

G R O U P   O F   T W E N T Y



# JAPAN SUSTAINABILITY REPORT <sup>1</sup>



Prepared by Staff of the

I N T E R N A T I O N A L   M O N E T A R Y   F U N D

<sup>1</sup> *Report 8 of 10.* At the request of the G-20, IMF staff has provided analyses and assessments of member's economies and policies in a set of reports for the Mutual Assessment Process (MAP). These reports serve as inputs for the Action Plan agreed by G-20 Leaders at the Cannes Summit. The 2011 Staff Reports for the 20 MAP consist of the following: (i) an Umbrella Report that provides an integrated summary of the component reports and an upside scenario for G-20 collective action; (ii) an Accountability Report that summarizes members' progress toward policy commitments since the Seoul Summit in 2010; (iii) a MAP Report providing analysis of members' medium-term macroeconomic and policy frameworks; and (iv) Sustainability Reports for seven members (China, France, Germany, India, Japan, United Kingdom, and United States)—identified by G-20 indicative guidelines—to assess the root causes and policy implications of key imbalances.

## EXECUTIVE SUMMARY

*G-20 indicative guidelines identified Japan as experiencing “moderate” or “large” fiscal and private saving imbalances. Fiscal imbalances have risen steadily over the past two decades, to unsustainable levels. Thus far, the government has been able to finance its debt at low cost because private savings has remained high. But to reduce the risks to domestic stability and the global economy, growth-enhancing structural reforms and fiscal consolidation are urgently needed.*

### **The root cause of Japan’s fiscal imbalances lies in its “lost decades” of low growth.**

- Since the asset price collapse of the early 1990s, potential growth has slowed sharply, because of a shrinking labor force, weak investment and a trend decline in total factor productivity.
- Slow growth amidst an aging population has perpetuated a cycle of adverse debt dynamics. It has depressed government revenue, while swelling social security payments and encouraging stimulus spending to revive demand. As a result, fiscal deficits have been large, pushing the public debt ratio to unsustainably high levels.
- Policy missteps—including the absence of any major revenue-raising reforms in over twenty years—have also played a part in the rapid rise in public debt.

### **Abundant private saving embeds a deeper imbalance, namely a high corporate saving rate and a very low household saving rate.**

- High corporate saving reflects a sustained drive toward deleveraging, facilitated by wage moderation and favorable financial conditions.
- At the same time, household saving has fallen to less than 3 percent of GDP, owing to life cycle implications of a rapidly aging population and stagnating wages among younger households.

### **Public debt is on an unsustainable path, carrying risks to domestic and global stability.**

- As evident from recent developments, market sentiment toward sovereigns with unsustainably large fiscal imbalances can shift abruptly, with adverse effects on debt dynamics. Should JGB yields increase, they could initiate an adverse feedback loop from rising yields to deteriorating confidence, diminishing policy space, and a contracting real economy.
- Higher yields could result in a withdrawal of liquidity from global capital markets, disrupt external positions and, through contagion, put upward pressure on sovereign bond yields elsewhere.

### **To address imbalances and anchor strong, sustainable and balanced growth, Japan needs to undertake growth-enhancing structural reforms and fiscally consolidate.**

- Structural reforms, including improving competition in services and raising labor force participation, will help boost productivity and potential growth. Such reforms will also help minimize the negative demand effects of fiscal consolidation over the medium term.
- Fiscal adjustment will need to rely on a combination of revenue-raising measures, such as a higher consumption tax, and limits on spending, including through pension reform.



# INTERNATIONAL MONETARY FUND

## JAPAN

### SUSTAINABILITY REPORT 2011<sup>1</sup>

*Japan has experienced a sustained period of fiscal deficits that have led to a dramatic increase in public debt. Large fiscal deficits have resulted from persistently low growth—reflecting a trend decline in productivity, a shrinking labor force and low investment—as well as the needs of a rapidly aging population and policy missteps. At the same time, private saving rates have remained high, helping Japan maintain persistent external surpluses. Unsustainable fiscal imbalances pose risks to domestic stability, and also carry risks for the global economy through possibly disruptive adjustment in global external positions and turbulence in sovereign bond markets. Growth-enhancing structural reforms, aimed at boosting investment and potential growth, and fiscal consolidation measures (through a combination of entitlement reform and tax measures) are needed to reduce imbalances and anchor sustainability.*

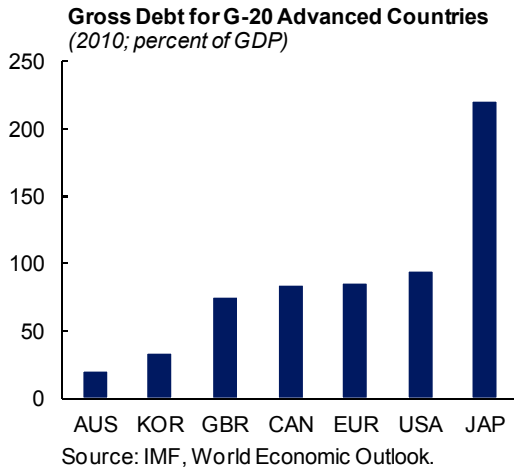
## I. BACKGROUND

1. **The collapse of asset markets in the early 1990s marked the origin of a prolonged period of economic stagnation in Japan, which has had long-lasting effects on growth, public debt and saving.** From 1973 to 1991, Japan was one of most dynamic economies of the G-20, growing at an average annual rate in excess of 4 percent. But growth came to an abrupt halt with the bursting of the asset

market bubbles in 1991. Private demand collapsed, leading to repeated fiscal stimulus over a decade to sustain overall demand. Despite steadily widening fiscal deficits and policy rates that were brought down to nearly zero, output remained largely unresponsive, growing at an average annual rate of 1.1 percent in 1991–2001. In the event, Japan suffered from a string of negative output gaps and intermittent deflation. Growth improved modestly in 2002–07, averaging 1.8 percent annually, before the financial crisis caused a severe contraction in output.

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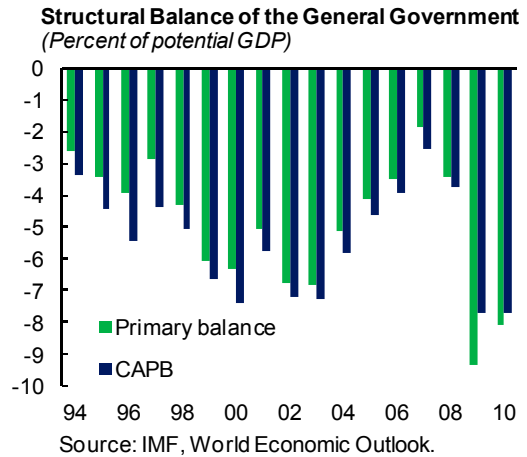
<sup>1</sup> Prepared by Mitali Das under the guidance of Josh Felman, with input from Michal Andrlé and the support of Eric Bang, David Reichsfeld, and Anne Lalramnghakhleli Moses.



