were arguably more significant.[18]

Simulation results also imply that raising the VAT would dampen growth initially but this could be offset over time by improved confidence in the fiscal outlook. To assess the growth impact of raising the VAT, we use the IMF's GIMF model to consider two scenarios for raising the VAT by 10 percentage points to 15 percent:[19] (i) a gradual increase between 2012 and 2017 (by about 1¾ percentage points per year on average); (ii) a more rapid increase between 2012 and 2014 (by about 3⅓ percentage points per year on average). The left chart of Figure 7 shows that the more gradual increase in the VAT lowers growth by 0.3 percentage points per year on average during the first three years, compared to the case with no fiscal adjustment, but eventually the impact on the level of GDP turns positive as public debt declines and improved confidence reduces precautionary saving and boosts spending. The potential long-term benefits of the fiscal adjustment could be even larger, relative to the case with no fiscal adjustment, where over time growth could fall substantially due to higher yields (such an effect is not modeled here).

Figure 7. Comparison of Gradual and Fast Tax Increases



Source: Staff's simulation results using Global Integrated Monetary and Fiscal Model (GIMF)
1/ GDP impact is measured as the deviation from the GDP level under no fiscal adjustment.

Source: Cabinet Office; IMF WEO database; staff estimations.
1/ Nominal interest rate growth differential is assumed to converge to 1¼ percent (pre-crisis average since 2000) over the long term.

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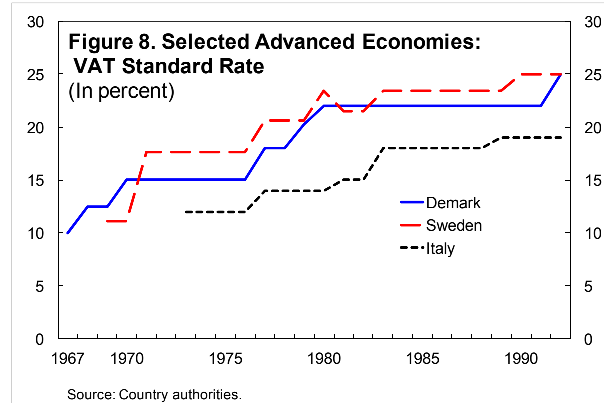
[18] See Syed, Kang, and Tokuoka (2009).

[19] This corresponds to tax revenue of 5 percent of GDP. The expenditure adjustment of 5 percent of GDP is also assumed.



A faster tax increase dampens growth more in the short term—relative to the no fiscal adjustment case, by about ¾ percentage point annually in the first three years. With potential growth estimated at around 1 percent, such a large impact on growth may not be prudent, even though the higher VAT would reduce debt more quickly (right chart of Figure 7). The experience of Denmark (1967–79), Sweden (1970–77), and Italy (1976–83) shows that a gradual VAT increase in the order of 10 percentage points (see Figure 8) can succeed without suffering reform fatigue or undermining growth significantly: all maintained real growth rates of about 2½ percent or higher during the period of the gradual VAT increase.

Inflation

Higher inflation expectations would be a positive development for Japan, which has been trapped by deflation for years, but empirical evidence suggests that the impact of a one-time increase in the VAT on the CPI and inflation is likely to be modest. For example, Mody and Ohnsorge (2007) find for the EU that a 1 percentage point increase in the VAT rate leads to a once-and-for-all increase in prices of between 0.26 and 0.42 percent. There are at least two reasons why the CPI may increase less than the VAT:

- Firms may not be able to pass the entire VAT increase onto consumers for fear of losing market share. Empirical studies yield mixed results on the extent to which the VAT is passed on to consumers: Besley and Rosen (1999) report a full pass-through of general sales taxes in the United States; however, Carbonnier (2007) finds that between 57 and 77 percent of the French VAT is borne by consumers; for Germany, Carare and Danninger (2008) obtain an estimated pass-through of 73 percent.

- A VAT increase has a much smaller effect on the CPI if combined with more comprehensive tax reforms. Tait (1988) explores the correlation between inflation and VAT introductions in 35 countries. In 22 cases, there was neither a discernible impact of the VAT on the price level nor a change in inflation. This was especially the case when VAT reforms were accompanied by other tax changes or price controls. In seven cases, there was only a one-off increase in the price level.[20] In six cases, there was an increase in inflation.

[20] International experience with recent VAT increases (e.g., Carare and Danninger, 2008) suggests that tax-induced increases in the inflation rate are temporary and are reversed once the tax increase passes through.

