Guyana: Selected Issues

This Selected Issues paper for Guyana was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on March 2, 2010. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Guyana or the Executive Board of the IMF.

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INTERNATIONAL MONETARY FUND

GUYANA

Selected Issues

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Approved by Western Hemisphere Department

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A. Introduction

1.   **The global financial crisis slowed down economic growth in Guyana in early 2009.** As a result of such a deceleration, annual growth is estimated to have been lower than its average over the previous three years. The aim of this paper is to analyze the main channels of transmission for shocks from the global economy to Guyana and assess their specific spillover magnitudes. The transmission channels have operated through the softening of external demand and commodity prices for Guyana's exports, and a decline in remittances and FDI inflows. The spillover effect has been pronounced on commodity exports subject to world market prices[2] and underlying real activity. In contrast, the financial sector appears to have been resilient to the direct impact of the global shock, owing to limited exposure in financial assets and excessive leveraging. However, as the economy has slowed down, the risk of rising NPLs warrants vigilance in the financial system going forward.

2.   **The outline of the paper is as follows**. Section I documents the transmission channels of external shocks to the real economy and the financial sector, citing magnitudes and risks. Section II describes the policy response, including recent directions of monetary and fiscal policies to weather the spillover of external shocks on the domestic economy though the real and trade channel, on the one hand, and through the financial sector, on the other. Section III provides an outlook for the envisaged recovery of the global economy and the specific implications for a rebound in economic activity in Guyana. Section IV concludes.

B. Transmission Channels of the Global Crisis to Guyana

3.   **Economic activity in Guyana was buffeted by the global slowdown, but inflation receded.** The country's main sources of income—remittances, FDI inflows, and commodity exports—were directly affected by the contraction of growth and employment in developed economies. Moreover, commodity exports also suffered from the decline in international prices.[3] As a result, estimates suggest that real GDP growth in 2009 reached 3.3 percent—much below the 4.7 percent average annual growth recorded in 2006–08.[4] Inflationary pressures eased considerably, benefiting from the sharp

Sectoral Real GDP
(annual percent change)
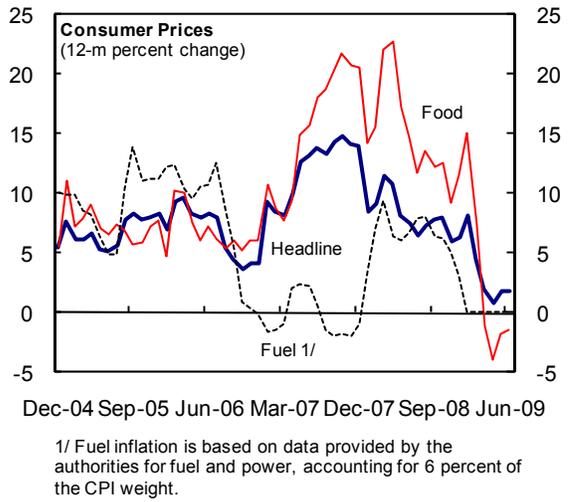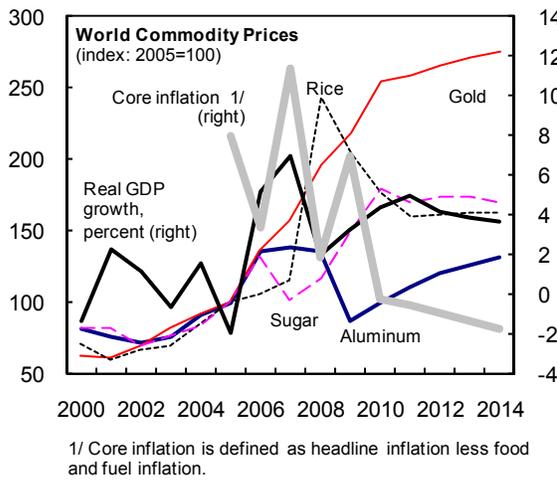
Real GDP

Non-sugar

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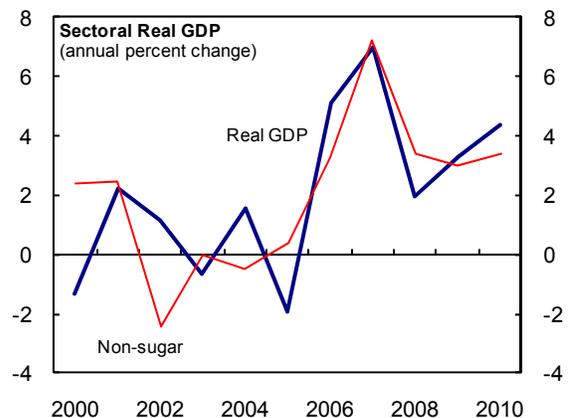
[1] Prepared by Magda Kandil.

[2] For most part in 2009, the Guyanese sugar industry benefited from a preferential trade agreement with the EU.

[3] Guyana is a net-commodity exporter of metals.

[4] All GDP figures presented in this paper rely on the newly rebased GDP series based on 2006 prices.

reduction in world food and fuel prices—with end-2009 inflation declining to 3.6 percent, compared to 6.4 percent in 2008.

World Commodity Prices (index: 2005=100)

1/ Core inflation is defined as headline inflation less food and fuel inflation.

Consumer Prices (12-m percent change)

1/ Fuel inflation is based on data provided by the authorities for fuel and power, accounting for 6 percent of the CPI weight.

4.   **The decline in remittances, prompted by the global slowdown, reduced an important source of foreign exchange for Guyana**. Remittances to Guyana grew at an average of above 54 percent per year in 2004–08—to about 17 percent of GDP, one of the largest in the region. However, remittances declined by some 9 percent in 2009, mostly on account of large migration presence in the U.S. and the U.K, where employment has been severely affected by the global crisis. This has resulted in an important decline in foreign exchange inflows directed toward Guyanese households, with adverse effects on private consumption.

Remittances, 2008 (percent of GDP)

Major Sources of Remittances (nominal GDP growth, percent)
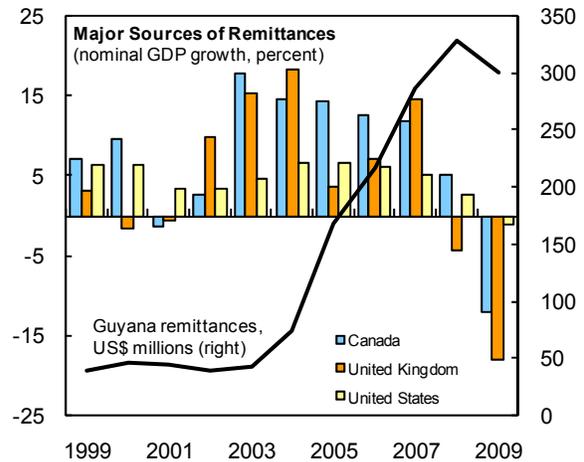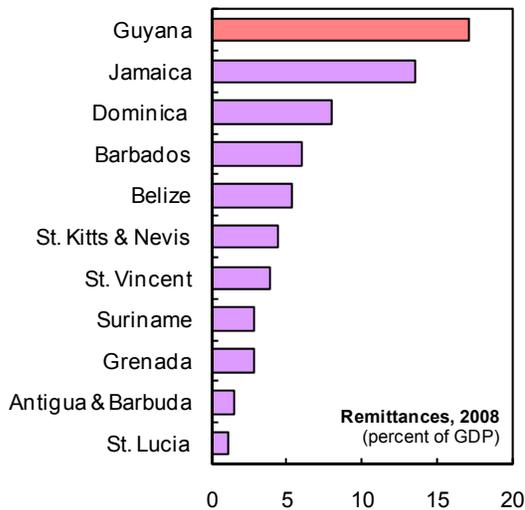
5.   **The steep decline in global economic activity has reduced demand for commodity exports.** In particular, a simple econometric model suggests that commodity

output has not responded directly to prices, but has been driven by the fall in external demand for such commodities, particularly bauxite, rice and gold (Box 1). The plummeting export prices in early 2009 exacerbated the adverse effect on commodity export receipts. This response is consistent with anecdotal evidence provided by representatives of major commodity producer industries in Guyana.[5] The largest decline in international price in 2009 was registered for aluminum (36 percent), and rice (21 percent); rice output grew by 9 percent, and bauxite output fell by 31 percent in 2009. In contrast, gold price firmed up by 12½ percent in 2009, while gold production rose by 21 percent.