## 2. Low growth, deflation, and large primary deficits have had adverse implications for the public debt ratio.

The steady increase in primary deficits, from an average 1.7 percent of GDP in the 1990s to an average 5 percent of GDP in 2000–07, is reflected in the evolution of the net debt ratio, which rose from 12 percent of GDP in 1991 to 81 percent in 2007 (67 to 188 percent in gross terms).<sup>2</sup> Following the global financial crisis, net debt escalated sharply, to 117 percent in 2010.

<sup>2</sup> Net public debt is gross financial liabilities less gross financial assets of the general government (central and local governments, and the social security fund), while gross public debt refers to gross financial liabilities of the general government. Net public debt is the more relevant concept for long-run debt sustainability, while gross debt is the key indicator from a market perspective, given Japan's large rollover requirements.



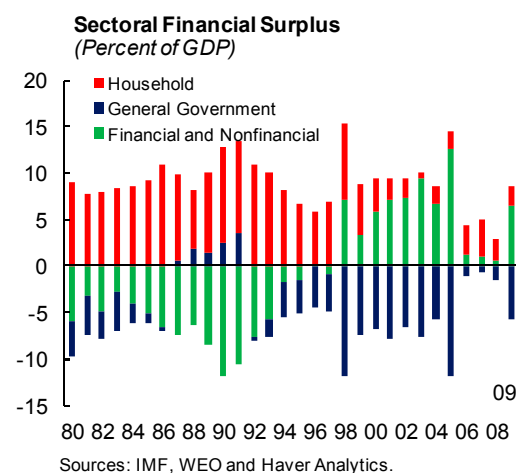
- *In the decade following the asset price collapse, rising deficits were primarily a consequence of increasing expenditures, including fiscal stimulus, and a series of tax cuts, with a lower (relative) contribution from revenues. In the late 1990s, the cyclically-adjusted deficit began to widen significantly, as entitlement spending began to rise with an aging population and structurally low revenues began to play a more significant role. The share of social security expenditures in GDP rose from 10 percent in 1991 to 16 percent in 2007.*
- *The deep recession and the fiscal response that followed the global financial crisis pushed debt to unprecedented levels. The rise in the public debt ratio reflected the combination of a steep decline in nominal output, a drop in revenue, fiscal stimulus (around 2½ percent of GDP in both 2009 and 2010) and automatic stabilizers. Recovery from the financial crisis was interrupted by the March 2011 earthquake, which*

brought fiscal balances under further pressure. Reconstruction efforts are likely to add fiscal costs of around 3 percent of GDP over the next several years.

### 3. **Despite substantial public dissaving, Japan's external balance has remained in surplus for over two decades.**

This has occurred because deteriorating public balances have been roughly offset by rising private sector surpluses. In particular, deep structural changes effected by the asset price collapse led both national saving and national investment to fall about 7 percentage points of GDP between 1992 and 2008. More recently, during the financial crisis, the rapid increase in public expenditures resulted in a much larger decline in national saving than investment, temporarily compressing the external surplus.

- *The trend decline in national investment has been driven by the private sector.* Private capital formation fell from a high of 26 percent of GDP in 1990 to 18 percent in 2008, reflecting deep structural transformations in the economy, including the unwinding of overinvestment in the bubble era, a protracted process of corporate deleveraging and expectations of low growth.
- *Public investment was a key stimulus measure* in the years immediately following the asset price bust, rising



about 2 percentage points of GDP in 1990–95, to 8 percent in 1995. Thereafter, the public investment ratio steadily declined to around 4 percent in 2008, and the share of public investment in stimulus measures was relatively small in the recoveries following the Asian crisis, the IT bubble crash and the recent financial crisis (where it contributed ½ percent point of GDP in the 2009 stimulus package).

- *The decline in national saving has been led by large public sector dissaving.* In particular, private saving rates ranged between 20 and 26 percent for nearly the entire period of 1990–2008,<sup>3</sup> while gross public saving declined 7 percentage points in 1990–2004, before rising modestly in the years before the financial crisis.

<sup>3</sup> Private saving abruptly and briefly spiked to 31 percent of GDP in 1998.

- *The composition of private saving rates, however, has undergone dramatic reversal in this time period.* Household saving rates declined from 8 percent of GDP in 1991 to under 3 percent in 2009, reflecting an aging population and stagnating incomes, while corporate saving rates surged from 16 percent to 21 percent, as a result of a sustained drive toward restructuring and favorable financial conditions.

from the domestic and multilateral perspective and outline policy recommendations to address them.

**4. Fiscal imbalances are projected to remain large going forward.**

Following the global financial crisis and the March 2011 earthquake, staff projects that a near-term decline in GDP and reconstruction efforts will push the net public debt ratio to 160 percent by 2015. This implies that stabilizing the net debt ratio by the mid-2010s and reducing it to around 135 percent of GDP by 2020 would require a reduction of the structural primary fiscal deficit by 10 percentage points of GDP over a 10 year horizon.<sup>4</sup> Reflecting the slow recovery, projections are for private saving imbalances to persist as well, at high levels over the medium-term.

**5. The remaining sections of the report will explore root causes of imbalances,** discuss their implications

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<sup>4</sup> These targets are more ambitious than the government's Fiscal Management Strategy, adopted in June 2010, which calls for halving the primary deficit by 2015, and starting the reduction of debt only in 2021.

## II. ROOT CAUSES OF IMBALANCES

*G-20 indicative guidelines identified Japan as experiencing “moderate” or “large” fiscal and private saving imbalances. The fundamental reasons for the imbalances are the long duration of the economic slump and adverse demographics.*

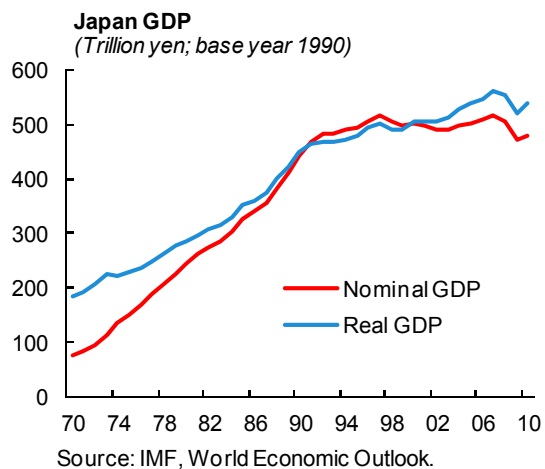
### A. Fiscal Imbalances

6. **Large and rising fiscal imbalances in Japan are fundamentally a reflection of persistently low growth.** Low growth has spurred public spending and depressed tax revenues over many years, perpetuating a cycle of adverse debt dynamics. Low growth has also made it politically difficult to introduce corrective measures: Japan has had no major tax (revenue-raising) reforms in over twenty years. High private saving, strong home bias and the existence of stable institutional investors have enabled fiscal imbalances to persist thus far.