Stepwise VAT Increases—A Stimulus to Consumption?

The pre-announcement of future VAT increases could stimulate current consumption. Even though a VAT increase would not be expected to lead to permanently higher inflation, the expectation of a jump in the price level when the VAT rate is increased could lead consumers to bring forward their consumption—a welcome boost to current activity levels, and partly offsetting the direct dampening effect highlighted above. In effect, the expected increase in the price level tends to reduce the real return on saving, and so, though an intertemporal substitution effect, increase current consumption. Put simply, consumers have an incentive to buy now, knowing it will be more expensive to buy later.

Such frontloading of consumption in advance of a VAT increase has happened before in Japan, and elsewhere too. Ito and Mishkin (2006) find that before Japan increased its VAT rate in 1997:Q2 from 3 to 5 percent, consumers significantly accelerated their spending in the quarter before by about 1½ percent.[21] In 2009, the U.K. temporarily reduced its VAT rate from 17.5 to 15 percent, before raising it to 17.5 percent in 2010. Crossley, Low, and Wakefield (2009) estimate that this boosted consumer spending in 2009 by 1.25 percent. Also, German consumers who were anticipating a 3 percentage point VAT increase in 2007 brought forward their consumption by one year. To some extent this effect may be mitigated as firms adapt their pricing policies: Carare and Danninger (2008) show that the rise in demand in 2006 allowed German firms to increase their prices well before the actual VAT increase took place.

Some have suggested deliberately using a phased VAT increase to stimulate consumption. Feldstein (2002), in particular—and with Japan specifically in mind—argued that a phased increase in the VAT accompanied by a gradual cut in the income tax—to render the increase revenue neutral—could raise demand through this intertemporal substitution effect.[22] However, simulation results suggest that the size of these effects is likely small and would not substantially accelerate an exit from deflation (Auerbach and Obstfeld, 2004).

Though the spending impact is likely modest, pre-announcing a gradual increase in the VAT could bring forward consumption and strengthen the credibility of fiscal adjustment. For example, tripling the VAT rate (from 5 percent to 15 percent) over a five-year period could lead consumers to expect prices to rise by an additional 2 percent per year. No doubt the effect will be most marked in the weeks before each increase, and largely confined to more durable goods but a more generalized, gentle effect is also possible. The effect, in any case, goes in a helpful direction. These considerations suggest that the government should announce in advance the schedule for raising the VAT and for the Bank of Japan (BoJ) to clarify its expected impact on inflation in order to minimize uncertainty

[21] In 1997:Q1, private consumption rose by 2 percent (q/q) which was well above the 0.5 percent average growth for 1992–1996.

[22] There can also be an impact on investment acting in the opposite direction: if the VAT increase is not fully passed on to consumers, the increases in the VAT rate imply a step reduction in the after-tax prices received by firms—which corresponds to a higher real interest rate, and so may lead to less investment. Only if the tax increase is fully passed on to consumers are returns to investment unchanged, which would imply at best a constant level of the real interest rate after the temporary effects of the VAT increase on prices passes.

over prices and help guide inflation expectations. Pre-announcing the VAT increase(s) would also enhance the credibility of the medium-term fiscal adjustment strategy, by making clear the government's commitment to fiscal consolidation.

Equity

If implemented without accompanying measures, a VAT increase is somewhat regressive, but less so if viewed in a lifetime context. A simple static analysis using micro-level household data suggests that tripling the uniform VAT rate to 15 percent in Japan will increase the tax burden for households in the bottom 20 percent of the income distribution by 9 percent of their current income, compared to only 4½ percent of current income for those in the top 20 percent.[23] However, such snapshots of the impact on a cross-section of households are widely recognized to be misleading since a household's income at any particular time is likely to be an imprecise indicator of their lifetime well-being: young graduates may have high earnings prospects, for instance, that are reflected in their current consumption much more than in their current income; and the elderly retired may be able to finance high consumption even though their current income is relatively low. So differences in the apparent impact of a VAT increase across income groups largely reflect differences in saving rates (see Figure 9)**.** For instance, the average saving rate of the bottom 20 percent of households is only 5 percent, while for the top 20 percent, it is about 50 percent. As savings are just postponed consumption, the impact of VAT viewed over the lifetime of a household is less regressive than indicated by just looking at the static effects. For this reason, consumer spending may be a better measure of one's ability to pay tax than current income since households smooth consumption over their lifetime.[24] In this setting, a VAT increase looks much less regressive: indeed, a broad-based VAT would simply be a proportional tax on lifetime consumption.