Bauxite/Alumina Exports (percent of GDP)

Guyana, Jamaica, Suriname

2008Q1 2008Q2 2008Q3 2008Q4 2009Q1 2009Q2

Gold Exports (percent of GDP)

Guyana, Suriname

2008Q1 2008Q2 2008Q3 2008Q4 2009Q1 2009Q2

Bauxite/Aluminum

World price, US$/mt. ton (right)

Output (% change)
Exports (4-q % change)

2005Q4 2006Q3 2007Q2 2008Q1 2008Q4 2009Q3

Gold

World price, US$/troy oz. (right)

Output (% change)
Exports (4-q % change)

2005Q4 2006Q3 2007Q2 2008Q1 2008Q4 2009Q3

6.   **Non-traditional export sectors were also hit by the global crisis on varying degrees.** The overall impact on non-tradable and non-commodity sectors recorded relatively robust growth through the year (for instance, manufacturing grew at 2.3 percent, and the

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[5] Representatives from Guyana's mining sector indicated during interviews with staff that their decision to raise output production depends on an observed increase in sales orders and not on observed increases of price per se, even when capacity is idle. This effect seems to be of particular importance in the bauxite industry, which is dominated by a few large foreign private companies. While not captured by the model's results, gold production may have more flexibility in its response, as it includes smaller miners with relatively lower fixed costs. Thus, a sufficiently strong or long rise in prices can generate incentives for new entrants to join the industry.

distribution sector by 9.8 percent in 2009). However, the reduction in global demand and activity in traditional export sectors in the first half of the year appears to have permeated to a varying extent across non-traditional sectors. Survey data provided by Guyana's Private Sector Commission suggests that Guyanese firms weathered the crisis well, hoarding employment in response to what was seen as a temporary shock, while identifying alternative measures to cut costs and remain afloat (Box 2).

7.   **Sugar production was not directly affected by the global crisis, since it is largely determined by supply conditions and bilateral commitments to the EU.** Owing to weather shocks and some delays in the modernization program of Guyana's public sector company, sugar output declined by about 3 percent in the first three quarters of 2009. Output recovered significantly in the last quarter, rendering an annual growth rate for the sector of 3.4 percent. Sugar exports were subject to preferential prices by the EU until end-October 2009; the EU has provided a minimum guaranteed price to apply since then through end-2012. Nonetheless, Guyana has been able to benefit from the rebounding world market price from sugar in the last three months of 2009, as the increase in international price for sugar was such that it has exceeded the minimum guaranteed price by the EU.[6]
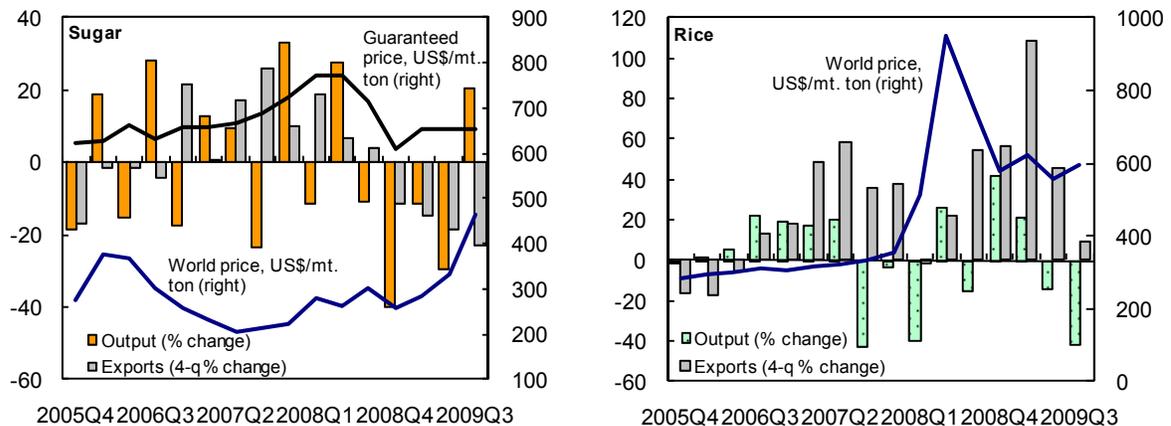
8.   **The external current account deficit narrowed in 2009 and available external financing increased**. Despite the envisaged decline in exports and other receipts, the current account deficit declined, supported by a reduction in FDI-related imports and in food and fuel import prices. Despite the decline in FDI, international reserves increased in 2009 by US$267 million (a 75 percent increase relative to 2008), underpinned by the SDR allocation, steady concessional loans and grants and short-term inflows from domestic commercial banks. Reserve coverage rose to about 5 months of imports.

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[6] See Chapter II on *"The Impact of the EU Sugar Trade Preferences and their Erosion."*

Box 1. Understanding Growth and Inflation in Guyana

Agriculture is a key component of output in Guyana, accounting for approximately 21 percent of real GDP. Developments in agriculture are highly dependent on output of key products, with varying shares in the sector's output, primarily sugar (21 percent) and rice (12 percent). Developments in sugar output have been determined by the preferential price provided by the EU that was phased out starting October 2009.

Rice output growth held well, despite a sharp contraction in the international price. Through September 2009, output declined by 13 percent and the international price dropped by 21 percent, raising the possibility of a causal relationship. However, a rebound in the last quarter of 2009 reflected a surge in response to a firmer price and improved capacity. A basic econometric model indicates that the decline in both output and price may have been responding to the slowdown in global demand, without any direct bilateral causal relationship. Employing time-series quarterly data of rice output and the international price of rice between 1999Q1 and 2009Q1, the growth of output varies positively with the rate of change in the international price with elasticity coefficients of 0.44 and 0.24 in the current and lagged quarter, respectively. However, both coefficients are statistically insignificant, ruling out significant elastic response of rice production to the international price. Instead, both are affected adversely by the decline in global demand. Correlation coefficients between growth in advanced countries and international prices support this hypothesis.

The mining sector is highly dominated by a few products, mainly bauxite and gold. Bauxite accounts for nearly 14 percent of the sector's output and gold accounts for 86 percent. The price of bauxite declined by 36 percent through September 2009, while output declined by 31 percent. In contrast, gold price firmed up by 17 percent, and an estimated growth of 12.6 percent.[1] A basic econometric model does not support a strong direct causal relationship between output and prices. Employing quarterly time-series data between 1999Q1 and 2009Q1, gold output varies negatively in response to movements in the international price in the current period and increases with the lagged price with coefficients that are statistically insignificant. Bauxite output growth varies positively with the current and lagged price with insignificant, albeit positive, coefficients. This suggests that international prices move together with output with respect to global demand. Thus, the projected increase in global demand bodes well for the growth of gold and bauxite output.

Domestic and external factors underlie movement in core inflation over time. Domestic inflation could vary directly with world prices (pass-through effects) or indirectly (stronger domestic demand). Employing quarterly data between 2004Q1 and 2009Q1, the econometric analysis identifies sources of core inflationary pressures. Major sources of domestic inflationary pressures are the growth of sugar output, a key engine of growth, income and foreign inflows. Among external factors, the primary source of inflation is the increase in gold price, reflecting its positive spillover effect on domestic demand and income, which appears to be persistent over time. Estimates suggest that higher aluminum prices also increase inflationary pressures, albeit with a lag. Monetary growth appears to be insignificant to explain movement in price inflation in Guyana, ruling out the importance of the liquidity channel through external receipts to explain inflation.

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[1] It is worth noting that the elasticity of output to price change is likely to be function of capacity constraints. Even in cases where capacity constraints are not binding, producers may be reluctant to increase output, absent robust evidence of demand recovery.

Box 2. The Impact of the Global Economic Crisis on the Business Sector of Guyana

A recent study[1] attempts to assess the impact of the global economic crisis on Guyana's business sector. The results are based on information solicited via: (i) focus group meetings conducted with sectoral and corporate members of the Private Sector Commission (PSC), (ii) structural questionnaires circulated to all sectoral and corporate members of the PSC to solicit their opinion on the performance of strategic sectors of the economy, and (iii) follow up consultations with individual members to seek additional information, as required.

Owing to lower consumer demand, both locally and overseas, the decline in production ranged between 5-30 percent across different sectors during the first half of 2009, compared with the corresponding period in 2008. The results were mixed in the local agricultural sector with forestry being the most affected. The brightest spot in the mining sector was gold production which increased steadily in 2009, reflecting favorable market prices and strong overseas demand. In the manufacturing sector, production and sales declined by approximately 15 percent overall for the first half of 2009, relative to the first half of 2008, reflecting lower consumer demand. The services sector recorded a general decline, with the distribution sub-sector contracting by approximately 15 percent, while the tourism sub-sector declined by approximately 20 percent and remittances also declined by about 10 to 15 percent.

The general price level declined during the first half of 2009, reflecting a sharp decline in world commodity prices. Locally, the prices of basic imported commodities declined sharply, while that of other locally manufactured products also fell, partly led by the general decline of input prices.