#### Explaining Anemic Growth

7. **Stagnating output reflects the confluence of a trend decline in total factor productivity, a shrinking labor force, low capital investment and inadequate policy adjustment after the asset price collapse.** In real terms, output grew just 25 percent between 1990 and 2007 and the contraction experienced during the recent crisis reduced real output in 2010 to its 2005 level (in nominal terms, to its 1995 level).<sup>5</sup>

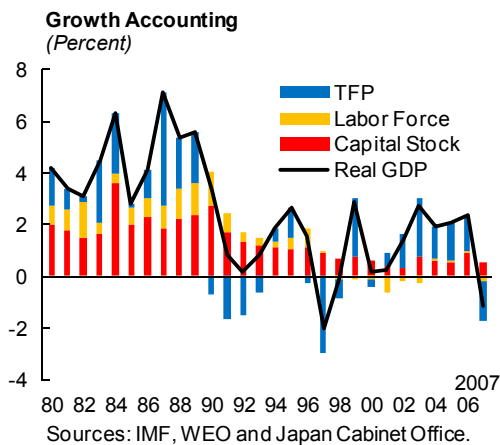
<sup>5</sup> For reference, between 1990 and 2007, real output grew 33 percent in Germany, 37 percent in France, 53 percent in the United Kingdom, 64 percent in the United States, about 300 percent in India and about 500 percent in China.



- *TFP growth decelerated steadily after the collapse of asset markets in 1991.*<sup>6</sup> The slowdown in the growth of TFP is significant not just because of its impact on output growth but because, by lowering the expected rate of return on capital, it has hindered private investment. While some of the TFP deceleration may have been inevitable after exhaustion of technological catch-up after the 1980s, policy distortions have played a significant role. These

<sup>6</sup> Estimates of TFP in 1990-2008 vary widely, but most economists agree that TFP growth has slowed considerably since the 1990s; see Hayashi and Prescott (2002), Jorgenson and Motohashi (2005) and Naoki (2011). Calculations here are based on a standard Cobb-Douglas production function, with capital share of output set at 0.32 (average in 1980-1989).

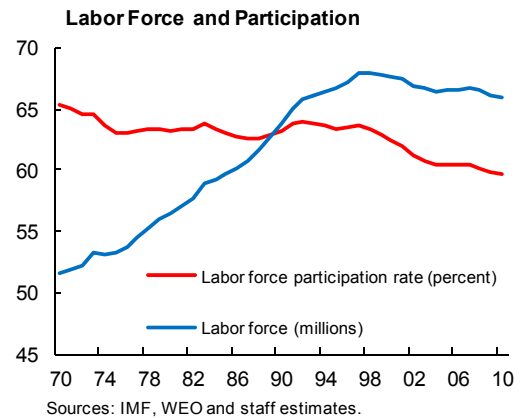
include government policy schemes that subsidize inefficient firms through credit guarantees; barriers to entry in key service industries that inhibit competition and limit incentives for firms to invest in productivity-enhancing technology;<sup>7</sup> and restrictions on inward FDI that limit spillovers such as transfer of technology. Credit guarantees to SMEs have perpetuated the “zombie” problems of the 1990s, as inefficient firms have lingered, constraining investment by healthier firms.<sup>8</sup> Japan’s low aggregate productivity is largely a consequence of low productivity in services, as manufacturing has witnessed sustained productivity gains over the last decade.



<sup>7</sup> Service sector investment in R&D and particularly in information and communication technology (ICT), which was instrumental in accelerating productivity elsewhere (e.g., the United States), is notably low.

<sup>8</sup> The widespread practice in the 1990s, of Japanese banks lending to unprofitable firms, or *zombies*, whose presence discouraged entry and investment by healthier firms. See Caballero, Hoshi and Kashyap (2008).

- *Demographic changes have been inimical to growth.* The growth rate of Japan’s labor force has steadily declined since the early 1990s, turning negative in the early 2000s, with direct consequences for output and potential output growth. Participation rates have also been on a trend decline. Trends in the labor force reflect an aging population and declining fertility. The share of the elderly in the population rose 14 percentage points in 1980–2010 (in part due to rising longevity), making Japan the most aged as well as the fastest aging population in the world, while fertility rates fell from 1.75 births per woman to 1.3.<sup>9</sup>



- *Private investment has been weak.* While investment by large manufacturers, particularly in the export sector, has seen brief periods of expansion, investment by SMEs has stagnated for

<sup>9</sup> That the decline in the growth rate of output since the asset price collapse has been much smaller in *per capita* terms than in level terms only underscores the importance of demographics in Japan.



decades. Structural changes in the Japanese economy, from lower potential growth, deflation (and its effect on real interest rates), and from distortions in the regulatory environment, lie behind these trends.

- *Inadequate restructuring in SMEs has held back investment.* In the late 1990s, large manufacturing firms restructured aggressively, spurred by pressures from competing in global markets and helped by favorable overseas conditions. Restructuring in insulated sectors of the domestic economy—notably, among SMEs in services—has been much slower. In part, this reflects credit guarantees for SMEs which limit incentives for bank-led workouts and restructuring.<sup>10</sup> As a consequence, balance sheet problems and high leverage have lingered in SMEs, making it difficult for them to secure financing for investment. Meanwhile, the practice of directing the bulk of credit guarantees to established firms has acted as a barrier to entry against new, more productive firms, further restraining investment.
- *Investment has adjusted to expectations of lower trend growth.* The decline in the growth of the labor force, and expectations of a continued slowdown,

has implied a slower steady state growth of the capital stock and lower trend growth in the years ahead. Low growth expectations have resulted in a downward adjustment of investment. Export-oriented manufacturing has been less affected by domestic prospects as brighter growth prospects, lower production costs and bigger markets abroad have encouraged firms to substitute FDI for domestic investment.<sup>11</sup> But even in this sector, investment has been subdued barring brief episodes (e.g., 2003–07), while weak domestic prospects have dampened investment demand by domestically-oriented firms, notably SMEs in the service sector.

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<sup>10</sup> Credit guarantees to SMEs have ceilings and duration limits from 7–10 years but the credit guarantees are sometimes granted with limited evaluation on potential credit risks; (see McKinsey Global Institute, 2000).

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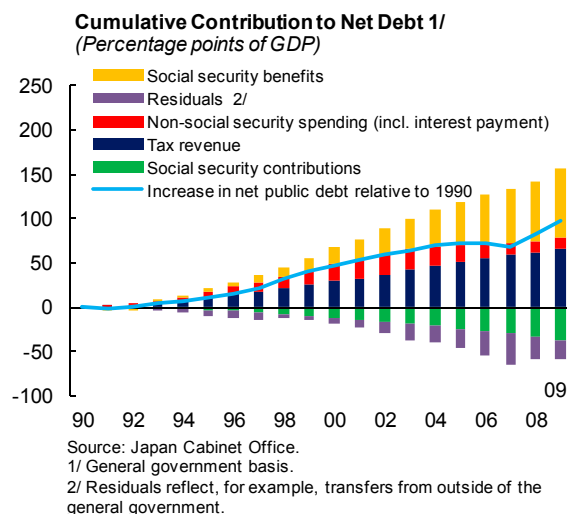
<sup>11</sup> Although outward FDI as a share of GDP is small, the share steadily increased from 0.5 percent of GDP in the 1990s to over 1 percent in the 2000–07 period.