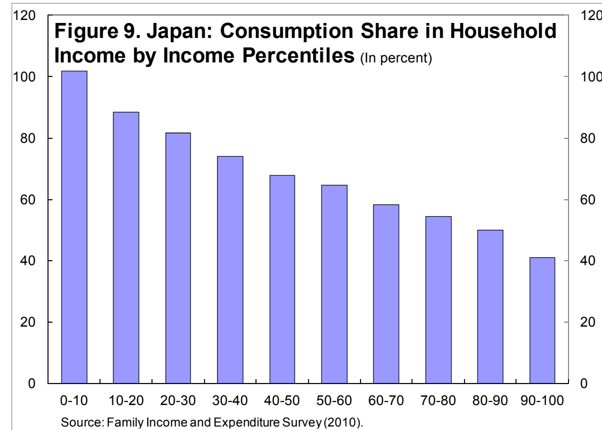


Figure 9. Japan: Consumption Share in Household Income by Income Percentiles (In percent)

Source: Family Income and Expenditure Survey (2010).

Although the regressive effect of the VAT increase is less serious than it might appear, the government could still consider introducing reduced rates on goods and services consumed largely by the poor to address such concerns. However, multiple rates are a highly inefficient form of income support, and create other difficulties. To highlight these trade-offs, we consider three reform options which generate the same 5 percent of GDP in additional revenue:

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[23] 2010 Japanese household income and expenditure data are used to determine income and consumption parameters. For simplicity, we ignore behavioral effects by assuming that the consumption bundle does not change before and after the tax increase.

[24] Ebrill et al. (2001) have a more detailed discussion of the distributional effects of the VAT. While a tax on consumption will also bear on bequests when these are spent, it does not directly target the intergenerational transmission of wealth that may also be a concern. For this, the tax on inheritances is the preferred instrument.

(i) a higher uniform VAT rate of 15 percent—as in the simulations above;

(ii) a VAT rate on food products of 10 percent and a higher VAT rate for most goods and services set at 17 percent;

(iii) a VAT rate on food products of 5 percent (the current uniform rate) and a higher VAT rate for most goods and services set at 18 percent.

Household level analysis shows that VAT rate differentiation could play only a very limited role in addressing equity concerns. In principle, one would expect a lower rate on food to have a favorable impact on poorer households because of the larger share of necessary goods in their budget (left chart of Figure 10). However, staff analysis shows that in Japan setting a lower VAT rate on food and offsetting the revenue loss by a higher standard rate does almost nothing for households in the bottom 20 percent of the income distribution (right chart of Figure 10). This is because the benefits of the lower tax rate on food products—quite small in the event, as the share of food in household budgets does not vary very dramatically across income groups—are largely offset by the higher standard rate.[25]

Rate differentiation increases compliance and administration costs, and can create unwanted distortions. It is questionable whether changing relative prices and shifting demand to lower-tax food products would enhance efficiency.[26] Moreover, rate differentiation makes implementation more costly for both taxpayers and the tax authorities: transactions need to be categorized by applicable rate, refunding may be needed if the rates are widely divergent, and legal disputes as to the proper classification of particular commodities may come about. An important lesson from the experience of others, including that of the U.K. just cited, is that rate differentiation, once conceded, is extremely hard to reverse or even to contain. Its single rate is a very great merit of Japan's current VAT: the case for introducing rate differentiation is very weak, both conceptually and practically.