The general decline in production and sales adversely impacted on projected revenue with expected negative impact on the level of profits. Revenue declined between 15 and 20 percent across different sectors. Surprisingly, however, firms resorted to hoarding employment, pursuing other cost cutting and innovative strategies to weather the shock while remaining financially viable.

Across the various sub-sectors, no decision was taken to downsize business operations or to intentionally reduce the workforce. Reduction in employment was attributed to attrition, rather than cost cutting initiatives. Further, the demand for agricultural labor grew marginally as a result of some expansion in this sector. Additionally, most businesses have decided not to scale down their activities, as they continue to access credit from the local financial institutions, in some instances on softer terms owing to excess liquidity. One major lender of small and medium size loans reported that the default rate has not grown but has shown some reduction in number in the first half of the year, reflecting positively on the financial viability of micro enterprises.

Overall, the study has confirmed that the members from the business sector have been adversely affected by the global crisis. While the effects have been felt across the business community, the magnitude of the effects varied depending on the particular sector or sub-sector. On the positive side, many participants in the study felt that the global crisis has forced their firms to become more innovative and efficient.

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[1] See Persaud, Chinnatambi and Roopehand-Edwards (2010), "The Impact of the Global Economic Crisis on the Business Sector of Guyana," a study conducted for the Private Sector Commission.

Guyana: External Sector Indicators
(In percent of GDP)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Current account balance (incl. official transfers)	-6.7	-10.1	-13.1	-11.1	-13.2	-8.5	-10.0	-9.4	-8.7	-8.0	-6.5
Current account balance (excl. official transfers)	-8.8	-12.0	-15.5	-11.8	-15.9	-10.6	-11.7	-10.8	-10.4	-9.6	-7.9
Exports	47.1	42.0	40.2	39.2	41.7	38.5	40.1	39.9	39.8	40.0	41.9
Imports	51.7	59.7	60.8	61.1	68.2	57.7	59.7	58.6	57.8	57.0	57.2
Net private transfers	5.9	12.7	14.9	16.5	17.2	14.8	14.2	14.0	13.6	13.3	13.3
Foreign direct investments (net)	2.4	5.9	7.1	8.8	9.3	8.1	7.0	7.0	7.0	7.0	7.0
Gross international reserves	18.0	19.2	19.1	18.0	18.6	30.8	30.1	31.2	31.8	31.7	31.6
Memorandum item:											
Nominal GDP (US$ millions)	1,252	1,312	1,455	1,739	1,916	2,024	2,187	2,370	2,550	2,706	2,829

Source: Guyanese authorities.

### *Financial Sector Channel*

9.   **The financial system has shown resilience to the direct impact of the global crisis, with NPLs remaining contained.** The banking system appears broadly stable with limited external exposure. Following a temporary increase in the ratio of NPLs to total loans through the third quarter of 2009, an improvement in the last quarter reduced the ratio to 8.3 percent from 9½ percent in 2008. Concerns about rising NPLs may have warranted tighter lending standards that exacerbated the slowdown in credit growth, estimated at 5.7 percent in 2009 compared to 21.8 percent in 2008. On a sectoral basis, NPLs rose by 9 percent in the business enterprise sector and fell by 35 percent in the households sector. NPLs in the agriculture sector continued to reflect improvements, as they dropped by 10 percent from end-December 2008.[7] NPLs in the services sector rose by 3.9 percent in 2009 over end-December 2008. Of the subsectors with the highest concentrations of NPLs, the distribution (wholesale and retail trade) subsector accounted for 70.4 percent, while the subsector on "other services" accounted for 27.2 percent. The manufacturing sector reflected a stable level of NPLs, while the mining and quarry sector recorded a decline of 4 percent.

10.   **Monetary growth significantly decelerated.** The growth of broad money and credit to the private sector decelerated to 9.7 percent and 5.7 percent, respectively, in 2009. The reduction in credit growth surpassed the slowdown in deposits in the banking system, resulting in an increase in non-remunerated reserves. Nonetheless, the spread between the lending and deposit rates held steadily at about 9 percent, reducing the effectiveness of a reduction in the lending rate to stimulate demand in light of economic slowdown and high risk of NPLs.

11.   **Despite the deceleration in monetary aggregates, the decline in credit growth increased the level of liquidity in the financial sector relative to total assets,** to about 30.9 percent on average in 2009. The banking system's risk-weighted CAR rose from

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[7] Figures on sectoral NPLs are only available for the overall financial system.

14.9 percent in 2008 to 18.3 percent in 2009, as banks raised the share of risk-free T-bills in their assets. The average liquid assets exceeded the statutory liquid assets requirements by 45 percent, mirroring the reduction in demand for credit.
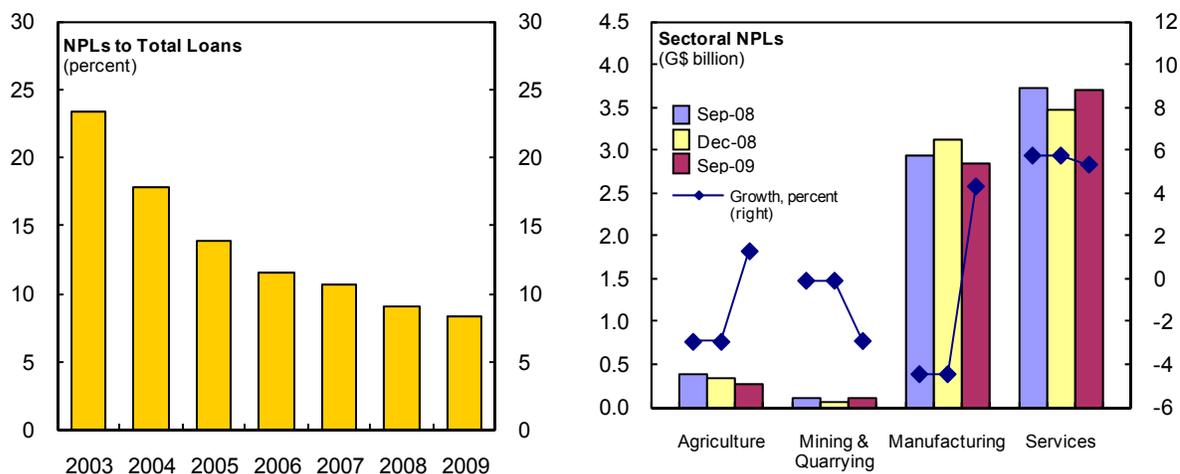
12.   **The most visible channel of contagion stemmed from the fallout of CL Financial, which exposed vulnerabilities and may generate fiscal costs.** The collapse of CL Financial in Trinidad and Tobago as a result of the global crisis triggered the fallout of CLICO-Guyana (an insurance company). While the resolution process for CLICO-Guyana is still ongoing, it may call for government intervention that could reach 2-3 percent of GDP— largely arising from investments by the National Insurance System in the insurance company. A CARICOM grant for US$15 million would reduce the fiscal cost.

Financial Soundness Indicators, 2004-09
(In percent)

	2004	2005	2006	2007	2008	2009
Capital to risk-adjusted assets	14.3	14.4	15.5	15.0	14.9	18.3
NPLs to total loans	17.8	13.9	11.6	10.7	9.5	8.3
Provision for loan loss to NPLs	39.7	44.4	41.0	54.2	49.3	53.8
Return on assets	1.4	1.9	2.3	2.4	2.3	2.7
Return on equity	16.4	23.1	27.7	27.6	25.2	26.6
Liquid assets to total assets	33.3	32.5	33.0	26.5	29.8	30.9

Sources: Guyanese authorities.

C. The Authorities' Policy Response to the Crisis

13.   **The authorities have consolidated the fiscal stance.** The fiscal deficit narrowed, boosted by an increase in fuel excise tax collections—notwithstanding reduction in the rate in response to rising world fuel prices. Added revenues through this channel facilitated consolidation efforts, while allowing the execution of the budget in critical areas (both