- *Policy missteps have played a part.* Monetary policy could have been eased faster in the years following the asset price collapse. Real policy rates were lowered only gradually, from over 5 percent to 1 percent in 1990-95, providing inadequate stimulus to revive demand and prevent the emergence of deflation. In addition, the stop-start nature of fiscal policy dampened its effectiveness. With only nascent signs of recovery in 1997, fiscal stimulus was withdrawn and a consumption tax, to initiate fiscal consolidation, was put in place on the eve of the Asian crisis. But the contraction in output that followed the outbreak of the crisis led to a resumption of stimulus measures. Moreover, weak corporate governance, along with delays in recognizing the severity of NPLs and balance sheet damage for over a decade after the asset price collapse also proved costly, both in terms of taxpayer funds and in holding back a recovery as “zombie” firms lingered, constraining investment by sound firms.

8. **In the near term, many factors that have contributed to Japan’s growth slowdown are likely to persist or intensify.** Pressures from demographics are going to increase, concerns about growth expectations will be amplified by the sluggish global recovery and the earthquake, and major reforms will be needed to comprehensively address much-needed SME restructuring.

## Low Growth Has Perpetuated Adverse Debt Dynamics

9. **Weak output growth has eroded tax revenue collection.** A declining revenue share of GDP has played a significant role in the buildup of public debt. This share fell 3 percentage points from the peak of the bubble to the late 1990s, and then stagnated till the mid-2000s. Stagnant revenues in the 1990s resulted from a series of tax cuts, while a narrowing of the household tax base has played an important role since. The household compensation share in GDP was fairly constant from the 1980s through the mid-1990s but thereafter, with stagnating incomes in the 2000s, it declined 2 percentage points by 2007. As a consequence, the elasticity of household tax revenue vis-à-vis GDP deteriorated.<sup>12</sup>



<sup>12</sup> Tax elasticity calculations in this section are done with respect to central government revenue.

**Japan: Trends in Tax Elasticity 1/***(Percent average)*

	1981-1985	1986-1990	1991 - 1996	1997 - 1999	2003 - 2007	2008 - 2009
Total tax elasticity	1.29	1.31	-0.96	0.55	4.15	0.97
Household income tax elasticity	1.27	1.56	-5.06	3.48	-2.05	1.77
Corporate tax elasticity	1.34	1.40	-3.87	2.19	8.12	13.59
Household compensation share in GDP	0.54	0.54	0.54	0.53	0.52	0.53
Household property income share in GDP	0.10	0.11	0.11	0.07	0.05	0.05
Corporate profit share in GDP	0.15	0.15	0.17	0.18	0.24	0.23

Sources: IMF staff estimates and Japan Cabinet Office.

1/ Tax elasticities are vis-a-vis GDP.

- *Household tax elasticity in the 1990s was initially large and negative during the period of positive growth, then large and positive during the recession in the late 1990s, reflected in a significant drop in tax revenues over the decade as a whole.* The main reasons appear to be the provision for the deduction of asset market losses and progressivity of the income tax system.<sup>13</sup>
- *In 2003–07, a period of healthy GDP growth, household tax elasticity vis-à-vis GDP turned large and negative, drawing revenues down further.* Decomposing this elasticity into the elasticity of household tax revenues vis-à-vis the household tax base, and the elasticity of the household base itself vis-à-vis GDP reveals that the deterioration was largely driven by a severe narrowing of the household tax base. In particular, household incomes stagnated even as output grew at a

healthy pace, resulting in a significant drop in tax revenues.<sup>14</sup>

- *The high volatility of total tax elasticity over the last two decades is indicative of ongoing structural changes in the economy, and thus gives little indication of the impact of future taxes on future tax revenues.*

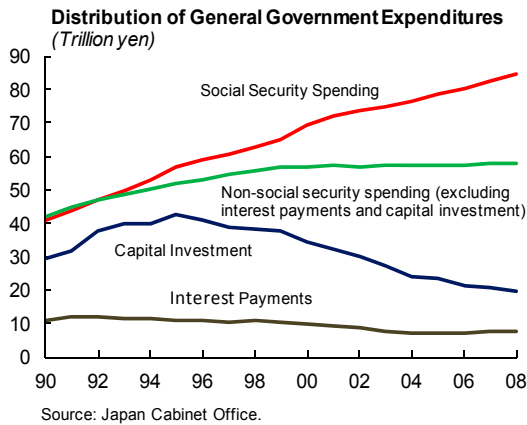
10. **Further pressure on fiscal balances has come from entitlement spending.** Since the early 2000s, Japan's non-social security spending has been well contained and, at about 16 percent of GDP in 2010, was the lowest among G-20 advanced economies. Meanwhile, social security benefits have risen steadily due to population aging. Social security spending rose 60 percent in 1990–2010, accounting for about half of consolidated government expenditures in 2010.<sup>15</sup> Moreover, a sustained increase in the old-age dependency ratio has implied larger social security payments supported by a

<sup>13</sup> See Mühleisen (2000), who notes that loss carry forwards may have depressed corporate tax elasticity in the mid-1990s.

<sup>14</sup> While the corporate tax base has progressively grown since the 1990s, it is significantly smaller than the household tax base.

<sup>15</sup> Estimates put old-age related expenditures at about 70 percent of social security spending.

shrinking pool of workers, which has rapidly deteriorated the social security balance<sup>16</sup> (Appendix Figure 1).



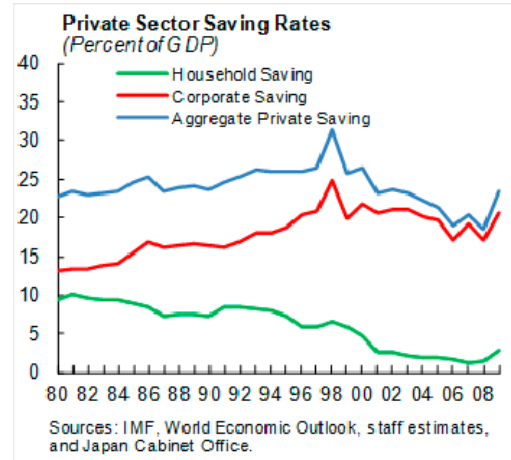
## B. Private Saving Imbalances

11. **The high aggregate private saving rate embeds a deep imbalance.** In particular, it reflects a high corporate saving rate, which trended up from 13 percent of GDP in 1981 to 21 percent in 2009, and a very low household saving rate, which declined from 10 percent of GDP to less than 3 percent over this period.<sup>17</sup> Spending retracted during the financial crisis, pushing the private saving rate up to 23 percent in 2009, highest among the advanced G-20.

<sup>16</sup> The social security system is partially funded. The social security balance refers to the difference between social security contributions (plus government transfers) and social security payments.

<sup>17</sup> The evidence indicates that households partially pierced the corporate veil in this period. See Box 1 in the Appendix.