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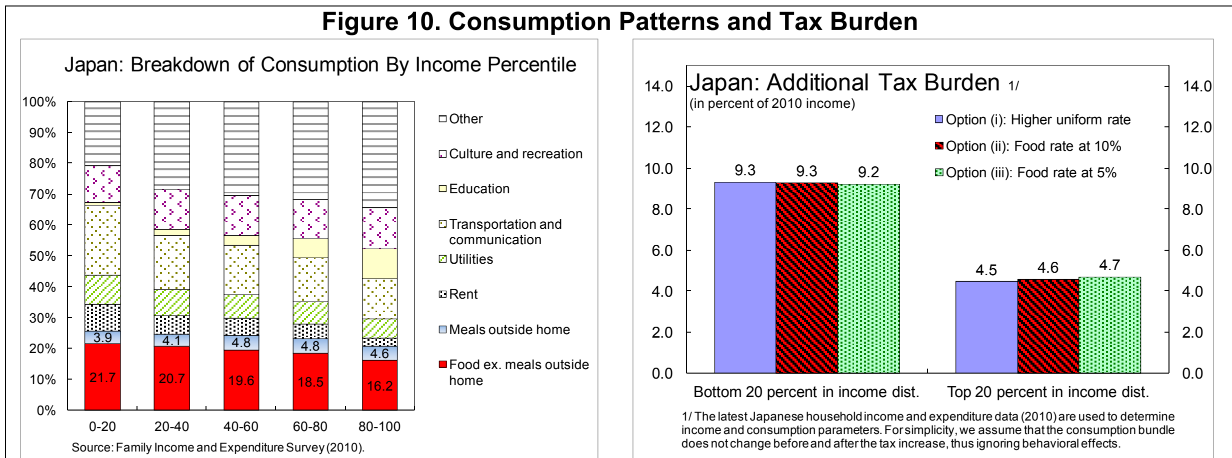
[25] Setting a lower rate on transportation and communication whose shares in consumption differ significantly between high- and low-income households could reduce the burden for low-income households further, but would not materially change the argument that rate differentiation could play only a limited role.

[26] The theoretical case for differentiating rates of indirect taxation—to alleviate distortions to labor supply caused by the taxation of labor income and pursue equity objections—is reviewed by Crawford, Keen, and Smith (2010), who provide an empirical application to the U.K. The conclusion, broadly speaking, is that—beyond the special issues associated with goods subject to special excises (tobacco, alcohol, and petrol)—the empirical case for rate differentiation is very weak.

Figure 10. Consumption Patterns and Tax Burden



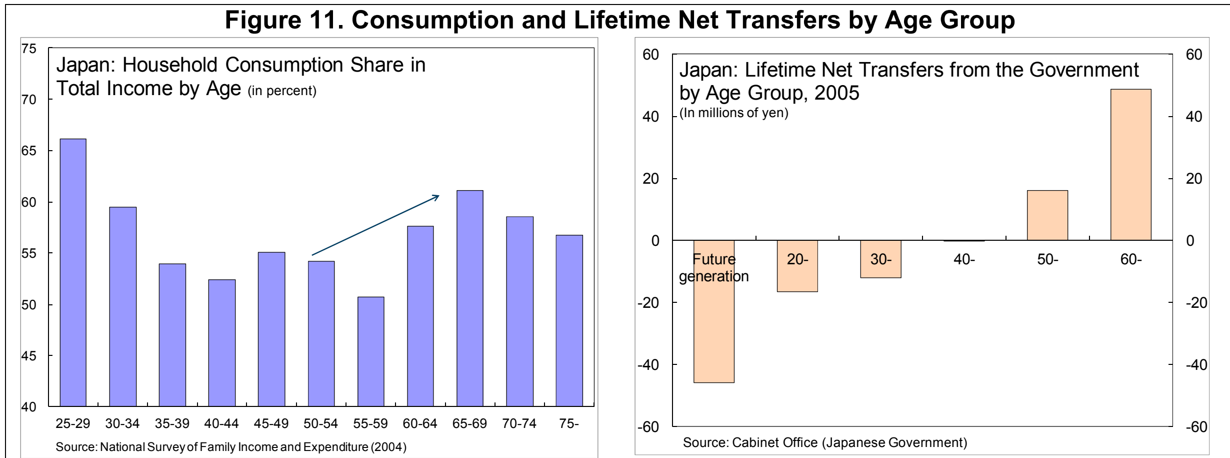
Instead, a uniform VAT rate combined with targeted transfers to low-income households would be more effective and efficient. Such transfers would, of course, reduce the revenue gain from a higher VAT rate, but—for any given impact on the poor—much less so than a reduced VAT rate for low-income groups. For example, consider applying a reduced VAT rate on food of 5 percent instead of a rate of 10 percent. In Japan, annual food consumption for households at the top and bottom 20 percent of the income distribution is on average about 1 million yen and 0.4 million yen, respectively. Hence, the reduced VAT rate saves 50 thousand yen for the rich and 20 thousand yen for poor households, representing a substantial budgetary cost for the government. Instead, the government could compensate the poor by transferring to them an equivalent 20 thousand yen while maintaining a uniform rate of 10 percent, and save the cost of the implicit transfer of 50 thousand yen to the top 20 percent.[27] Achieving effective targeting in this way does require the availability of transfer instruments well focused on the poorest (such as in-work benefits like an earned income tax credit), strengthening of which is likely to require attention in the coming years (one important step, currently being discussed by the Japanese government, being to establish a taxpayer identification system). Such income-related transfers, because they are withdrawn as income rises, can imply high effective marginal tax rates on earnings, but this distortionary cost needs to be weighed against the substantial distributional and revenue advantages it offers.