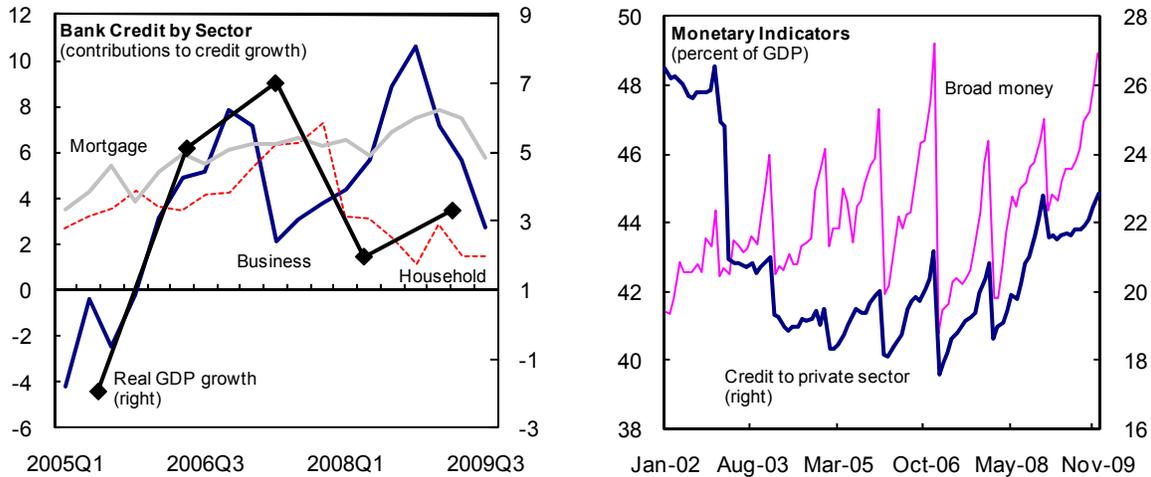current and capital spending), helping sustain the growth momentum in the second half of the year against the spillover adverse effects of the global shocks.[8]

14.   **The monetary stance tightened in 2009.** Against the backdrop of the global financial crisis, monetary policy was constrained to strike the right balance between ensuring price and external stability while availing liquidity to stimulate credit growth. To stem the risk of the global shock, the authorities (via open market operations) raised the T-bill rates post-Lehman (September 2008) which, together with the reduction in global yields and increased risk aversion, prompted banks to liquidate foreign assets. The resulting increase in net capital inflows helped contain the risk of exchange rate pressures and safeguarded international reserves. Excess demand for government securities, coupled with concerns about slowing growth in the first half of the year, pushed both the T-bill and lending rates slightly downward in the first quarter of 2009; subsequently, they remained broadly stable.

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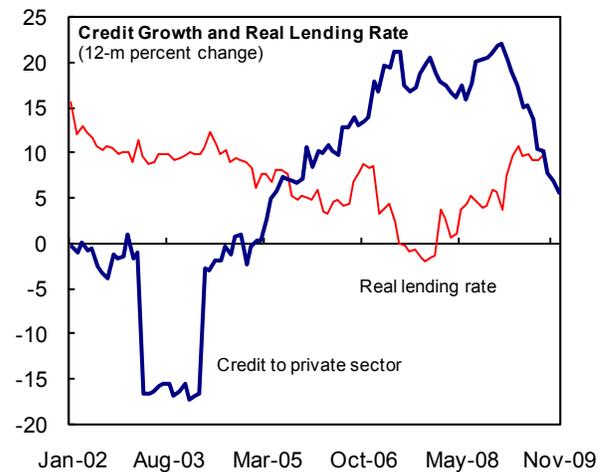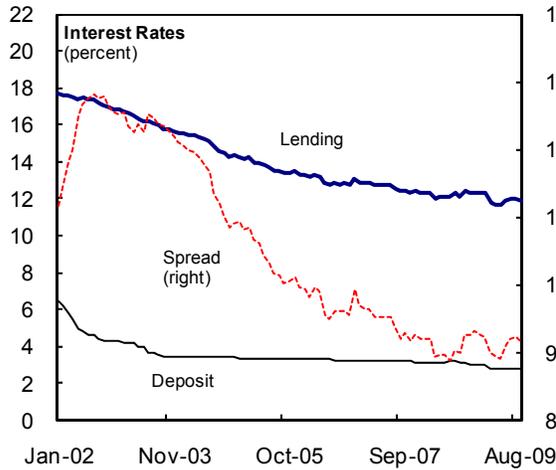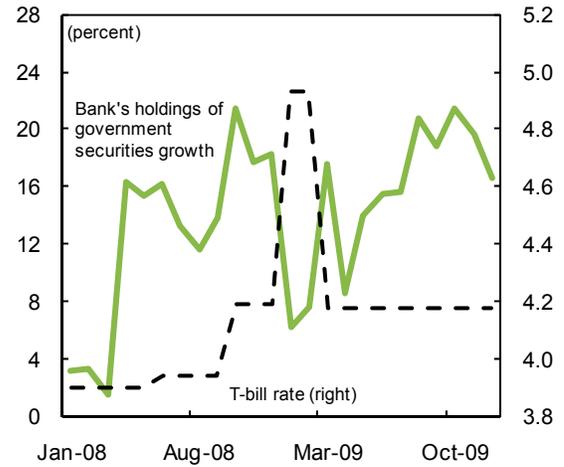
[8] See Chapter III on *"Assessing Guyana's Fiscal Structural Stance"*.

Bank Credit by Sector
(contributions to credit growth)

Mortgage

Business

Household

Real GDP growth
(right)

2005Q1 2006Q3 2008Q1 2009Q3

Monetary Indicators
(percent of GDP)

Broad money

Credit to private sector
(right)

Jan-02 Aug-03 Mar-05 Oct-06 May-08 Nov-09

15.   **The T-bill rate remains higher and the lending rate is lower relative to its pre-Lehman level.** In real terms, however, both the T-bill and the lending rates are higher, compared to the pre-crisis values. While the increase in the real interest rate may have supported the moderation in credit growth, this appears largely driven by the slowdown in economic. Data by sector indicate a contraction in business, mortgage and consumers' credit, particularly early in the year. In this context, the presence of excess liquidity in the banking system would only support credit growth going forward in the presence of increased confidence and rising demand for credit, even if monetary conditions were to ease. Moreover, structural issues attributed to rising NPLs and declining provisions would need to be addressed to eliminate distortions that increase banks' incentives to hoard liquidity and increase connected lending.

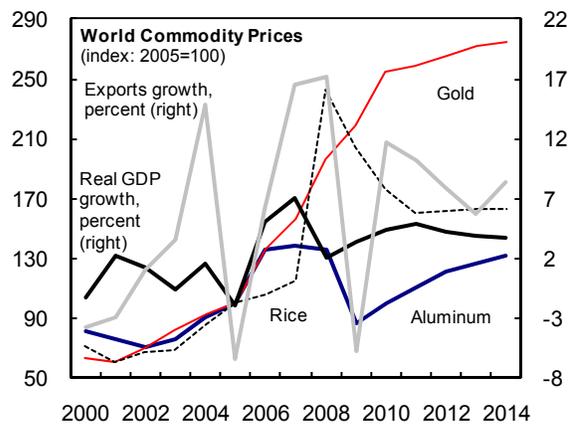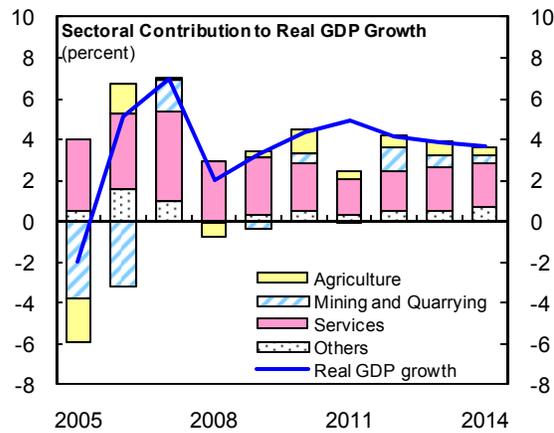### D.   Global Outlook and Implications for Guyana

16.   **Looking ahead, recovery in the global economy could prove to be slow.** International evidence—including that presented in the most recent *World Economic Outlook*—suggests that economic recoveries from recessions could be slow and prolonged as private agents await strong evidence to boost their confidence and resume spending patterns. Indeed, especially in advanced industrial countries, the process of rebuilding household and financial intermediaries' balance sheets and relatively feeble labor market conditions will pose economic headwinds to demand for some time. Recovery efforts are projected to be supported by avoiding speedy withdrawals of expansionary policies, where appropriate, and through exchange rate policies geared towards boosting competitiveness as global demand rebounds. For Guyana, a weaker and slower-than envisaged global recovery would increase the risk of slow growth of commodity exports and remittances flows, delaying full recovery that could lag behind momentum in advanced countries. On the positive side, however, is the better prospect of a substantial rebound in emerging markets, which should further buoy trade and commodity prices.