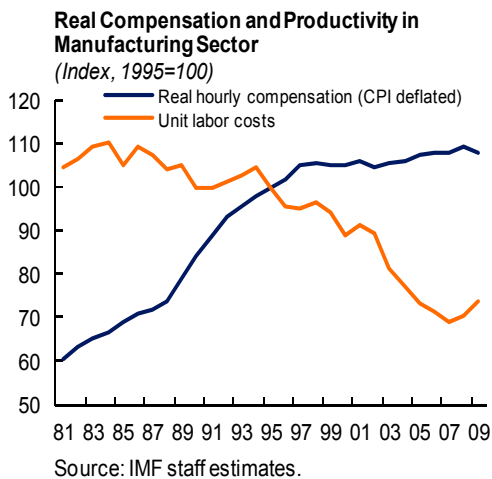
12. **The decline in household saving rates reflects a rapidly aging population and the stagnation of household incomes.**



After growing at an average annual rate of 5 percent in the 1980s, nominal disposable income growth slowed to an average 2 percent in the 1990s and was flat in 2002–07. Stagnating household disposable income has been accompanied by a rising consumption share of disposable income and declining saving among younger households, which has reinforced dissaving done by elderly households.

13. **The rise in corporate saving reflects a sustained drive towards restructuring after the excessive indebtedness built during the bubble, and has been facilitated by wage moderation and a long period of low interest rates.** Strong demand from China, and periods of real effective depreciation associated with deflation and a weak yen, along with the strong and stable income balance from corporate

overseas operations, contributed to a sharp rise in profitability (measured by asset turnover and profit margins) for a sustained period between 2002 and the financial crisis.<sup>18</sup> The rise in corporate gross saving led to a rise in corporate excess saving (i.e., net lending) as well, reversing many years of net borrowing through the 1980s and 1990s.



- *Globalization of labor and product markets, and deregulation in domestic markets resulted in low wage growth.* Real wages stagnated, growing just 1 percent in 1996–2007. The integration of large emerging economies into the global economy facilitated the relocation of manufacturing to regions with low production costs, keeping manufacturing wages flat despite impressive gains in productivity. In nontradables, stagnating productivity

<sup>18</sup> See Kang, Tokuoka, and Syed (2009) for a more detailed discussion of this period of corporate profitability.

and a rapid rise in the hiring of temporary low-wage non-regular workers (facilitated by deregulation) put downward pressure on wages, which helped maintain lower wages in the tradable sector as well. As a consequence, the labor income share dropped from 65 percent in 1991 to 60 percent in 2005.<sup>19</sup> These wage developments must be viewed in the context of a longer-term decline in the labor income share in advanced economies. In particular, historically, Japan's labor income share was significantly higher than that in other advanced economies but has since declined, and is now at the G-7 average.

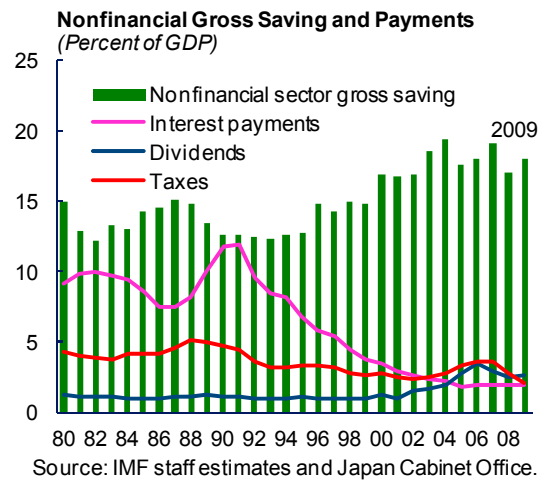
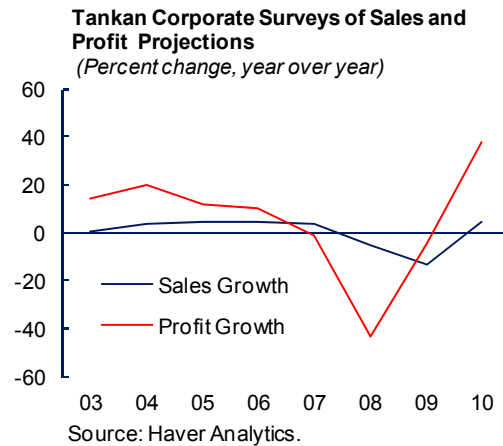
- *Favorable financial conditions aided the rise in nonfinancial corporate saving.*<sup>20</sup> The surge in profits was partly a result of a striking decline in interest payments, which dropped from 12 percent of GDP in 1991 to less than 2 percent in 2009, reflecting both lower borrowing rates and a protracted process of corporate deleveraging. Corporate profitability and saving were also boosted by lower tax payments, resulting from a decline in statutory

<sup>19</sup> Sommer (2009).

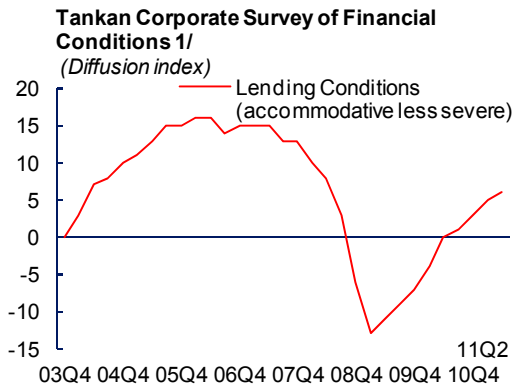
<sup>20</sup> The gross saving ratio in the financial sector has been on a mild upward trend between the asset price bust and 2009, and does not contribute significantly to the large increase in corporate saving.

corporate tax rates since the late 1980s, and stagnant dividend payouts, which have persisted between 1–2 percent of GDP in periods of stress as well as in boom years.

- *Corporates have devoted an increasingly smaller share of profits to upgrading or expanding their capital stock.* Japanese nonfinancial corporates were net borrowers continuously in 1980–97, but have since increased their net lending position from 1 percent of GDP in 1998 to 5 percent in 2009. Notably, in this time period, slightly more than half the increase in net lending emerged from a decline in capital investment rather than an increase in saving. Against the backdrop of high profitability, the subdued level of nonfinancial corporate investment is tied to both cyclical and structural factors.
- *Corporates may have viewed high profitability as unlikely to be sustained going forward, and thus held back investment in light of growth expectations.* This appears to be corroborated in the BOJ's Tankan surveys conducted during 2003–07, where firms revealed relatively subdued growth in sales.



- *Corporates may have increased saving to reduce dependence on external financing.* Faced with high debt ratios since the collapse of asset markets, Japanese nonfinancial corporates have used profits to repay debt. Moreover, concerns about vulnerability to volatile financial market conditions have spurred firms to reduce their dependence on external financing. This is supported by Tankan surveys which reveal that, since 2003, only a small majority of corporates have viewed lending conditions as accommodative.



Source: Haver Analytics.  
1/ Percent of respondents finding lending conditions accommodative less than those finding lending conditions severe.