Compared to an income tax, a VAT increase places a greater burden on the elderly generations, but this may be fair given the imbalance in the distribution of lifetime benefits across generations. Elderly households typically own large assets—more than half of total financial savings in Japan are owned by household heads over age 60 who draw little or no income when they retire. Instead, the elderly finance their relatively high consumption by dissaving (see the left chart of Figure 11). More to the point, on a lifetime basis the current and soon-to-be elderly in Japan have been significant net beneficiaries under the social security system, i.e., their benefits are higher than their lifetime tax payments and past

[27] Illustrating the general point, Crawford, Keen, and Smith (2010) show how the impact on the poorest of the current extensive zero rating in the U.K. could be offset by adjusting benefits—and still leave substantial additional net revenue.

contributions (see the right chart of Figure 11[28]). In contrast, the younger generations have been, and will likely continue to be, net contributors to the system in Japan, reflecting the pay-as you-go pension system and shrinking population. For example, those over age 60 in 2005 are expected to receive about 100 million yen more in *net* social benefits over their lifetime than are those not yet born. So a higher VAT, which in part raises revenue from the past savings of the current cohort of the elderly, may help restore the balance of intergenerational fairness. The same issue will arise with increasing force in other countries that have adopted a pay-as you-go pension system and are experiencing declining birth rates.

Figure 11. Consumption and Lifetime Net Transfers by Age Group



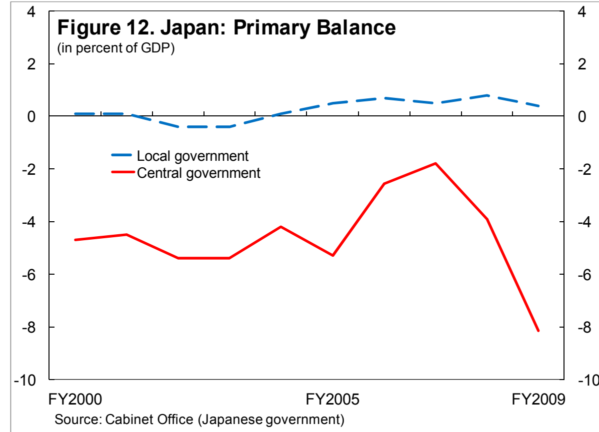
V. Options for Using the VAT Revenue

Raising the VAT could also be linked to the financing of social security as well as transfers to local governments.

- ***Earmarking VAT revenue to social security.*** In principle, earmarking VAT revenue for specific expenditures is either inefficient or intransparent. If it is effective in genuinely constraining expenditure, it undermines the incentive to improve spending efficiency and reduces budgetary flexibility. There is already informal earmarking of the VAT in Japan: since the late 1990s, the budget has stated that VAT revenue will be spent on social security expenditure for the elderly (e.g., pensions and health care for the elderly). But this commitment is subject to changes in annual fiscal policy—so the earmarking is more apparent than real. While further or more formal earmarking of VAT receipts is advocated by some, to the extent that earmarking constrains social security or other spending, it could introduce the inefficiencies just mentioned. Although the economic case for earmarking is weak, earmarking could provide benefits if it generates significantly positive confidence effects from securing the future financing of social security.

[28] The chart calculates *lifetime* net transfers from the government (both historical and future), including education, pension, and medical benefits.

- ***Revenue allocation between central and local governments.*** Currently, 20 percent of the total VAT revenue is directly allocated to local governments.[29] While an increase in the VAT rate might thus seem to raise issues of revenue sharing, it is important to recognize that there are here much broader issues of fiscal federalism: the appropriate way of allocating power and transfers between central and local governments. The optimal design of this depends on several issues and circumstances—it is not obvious, for instance, that it is wise to share particular tax revenues in fixed proportions rather than share revenues from all sources—and raises much deeper issues, requiring further analysis, than those relating to the VAT alone. Above all, what matters in Japan is that the fiscal gap of the central government is much larger than that of local governments, reflecting in part various transfers from the central government to local governments. The additional revenue raised from any VAT hike should benefit more the central government budget, and not be allocated automatically to local governments.