17. **The projected rebound in commodity exports and agricultural output would increase growth across sectors.** With the envisaged recovery in demand and international prices of commodities, the agriculture, forestry, and fishing sector is projected to expand by 5 percent in 2010, in contrast to an increase of 1 percent observed in 2009. Underlying this performance is a projected rebound in major crops—including sugar, rice and other non-traditional products—and in livestock, fishing, and forestry. However, the contribution of sugar to aggregate agricultural growth is likely to moderate going forward—even despite the improvements expected from the sugar modernization program—largely as the guaranteed price for exports to the EU is fully phased

out by end-2012, and given a projected faster growth in other sectors. The mining and quarrying sector is also expected to benefit from increasingly stronger global conditions, particularly for bauxite—with a projected growth rate of 4 percent in 2010, compared to a contraction of 3 percent in 2009. Looking forward, however, the demand for commodities is likely to stabilize at a lower level than in recent years. Downside risks, including slower-than-projected growth in industrialized countries and lower growth in China, could also turn into a more protracted recovery.[9]
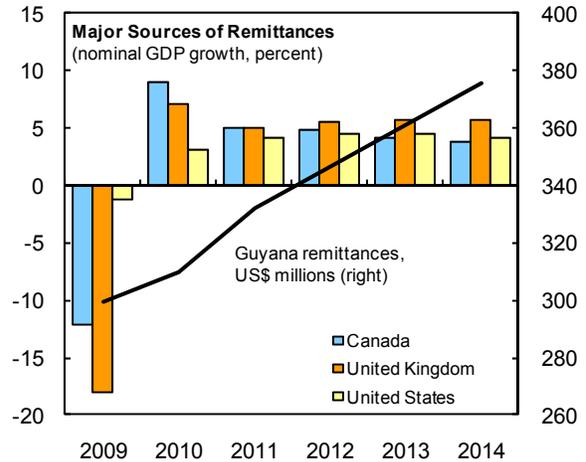
18. **The projected growth recovery in 2010 will reinforce the demand for credit.** While on the one hand the improved economic prospects would lower vulnerabilities for asset quality in the banking system, a too fast credit expansion could also bring risks. In particular, given the surge in excess liquidity in the banking system in 2009, efforts to mobilize these resources as demand recovers may increase the risk of overlooking necessary prudential measures by banks. Indeed, historical evidence indicates that sectoral growth generated an expansion in credit growth and an increase in NPLs in the financial system, albeit with a lag. The projected increase in growth in 2010 calls for pressing ahead with the ongoing reforms to further strengthen banking supervision.

[9] The January 2010 World Economic Outlook (WEO) assumptions project world growth at 3.9 percent in 2010, reflecting 2.1 percent growth in Advanced Countries, 2 percent growth in Emerging Europe and 8.3 percent growth in Developing Asia. Growth of external demand in 2010 is estimated at 6.9 percent for the world. Growth is estimated at 4.8 percent for G7 countries and 9.7 percent in emerging economies.

Sugar

Production (percent)

World price, US$/mt. ton (right)

Guaranteed price, US$/mt. ton (right)

2008 2009 2010 2011 2012 2013 2014

Contribution to Agriculture Growth
(percent)

- Sugarcane
- Rice paddy
- Other crops
- Livestock
- Fishing
- Forestry
- Agriculture growth

2008 2009 2010 2011 2012 2013 2014

Sectoral Contribution to Real GDP Growth
(percent)

- Agriculture
- Mining and Quarrying
- Services
- Others
- Real GDP growth

2005 2008 2011 2014

World Commodity Prices
(index: 2005=100)

Exports growth, percent (right)

Real GDP growth, percent (right)

Gold

Rice

Aluminum

2000 2002 2004 2006 2008 2010 2012 2014

E. Conclusion

19.   Despite the marked slowdown in economic activity, Guyana weathered the global crisis fairly well by regional and global standards. Downside risks of lingering recovery may persist and the country could remain vulnerable to the spillover effects of external shocks. The policy mix should aim at striking the balance between containing near-term vulnerability and addressing medium-term sustainability concerns.

II. THE IMPACT OF THE EU SUGAR TRADE PREFERENCES AND THEIR EROSION[1]

A. Introduction

1.   **This note provides an analysis of the macroeconomic implications of trade preference erosion Guyana's sugar industry is confronted with.** In doing so, it benefits from data recently provided by the Guyanese authorities, and takes into account latest developments, including the fact that much of the preference erosion has taken place since 2008 and 2009.

2.   **The document describes the framework in which Guyana's sugar industry operates, assesses preferences and analyzes their impact.** Section B provides an overview of the main export markets and related agreements and summarizes modernization efforts in the sugar industry. Section C attempts to quantify the magnitude of EU preferences, while section D provides an econometric analysis of their impact on key macroeconomic variables.

B. Guyana's Sugar Industry and its Main Export Markets

3.   **Guyana's sugar sector has strongly benefited from preferential agreements with the EU since the 1970s.** Preferential access was gained mainly under the terms of the Sugar Protocol, which guaranteed sugar purchases by the EU from Guyana for some 160,000 metric tonnes at a fixed price per year.

4.   **Most of these advantages were eliminated as of October 2009, although some transitional arrangements provide some breathing space in the medium-term:**

- *Minimum sugar price guarantee (2009–12).* In 2006, the European Commission started to implement phased reductions on quota import prices, starting from a level of €523.7 per tonne of raw sugar. A final reference price of €335 per tonne was reached in October 2009. A price set at €301.5 per tonne will serve as a floor (or a minimum guarantee) for the period between October 2009 and September 2012. This guarantee implies that Guyana may sell its sugar to the EU at world market prices, whenever they are higher than such a minimum price (as occurred since the last quarter of 2009). Whether there will be a continued minimum price agreement after 2012 is unclear in light of these developments, but the current expectation is that Guyana will be subject to world sugar prices starting in 2013.

- *Elimination of sugar duty and quotas (2009–15).* The CARIFORUM-EU Economic Partnership Agreement (EPA) concluded in October 2008 ensures that sugar will be duty and quota free, starting in October 2009. A transitional safeguard mechanism would apply for the next 6 years, which would limit exports from Guyana in the event of a risk of serious damage to the EU sugar industry.

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[1] Prepared by Felix Eschenbach.

5.   **Agreements with other trading partners are also in place, but with more modest benefits:**

- *United States.* The US Department of Agriculture (USDA) issues sugar quotas under the Tariff Rate Quota (TRQ) system on a country-by-country basis. Under this system, sugar is allowed into the US duty free. The quota allocated to Guyana in the fiscal year 2009 amounts to 12,636 metric tonnes of raw sugar, but recent US import data suggest that the quota is unlikely to be filled, given the lower prices prevailing in the US market.

- *CARICOM.* Under the CARICOM Common Market, the Common External Tariff (CET) was established to protect certain products (including sugar) produced in the region. For instance, a 40 percent duty applies to brown (raw) cane sugar, from outside the region. This duty is in effect, to allow sugar-producing countries that have surplus sugar available to assist with meeting the intra regional requirements at competitive prices. This agreement has allowed Guyana to import sugar from CARICOM for domestic consumption in order to be able to export Guyanese sugar to the EU when production was low.

6.   **Guyana has been aiming at modernizing its sugar sector to mitigate the effect of preference erosion.** The EU is the main export destination for Guyanese sugar—with at least 90 percent of the share of total exports. Supported by a transitory financial package from the EU, a sugar modernization plan was launched in 2000 to raise output and reduce production costs, including by the construction of a large sugar factory at Skeldon, recently completed and currently under a testing period. The success of the modernization program is, however, subject to several challenges. Technical problems with the operations of the new factory, labor disputes and managerial weaknesses all surfaced in 2009, and achieving the production targets of the modernization plan was further complicated by weather shocks in 2008 and early 2009. Resolving these issues will require a significant strengthening in the management of the public sugar company and improving labor and business practices.

C. A Quantification of EU Preferences

7.   **The gap between the EU price for sugar and that prevailing in the free world market is likely to be closed in 2010.** Since 1980 there has been a consistent and significant price differential between both prices of 200 percent or more, of which Guyana has benefited (Figure 1). The phasing out of EU preferences and the simultaneous surge in world market prices, however, is eliminating this advantage.[2] Currently market prices are projected to even slightly exceed the floor of EU guarantees in 2010.

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[2] The rise in world sugar prices has been supported by several factors, including the increasing demand placed by the growing ethanol industry.

Figure 1. World and EU Sugar Prices
(In U.S. dollars per ton)
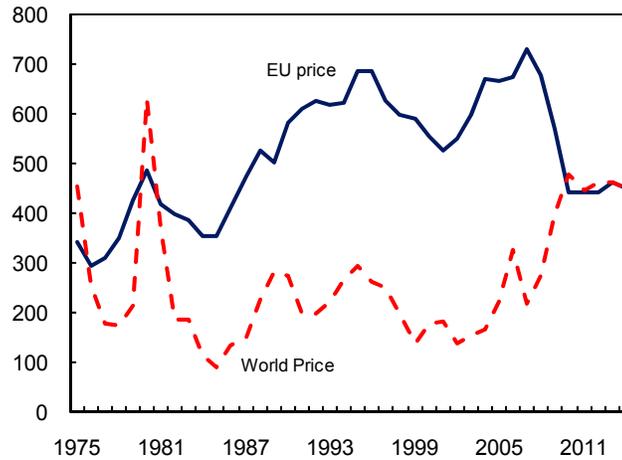
8.   **The amount of implicit assistance provided by the EU through the preferential sugar price scheme has been significant.** This can be estimated through the price-gap method, which uses the difference between the preferential and world prices and multiplies it by the volume of sugar exported to the EU.[3] Figure 2 shows the magnitude of implicit assistance as a share of GDP, as well as EU prices in percent of free market prices. Both implicit aid and relative price preferences have declined substantially over time—in particular, implicit aid has fallen from 8½ percent of GDP on average in the 1990s, to 6½ percent of GDP in 200-05, and 2¾ percent of GDP in 2008-09. EU prices have also fallen in relative terms and were only about 1.5 times as high as market prices in 2009, compared to being as high as 3–5 times the world market price in various earlier years.