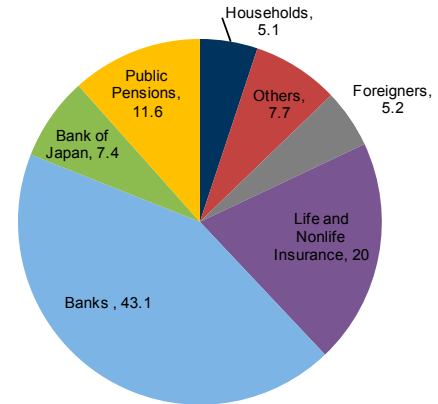
### Private Saving Financing Public Dissaving

14. **Despite the large and increasing public debt, the government’s interest burden has remained low.** Between 1992 and 2009, the net debt ratio rose about a 100 percentage points while nominal yields on 10-year Japanese Government Bonds (JGBs) steadily declined and stabilized at less than 2 percent.<sup>21</sup> These developments in the government bond market reflect the confluence of several factors. In effect, while high private saving (equivalently, low private spending) has forced a government that wants to maintain output to run large deficits, low risk appetite and strong home bias of

<sup>21</sup> Given very mild deflation (CPI inflation averaged -0.30 percent in 2000–10), real long-term bond yields have also been low, ranging from 0.1 to 2.7 percent in 2000–10 (calculated as nominal long term bond yields less CPI inflation; data source: WEO).

institutional investors<sup>22</sup> has led to a large domestic base for JGBs that has enabled the government to finance its debt at very low cost.<sup>23</sup> Notably, in 2009, 95 percent of outstanding JGBs were held by domestic financial institutions and households. Without recourse to this vast pool of savings, funding costs and debt service would have arguably risen faster, and possibly forced an earlier resolution of fiscal imbalances.

Holdings of Japanese Government Bonds 1/ (Percent)



Source: Ministry of Finance  
1/ As of end 2009

### 15. Government-owned saving and insurance institutions have provided a captive domestic base for government

<sup>22</sup> This includes banks, pension and life insurance funds, where the vast majority of household financial assets are held.

<sup>23</sup> Some argue that historically high real estate prices in Japan have encouraged private investors, notably households, to accumulate JGBs to achieve the correct portfolio balance between risky assets (i.e., housing) and safe assets; see Iwaisako, Mitchell and Piggot, 2004. The share of currency and deposits in households’ financial assets was 55 percent in 2008.

**financing needs.** Japan Post Bank and Japan Post Insurance remain fully government-owned and, until 2007, were not subject to regulation by the Financial Services Authority (FSA) under the same set of rules, risk-controls and disclosure as other financial institutions. In return, funds have been required to be invested in safe assets, particularly JGBs.<sup>24</sup> The recent suspension of plans to privatize Japan Post and proposals to double its deposit ceiling potentially increases the demand for JGBs. At the same time, it threatens to increase the size of an already large financial institution, raising the potential for systemic risk.

16. **In summary, large fiscal and private saving imbalances primarily reflect Japan's inability to resolve multiple structural weaknesses.** Low and declining trend growth, low productivity, mild deflation and the declining labor force must be tackled simultaneously, given that these structural weaknesses are mutually reinforcing.

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<sup>24</sup> As of end-2010, Japan Post Bank held about 76 percent of its assets in JGBs (amounting to 19 percent of outstanding JGBs), and Japan Post Insurance held about 66 percent of its assets in JGBs (amounting to about 8 percent of outstanding JGBs).



### III. Are Japan's Imbalances a Problem?

*Large fiscal imbalances pose risks to domestic stability and also carry risks for global external positions and sovereign bond markets.*

#### A. Domestic Perspective

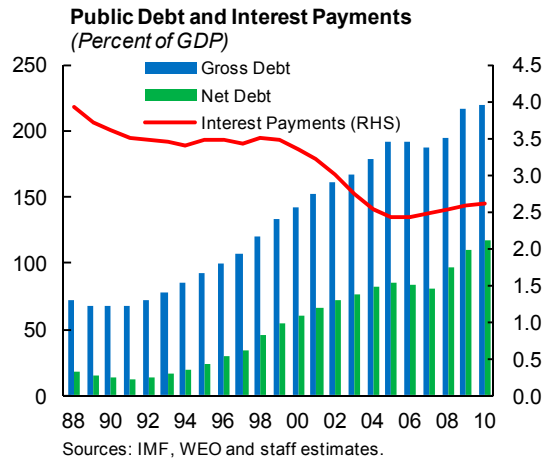
17. **Should JGB yields rise from current levels, Japanese debt could quickly become unsustainable.** Recent events in other advanced economies have underscored how quickly market sentiment toward sovereigns with unsustainable fiscal imbalances can shift. In Japan, two scenarios are possible. In one, private demand would pick up, which would lead the BOJ to increase policy rates, in which case the interest rate-growth differential may not change much. The other is more worrisome. Market concerns about fiscal sustainability could result in a sudden spike in the risk premium on JGBs, without a contemporaneous increase in private demand. An increase in yields could be triggered by delayed fiscal reforms; a decline in private savings (e.g., if corporate profits decline); a protracted slump in growth (e.g., related to the March earthquake); or unexpected shifts in the portfolio preferences of Japanese investors. Once confidence in sustainability erodes, authorities could face an adverse feedback loop between rising yields, falling market confidence, a more vulnerable financial system, diminishing fiscal policy space and a contracting real economy.

- *Public Balance Sheets:* With exceptionally low nominal yields on JGBs, interest payments in 2010 were still 2 percent of GDP. An increase of just 100 basis points in average yields would raise the interest bill by an additional 2 percent of GDP, or more if there were a contemporaneous increase in debt. Absent an offsetting effect from more rapid growth, debt dynamics could deteriorate precariously.
- *Private Balance Sheets:* A JGB bond shock, particularly if accompanied by an equity price drop, would imply large capital losses for the principal creditors, which are Japanese banks and pension funds. Capital losses could raise counterparty risks and force banks into abrupt deleveraging. Staff's analysis suggests that if the shock is sufficiently large, bank credit would contract as well.<sup>25</sup> Moreover, should banks' deleveraging extend to their positions abroad, exchange rate appreciation could follow, further squeezing aggregate demand.<sup>26</sup>

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<sup>25</sup> IMF (2011b).

<sup>26</sup> If the risk premium shock were accompanied by an equity price drop, large capital outflows by residents could induce net depreciation and offset some of the decline in demand.



## B. Multilateral Perspective

18. **A spike in JGB yields could result in an abrupt withdrawal of liquidity from global capital markets and possibly disruptive adjustments in exchange rates.** Japan's private net international investment position is significant, about \$1½ trillion, consisting primarily of the outward investments of banks, life insurers, and corporate pension funds. Capital losses following a spike in JGB yields could trigger rapid deleveraging from positions abroad.

- *In the event of a rise in JGB yields, Japanese banks may need to cut their foreign credit lines.* For example, analysis in the IMF Spillover Report for Japan indicates that in an extreme shock (e.g., a 450 basis point increase) would cut Japan's credit to foreign borrowers by close to 50 percent, assuming that foreign loans are cut first. G-20 economies, notably the U.K.

and Korea, would be among the most exposed to the loss in funding.<sup>27</sup>

- Given evidence from past bouts of global turmoil, abrupt adjustments in exchange rates of major economies are likely to follow.