VI. Conclusions and Lessons from Japan

Raising the consumption tax along the lines of the four S's can go a long way to restoring fiscal health in Japan. Staff analysis suggests that a significant adjustment in the primary balance—in the order of 10 percent of GDP—is needed to stabilize and put the public debt ratio firmly on a downward path within the next 5 years. Doing a VAT increase Sooner rather than later in a Stepwise manner, Sustaining it, and keeping it Simple—raising the rate, in steps, from 5 to 15 percent—could provide half of the fiscal adjustment needed in the long term. The rest could come from reforms to limit entitlement spending, especially in social security, and other supportive tax measures, such as a broadening of the personal income tax base. Phasing in a modest increase in the VAT starting next year (*sooner rather than later*) would allow Japan to lock in early the revenue gains and capitalize on the strength of the cyclical recovery expected in 2012.

The VAT is particularly well suited to meeting the fiscal challenges in Japan. The rate is extremely low by international standards and the base is broad, the VAT is less harmful to growth than other taxes, relatively easy to administer, and well suited to addressing pressures in an aging society. As population aging is set to accelerate in Japan, raising the VAT can provide a relatively robust source of revenue; and one that can go some way to easing inequities given the imbalance in the distribution of lifetime benefits across cohorts. Raising the VAT will hamper growth in the short term, but so will almost any tax.[30] The short-term impact can be mitigated if the transition to a higher VAT rate is gradual (*stepwise* and

[29] Of total VAT revenue, 43.6 percent is distributed to local governments, including central government VAT revenue transferred to local governments as the local grant tax.

sustained). Moreover, the impact could be offset by positive confidence effects if the VAT increases were linked to reforms to secure social security financing and to growth-enhancing structural reforms.[31]

Announcing a clear timetable for VAT increases could temporarily lift inflation expectations and bring forward consumption spending. Although a VAT increase itself will not have a permanent effect on inflation, a temporary shift in inflation could frontload spending, helping to offset some of the short-term negative growth effects.

To reap the benefits from the VAT increase and address any concerns with possible regressivity, its rationale should be clearly communicated and a uniform rate combined with well-targeted transfers to poorer households. Experience elsewhere is clear: introducing a reduced rate in pursuit of equity objectives, however well-intentioned, has all too often proved to be a mistake that is both costly and hard to reverse. To address its potential regressive impact, a uniform rate combined with offsetting transfers, rather than VAT rate differentiation, would be a more effective means of protecting poorer households (*simple*).

Just as Japan can learn from others, so Japan's experience in raising the VAT will provide important lessons for other countries facing similar fiscal challenges. Many advanced economies are facing the same issues as Japan: the need to lower their public debt ratios over the medium term and address rising social security spending while at the same time preserving growth. VAT rates are low in many countries, including in Asia (Figure 13), and the VAT could provide an important source of stable revenue to help address pressures from an aging population.[32] Watching how Japan meets its fiscal challenges, and the role played in this by the VAT, may be both a preview and a learning experience for other countries that need to consider embarking on similar reforms.

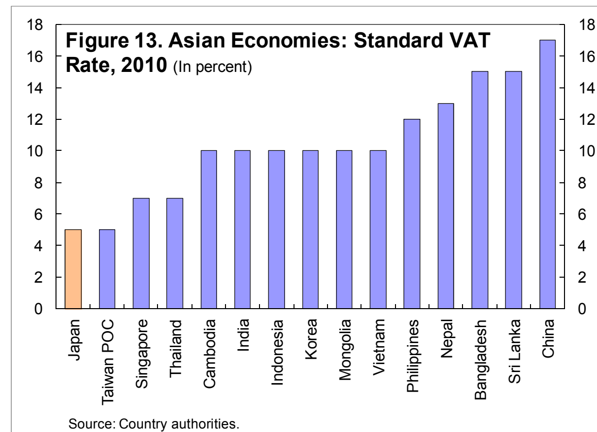


Figure 13. Asian Economies: Standard VAT Rate, 2010 (In percent)

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[30] The main exception is in relation to environmental taxes, whose revenue potential is generally fairly limited.

[31] See Berkmen (2011).

[32] For example, the United States has not adopted a federal VAT.

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