Figure 2. Guyana: Implicit Income Transfers from EU

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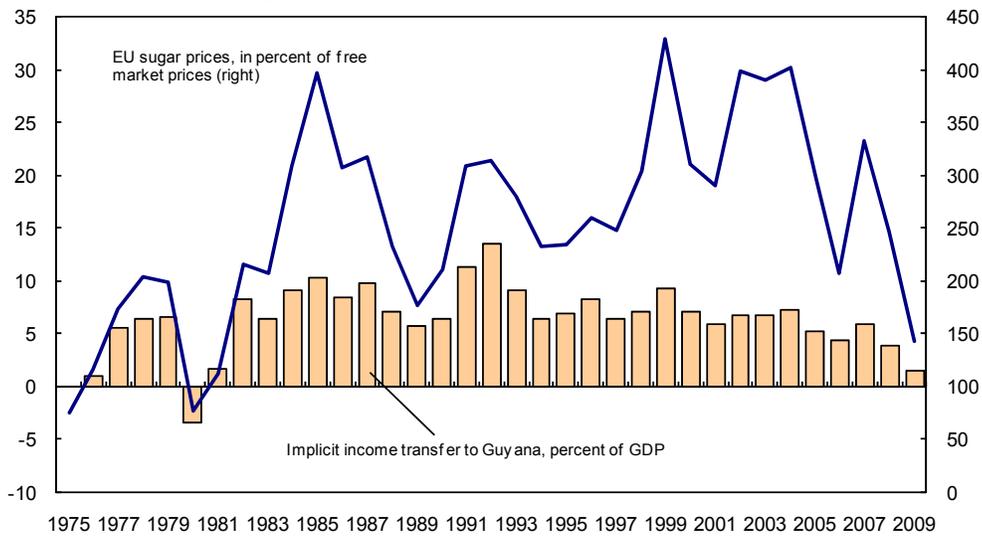
[3] These figures for sugar export volumes are data recently provided by the authorities, replacing older estimates.

D. The Macroeconomic Implications of Preference Erosion: An Econometric Analysis

9.   **A Vector Auto Regression (VAR) approach is used to model the impact of implicit aid on macroeconomic variables:**

- *Model structure and variables* are identical to the original analysis presented in IMF (2007). Preference erosion is modeled as a positive one standard deviation shock to the aid implicit in the EU sugar price preferences. The variables are labeled in an identical manner to the 2007 analysis, namely AID (implicit aid derived from price preferences, as a share of GDP), EX_IM (net exports of goods and services, as a share of GDP), RGDP_G (real GDP growth), and REV (tax revenues as a share of GDP). As in the previous analysis the model includes three lags of the variables.

- *Data* have been updated until 2009 to take into account the most recent preference erosion. The first year (1975), however, has been omitted because it is not included in the new export volume series provided by the authorities. The rebased GDP is also part of the new dataset, which explains why some ratios and related results of the econometric analysis are different in magnitude from the original study.

10.   **VAR results indicate an even stronger effect of sugar preferences on the Guyanese economy than that suggested by previous estimates.** While in general the pattern of the four impulse response functions to a change in the implicit aid provided by the preferential prices is very similar in quality to that presented in IMF (2007). In particular, a positive, one standard deviation shock in AID (of some 3 percent of GDP) would have the following effects:

- *Net exports* (EX_IM) would rise by about 4 percent of GDP on impact, with a significant statistical effect being sustained for at least two years. This effect is much stronger than that estimated with previous data, suggesting that the updated series for 2007–09 have generally shown a stronger dependence on net exports on implicit AID than considered earlier.

- *Real GDP growth* (R_GDP) would rise on impact by just under 2 percentage points—also somewhat higher than previously estimated. The impulse fades slowly, and it becomes statistically insignificant only with a five-year lag.

- *Tax revenue as a share of GDP* (REV), in line with earlier findings, has a mild positive response on impact (which is not statistically significant).

11.   **These results can be inverted to assess the impact of a negative shock on the sugar price preferences.** The fact that a negative shock to preferences would significantly affect both exports and GDP growth underlines the need for both accelerated implementation

of the sugar modernization plan and diversification of the Guyanese economy and its exports (Figure 3).[4]

Figure 3. Guyana: Response to Cholesky Shock of One S.D. Innovations ±2 S.E.
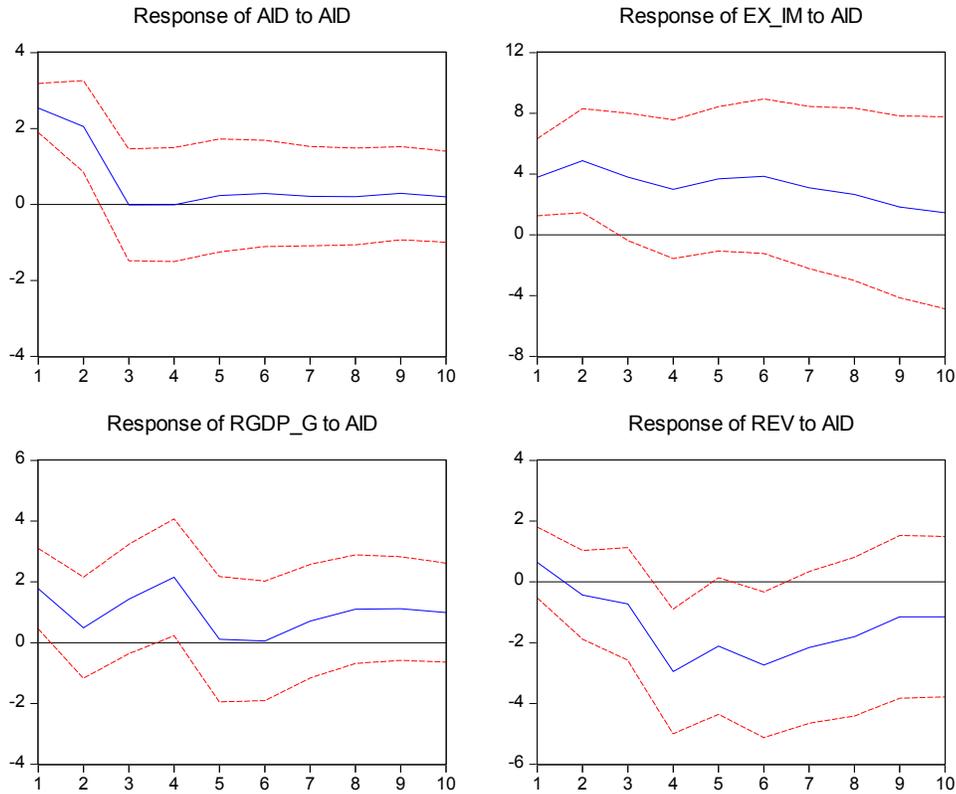
Source: Fund staff estimates.

E. Conclusion

12.   Guyana's heavy reliance on preferential sugar exports to the European Union has generated significant windfall profits in the past. Updated descriptive and econometric analysis reveals an increased exposure of the Guyanese economy to a reduction income transfers implicit in trade preferences. In particular, net exports and, to a lesser extent, GDP growth, are affected by including most recent preference erosion of 2008 and 2009 in the analysis. This reveals the need to prevent further delays in implementing the sugar modernization plan and calls for more diversified production and exports.

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[4] A robustness check using gross exports confirms the strong reaction of exports to a shock in preferences. The effect seems to be somewhat more delayed. The response of the real GDP and revenue panels show broadly the same pattern.

III.   ASSESSING THE FISCAL STRUCTURAL STANCE [1]

Guyana's fiscal balance is exposed to exogenous shocks, which can pose challenges to the authorities' key objective of entrenching debt sustainability. This paper aims to assess the position of Guyana's structural fiscal stance. This analysis can serve as an important additional tool to guide the medium-term fiscal framework needed to open up space for neutral or countercyclical policies to mitigate the impact of future shocks, while maintaining the debt on a downward path.

A.   Introduction

1.   **Guyana's fiscal accounts are highly exposed to various exogenous shocks.** The main shocks include lower sugar revenue and grants, higher oil prices and weather.