19. **The rise in JGB yields could put upward pressure on sovereign yields elsewhere.** The risk of transmission of sovereign debt shocks has increased considerably since the 2008 crisis, including from Japan to other sovereigns. Contagion could thus translate a rise in JGB yields into higher interest rates elsewhere. Staff's analysis suggests that sovereign bond yields in economies where public debt is already high would be most vulnerable.

<sup>27</sup> As emphasized in IMF (2011b), however, it must be noted that since Japan's cross-border banking links are relatively limited, a sudden withdrawal of funding from Japan, in isolation, is unlikely to threaten systemic stability of any other banking system.

## IV. Addressing Imbalances

*To address imbalances and anchor strong, sustainable and balanced growth, Japan needs to undertake growth-enhancing structural reforms and growth-friendly fiscal consolidation. Over time, these reforms should help close the output gap, thereby helping to end deflation, encourage investment and rebalance the economy toward domestic demand. In the short run, however, a key challenge will be to fiscally consolidate while minimizing the negative effects on aggregate demand.*

### Growth-enhancing Structural Reforms

20. **Raising productivity is key to raising potential growth over the medium-term.** Policy priorities include restructuring SMEs and reducing barriers to entry (particularly for startups) to improve productivity in services; removing distortions that impede investment; and raising labor force participation. Anticipation of higher productivity could itself encourage business investment, strengthening aggregate demand.

- *Strengthening competition in the service sector:* Regulatory reforms that lift barriers to entry in key service industries (medical care, education, transport, utilities); policies that encourage competition, including through stronger penalties on antitrust violations; broader trade and financial liberalization (such as participation in the Trans Pacific Partnership (TPP)); and weaker restrictions on inward FDI (e.g., lower equity restrictions and easing merger and acquisitions rules); would strengthen competition and raise productivity in insulated industries (OECD, 2006).
- *Restructuring SMEs and phasing out credit guarantees:* Establishing asset management companies to purchase distressed loans would promote bank-led restructuring and reduce SME leverage. Phasing out credit guarantees and assisting the exit of unproductive SMEs would remove a key barrier to entry for more efficient firms and create space for new investment.
- *Raising labor force participation:* Japan has the lowest level of female labor force participation among OECD economies, reflecting, in part, the lack of childcare services and unfavorable tax treatment that discourages female labor participation. Reducing dualism in the labor market, increasing childcare services and reforming aspects of the tax code that reduce work incentives for secondary earners would encourage more women to join the workforce. The labor force could also be raised by increasing immigration.

## Fiscal Consolidation

### 21. **The Fiscal Management Strategy, adopted by the government in June 2010, is a step in the right direction but a more ambitious strategy is required to maintain confidence in public finances.**

The government's current plans—including targets for halving the primary deficit (in percent of GDP) by 2015, raising the consumption tax rate from 5 to 10 percent, increasing the pension retirement age and adjusting pension benefits for deflation—are welcome, but the plan does not specify steps beyond 2015 for meeting the final target of reducing the debt ratio starting in 2021 at the latest.

### 22. **Given limited scope for cutting expenditure, fiscal adjustment would need to rely mainly on new revenue sources and limits on spending growth.**

Japan's non-social security spending is lowest among G-20 advanced economies and capital spending has fallen to modest levels, leaving little room for spending cuts. Meanwhile, tax revenue is among the lowest in the advanced G-20 economies, primarily reflecting lower consumption and personal income tax revenue.

- *Among various revenue measures, raising the consumption tax (VAT) is the most appealing.* The consumption tax rate in Japan, at 5 percent, is the lowest among the advanced G-20. Staff's analysis indicates that a gradual increase in the consumption tax from 5 percent to 15 percent over several years could provide roughly half of the

fiscal adjustment needed to put the public debt ratio on a downward path within the next several years.<sup>28</sup>

- *Raising the VAT would dampen growth in the short-run, but this could be offset over time by improved confidence in the fiscal outlook.* Relative to the no-adjustment case, staff estimates that a gradual increase of the VAT would reduce growth (compared to the baseline) by 0.3–0.5 percentage points per year in the near term. But, the GDP (level) impact would eventually turn positive as public debt declines and improved confidence reduces precautionary savings and boosts spending. However, it is critical to target a relatively high VAT rate and initiate the process of a rate increase as soon as a cyclical recovery is underway, to strengthen credibility of fiscal adjustment and maximize the debt-reducing benefits of the VAT. Staff analysis indicates that a positive investment response from a small reduction in the corporate tax that raises after-tax returns could modestly alleviate negative demand effects. Furthermore, the VAT could raise demand through an inter-temporal substitution effect, which would raise prices, inflation and lower the real interest rate.<sup>29</sup>

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<sup>28</sup> See IMF (2011a) for more information on the recommended adjustment strategy.

<sup>29</sup> Announcing in advance a gradual increase in the VAT could also lift inflation expectations.

- *Containing public spending growth and reforming pension entitlements in line with rising life expectancy could generate additional savings.* Staff's analysis indicates that freezing central government contributions to the public pension system in nominal terms, including by raising the pension retirement age (currently at 65 years), could yield ½ percent of GDP in savings over 10 years. Additional savings would come from freezing nonsocial security spending in nominal terms and introducing caps on social transfers.

### **Toward an Upside Scenario**

23. **Japan needs both fiscal adjustment and structural reform.** Fiscal adjustment would depress growth in the short run, while structural reforms could buoy growth only after a transitional period in which the measures take hold and begin to produce positive effects. Growth effects could be particularly severe if Japan was hit by a sovereign risk premium shock. Accordingly, it would be useful to use simulations to assess the interplay of these effects, both in the short term and the longer run.

- Possible policy elements toward contributing to an upside scenario would include both fiscal consolidation and structural reform in Japan. To highlight the contributions of each on Japan's economy, the following layers could be considered:

- A scenario in which the government adjusts the fiscal position, but does not undertake the structural reforms needed to increase trend growth. As in the recent Article IV staff report, the scenario could assume that fiscal efforts are strong enough to stabilize net debt (at around 150 percent of GDP by 2016), and reduce it over time (to around 135 percent of GDP by 2020). Accordingly, the scenario would explore the implications of a gradual rise in the consumption tax from 5 to 15 percent, perhaps with a partially offsetting reduction in the corporate income tax, to spur investment. The question, then, is how this would affect the growth outlook.
- A scenario in which both fiscal and structural reforms are implemented.
  - Preliminary simulations done by the OECD show that if reforms were implemented rapidly, they could add about 0.7 percentage points to growth within a few years. This work assumes that Japan's framework gradually converges to best practices in terms of barriers to FDI, regulation of network industries (ETCR), and barriers to entry in services (especially retail trade and professional services). Further work could explore the implications of restructuring SMEs.
  - A "full reform" scenario could also examine the magnitude of increase

in labor force participation that would be needed to meaningfully improve growth. The question is whether efforts to increase participation by nonworking females are likely to make a substantive difference. Is greater immigration the only solution?