- *Sugar exports* have been an important source of fiscal revenue, with gross sugar export revenue at about 9½ percent of GDP on average since the beginning of the decade. In recent years, however, despite significant investments in the sector, a number of shocks affected sugar export revenue—including strikes, management and technical difficulties in the sugar public enterprise (GUYSUCO), and the phasing out of EU preferential prices.[2]

- *Grants* have enabled higher capital investment at an average of about 4½ percent of GDP in 2000-09, but fluctuated within a range of 3 to 6 percent of GDP.[3]

- *High oil prices* can also weaken the fiscal position, owing to the impact that implicit tariff subsidies have on the financial position of the public electricity company, which relies entirely on fuel-based generation. Oil price increases also affect revenue when fuel excise taxes are reduced to smooth the pass-through of prices to consumers.

- *Flooding* can lead to significant output loss, as was the case in 2005, given that most of the country's infrastructure is on the coastal region and below sea level.[4]

2.   **These vulnerabilities intensify the challenges for fiscal consolidation and debt management**. In past years, the authorities' plans for fiscal consolidation have been complicated by domestic and external shocks. Between 2000 and 2006, the average overall deficit was 5 percent of GDP, fluctuating within a range from 3 percent of GDP to about 8½ percent of GDP, and public debt-to-GDP ratios were over 100 percent[5]. In more recent

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[1] Prepared by Carla Macario.

[2] See the companion Selected Issues Paper *"Guyana—The Impact of the EU Sugar Trade Preferences and their Erosion."*

[3] Guyana also receives funds from Norway under the Low-Carbon Development Strategy (about 1.6 percent of GDP on average for 2010–15).

[4] Because of global warming, this vulnerability is expected to intensify in the years ahead.

[5] Following the rebasing of GDP in late 2009, debt-to-GDP ratios declined significantly. As a result of rebasing, for example, GDP at market prices increased by some 65 percent in 2009.

years, debt relief from HIPC and MDRI, as well as fiscal consolidation efforts have reduced net debt to some 57 percent of GDP[6], which is still high and poses vulnerabilities.

3.   **With this in mind, this paper introduces the assessment of the fiscal stance in Guyana as a tool to strengthen the formulation of the medium-term fiscal framework.** This would follow the recent trend of relying on the structural fiscal stance (and its related fiscal impulse) to assess discretionary fiscal policy and formulate medium-term fiscal frameworks. In particular, the focus on structural fiscal balances gained ground in those commodity-exporting countries that have strengthened their fiscal performance, and have thus opened up greater fiscal space to implement countercyclical policies (Chile and Norway, for example). This analysis has also been at the forefront of the policy design for developed and emerging economies during the global crisis.

4.   **A recent body of work has also completed assessments on the structural fiscal balances for Latin America and the Caribbean.** For instance, the October 2009 Western Hemisphere Department Regional Economic Outlook (REO 2009) analyzed all of the countries in the region from this perspective. The REO's conclusion that the countries that were able to put in place countercyclical policies during the recent global crisis were those that had implemented prudent fiscal policies in good times was based on an assessment of fiscal impulses. This publication, along with those by Di Bella (2008), and Fedelino, Ivanova and Horton (2009) provide the basis for this SIP.

5.   **The remainder of this paper is organized as follows.** The first section presents the concept and the methodology used to calculate the structural fiscal balance, with specific measures relevant to the case of Guyana. The following section presents estimations of Guyana's structural fiscal stance and fiscal impulse, and comparisons with other Caribbean countries. Next, the paper briefly discusses some examples on how to anchor fiscal policy to keep debt in a declining trend while enabling the greater use of neutral or countercyclical fiscal policies. The last section concludes.

B. Assessing the Fiscal Stance

Main Concepts

6.   *Structural Fiscal Balance.* The structural fiscal balance, which excludes the impact of external and domestic temporary shocks, provides an indication of what the fiscal stance would be if key determinants were at their long-term trend levels.

- The structural fiscal balance eliminates cyclical components of key determinants of fiscal revenue by replacing them with their long-term values, usually calculated through a Hodrick-Prescott (HP) filter. This includes, for instance, prices of the main exports that are relevant for fiscal revenues (which are replaced by estimates of long-term commodity prices), and actual output, which is replaced by its potential level.

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[6] Net public debt does not include the share of PetroCaribe disbursements that is saved in an escrow account.

- The calculation of the structural fiscal balance is particularly relevant for those countries that have fiscal revenues highly dependent on commodity exports (such as copper for Chile and oil for Norway). For these countries, the formulation of medium-term fiscal frameworks on the basis of the structural fiscal stance has helped establish policies to mitigate the impact of shocks and reduce public debt.

- While the overall fiscal balance is the ultimate determinant of the path of public debt, the structural fiscal balance allows an assessment of fiscal policy from a medium-term perspective.

7.   ***Fiscal Impulse.*** The fiscal impulse, which measures the change in the cyclically-adjusted domestic primary balance between two consecutive years, is the key indicator for assessing the authorities' *discretionary* fiscal policies and their impact on domestic demand and output.

- The cyclically-adjusted domestic primary balance excludes all external revenues and the impact of the domestic business cycle, and interest payments on existing debt.

- The fiscal impulse is the best criterion to assess the impact of the underlying discretionary fiscal policies on the economy, and an important indicator for guiding the medium-term fiscal framework toward a neutral or countercyclical path.

- In countries that need to reduce public debt, the cyclically-adjusted domestic primary balance will provide the range of the fiscal effort required irrespective of external revenues and business cycle shocks. This, in turn, would need to translate into specific revenue and spending measures, including contingency measures to be implemented in the event of adverse shocks.

An Application to Guyana

8.   ***Structural fiscal balance.*** In the case of Guyana, the structural fiscal revenue includes:

- *Structural sugar revenue.* The standard calculation for the structural component in the case in which commodity exports provide direct fiscal revenue entails replacing the price of such commodity exports with its long-term value. With Guyana benefiting from preferential prices for nearly all of its sugar exports, structural sugar revenues are calculated by leaving export volumes unchanged, while replacing actual export prices by the market price for sugar, smoothed with a HP filter.[7]

- *Structural grants:* The actual value of grants is replaced by the trend value of grants smoothed with a HP filter.

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[7] The difference between the structural sugar revenues and the actual revenues from sugar exports provides an estimation of the additional revenue from the EU price preferences that are being phased out. These were estimated at about 5 ½ percent of GDP on average between 2000 and 2009.

- *Cyclically-adjusted domestic revenue:* The remaining revenue, which is broadly equivalent to the revenue derived from domestic sources (particularly from taxes), is stripped out of its cyclical component depending on the output gap, which is calculated based on a trend (potential) output obtained with a HP filter.[8] Following the methodology used by IMF (2009c), the estimation of domestic revenue relies on the assumption of a unit elasticity of revenues with respect to GDP growth. In contrast, expenditures remain constant in nominal values, following the assumption of an output elasticity of zero. The rationale behind this assumption is that countries with few automatic stabilizers will leave expenditure broadly unchanged throughout the cycle unless they decide to implement discretionary measures.

Box 1. Using the Structural Fiscal Balance for Policy Design: Regional Experience

The regional experience suggests that countries that have applied prudent fiscal frameworks entered the crisis better prepared, particularly those with a large share of commodity-related fiscal revenues. Even when these countries have not formally adopted a rule for targeting a cyclically-adjusted fiscal balance, this concept can be useful to broadly guide fiscal policy (IMF 2009c). These countries include the following:

Chile: A fiscal responsibility law enacted by Chile in 2006 strengthened the fiscal policy framework. While it does not bind the government to a specific structural target, it requires it to use a structural target to analyze fiscal policy and present budget documents that discuss the effect of the policies on the structural surplus.

Peru: This important commodity exporter had a broadly neutral fiscal stance prior to the crisis, supported by a fiscal responsibility law. This enabled it to save revenue windfalls during good times and reduce debt. It also opened up space for countercyclical policies during the crisis. The authorities are now planning to introduce a structural balance approach to facilitate budget discussions and anchor the prudent fiscal policy framework.

Colombia: The approval of an Organic Law on Fiscal Transparency and Responsibility in 2003 and the adoption of a medium-term fiscal framework in 2004 has supported the authorities' commitment to debt sustainability. The adoption of a structural fiscal rule is under consideration.

C. Guyana's Fiscal Stance

9. **Staff estimates suggest that Guyana's fiscal impulse has been broadly countercyclical since the beginning of this decade.** In 2005, the steep decline in output following severe floods was partly offset by a strong expansionary fiscal impulse. Conversely, in 2007, the economic recovery was accompanied by a tightening of the discretionary component of fiscal policy. In 2008, the impact of the surge of world oil and food prices was mitigated by a reduction in oil excise taxes, avoiding a full pass-through to electricity prices, and a broadening of the list of VAT zero-rated items. The pace of fiscal

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[8] As in the standard case, the output gap is equal to actual output minus potential output, as a percent of potential output.

consolidation strengthened in 2009 as fuel excise tax revenues recovered and the fiscal deficit was lower than the budget target owing to debt sustainability concerns.