24. **A comprehensive and simultaneous approach toward fiscal consolidation and structural reforms could generate considerable gains in growth over the medium-term.** Staff's model simulations indicate that although fiscal consolidation has short-term costs, the potential long-term benefits are considerable and reforms that raise potential growth could support consolidation.

### **Box 1. Have Japanese Households Pierced the Corporate Veil?**

The striking decline in household saving rates over the same period, and by approximately the same magnitude, as the increase in the corporate saving rate is suggestive that households in Japan “pierced the corporate veil”, adjusting their own saving plans to offset the saving done by corporates on their behalf. The argument is that, as ultimate owners of firms, sophisticated shareholders understand that an increase in corporate saving (retention of earnings rather than paying it out as dividends) increases their own net worth and reduce their private saving, re-optimizing in accordance with the life-cycle model of consumption.

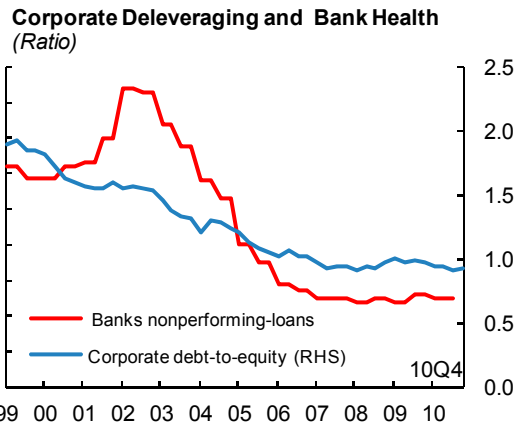
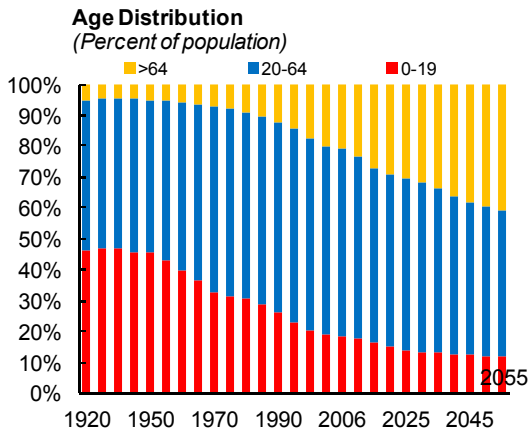
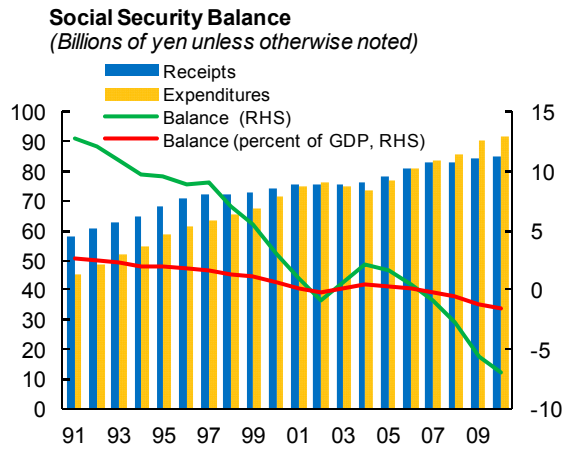
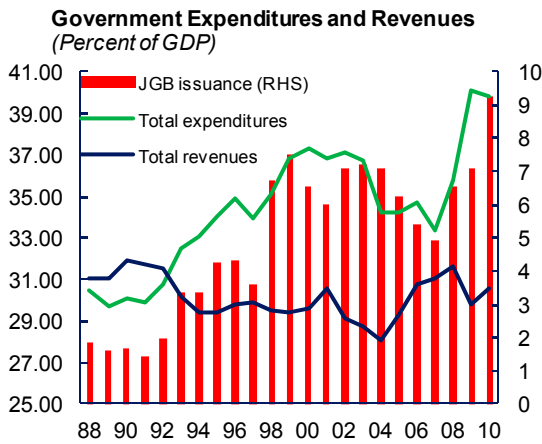
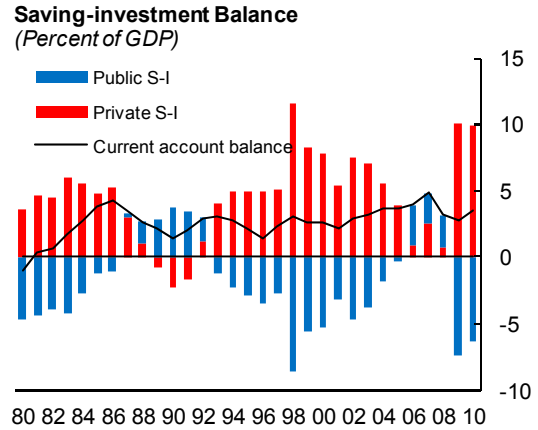
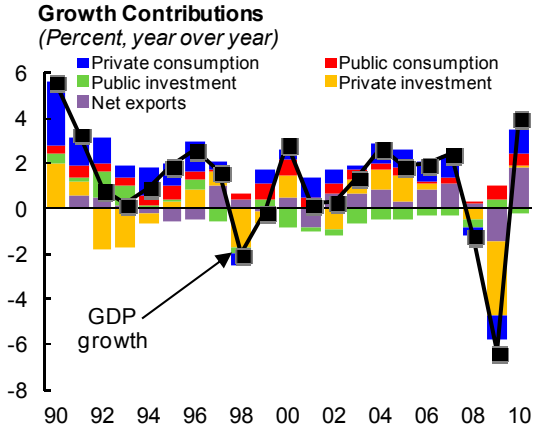
Well-known limits to this theory are that households may be myopic, liquidity constrained, imperfectly informed about changes in corporate savings and have differential propensities to consume out of wealth versus disposable income. Furthermore, even if shareholder households successfully pierce the corporate veil, their marginal propensities to save may be different from non-shareholder households (Poterba, 1987). In Japan’s case, specifically, the corporate veil argument may be harder to rationalize since the share of equities and trusts held by households is about 10 percent of total household wealth (compared to 40 percent in the United States and 20 percent in other G-5 economies).

Nevertheless, determining whether household and corporate saving in Japan is indeed fungible is ultimately an empirical question. Ongoing regression analysis indicates that Japanese households’ piercing of the corporate veil is incomplete. In particular, a ¥1 increase in corporate saving reduces household saving by between ¥0.65 and ¥0.8.<sup>1</sup> These estimates are higher than the estimated degree of substitutability between U.S. households and corporates; see Poterba (1987).

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<sup>1</sup> Regression of household saving rates (as a percent of disposable income) on covariates that include corporate saving (share of GDP), household wealth (share of GDP), output gap, old-age dependency ratio; dividend payout (share of GDP) and the real interest rate.

### Appendix Figure 1. Japan: Selected Indicators



Sources: IMF, World Economic Outlook, staff estimates, Haver analytics and Japan Cabinet Office.



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