Guyana: Fiscal Indicators, 2000-09
(In percent of GDP)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	Prel. 2009
Nonfinancial public sector										
Revenue and grants	26.3	25.9	25.2	24.7	27.6	27.8	29.3	27.5	25.9	28.8
Expenditure	29.6	30.9	29.7	30.4	30.5	36.3	36.5	32.4	30.6	32.0
Current	21.0	22.3	21.9	21.6	20.2	21.6	21.3	18.4	19.9	19.5
Capital	8.6	8.6	7.8	8.8	10.2	14.7	15.2	14.1	10.7	12.6
Overall balance (after grants)	-3.4	-5.0	-4.4	-5.8	-2.8	-8.6	-7.2	-4.9	-4.7	-3.3

Sources: Ministry of Finance; and Fund staff estimates and projections.
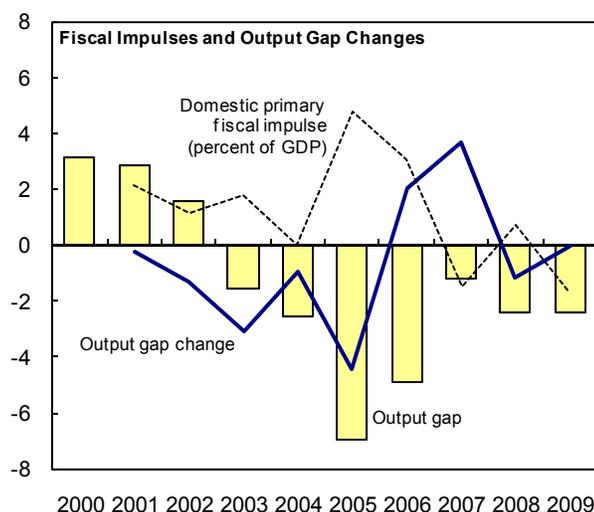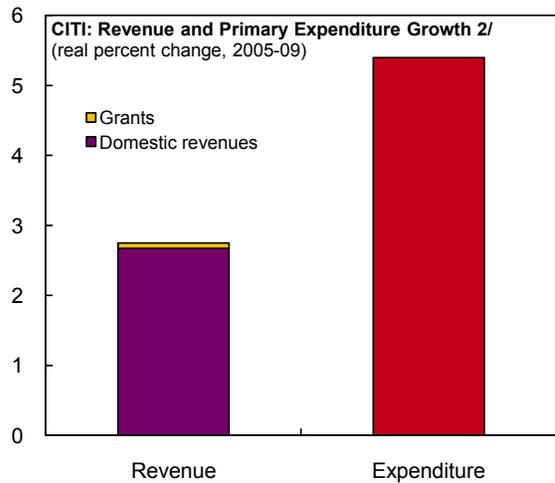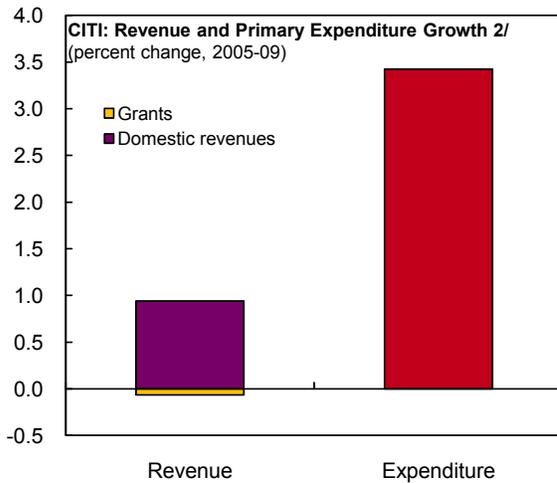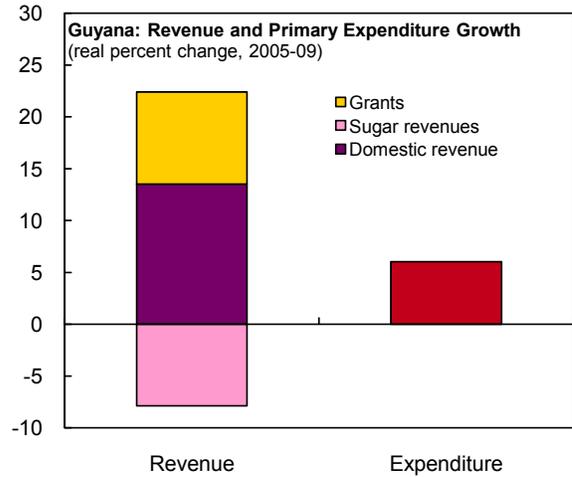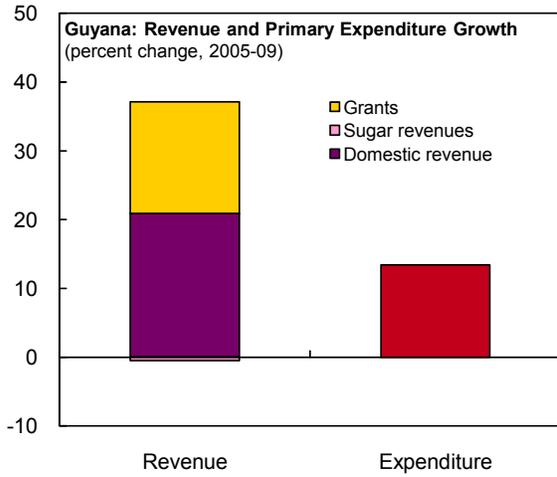

10. **Guyana's broadly countercyclical fiscal policy sets the country apart in the Caribbean.** During the period from 2005-09, Guyana's primary spending grew at lower rates than domestic revenues (excluding grants and sugar revenue).[9] This stands in contrast with the trend for the other countries in the Caribbean, which, on average, implemented pro-cyclical fiscal policies in recent years.[10]

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[9] This calculation, presented in IMF (2009c), excludes sugar revenue measured as the net operating balance of the sugar public enterprise, GUYSUCO.

[10] As discussed in IMF (2009c).

In recent years, fiscal spending in Guyana has grown slower than revenues in contrast to other countries in the region.

Guyana: Revenue and Primary Expenditure Growth (percent change, 2005-09)

Guyana: Revenue and Primary Expenditure Growth (real percent change, 2005-09)

CITI: Revenue and Primary Expenditure Growth 2/ (percent change, 2005-09)

CITI: Revenue and Primary Expenditure Growth 2/ (real percent change, 2005-09)

Fiscal policy was broadly counter-cyclical in Guyana in contrast with the trends for other Caribbean countries.

Guyana: Fiscal Impulses and Output Gap Changes

CITI: Fiscal Impulses and Output Gap Changes 2/
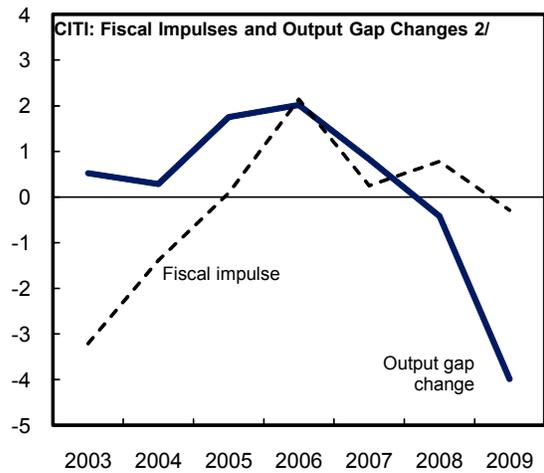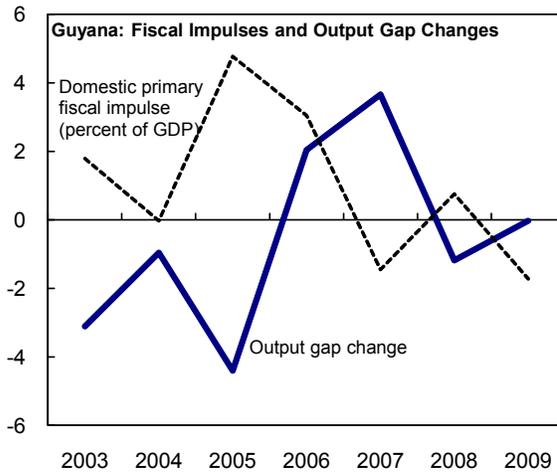
1/ Calculations were presented in the October 2009 Western Hemisphere Department Regional Economic Outlook, Chapter III.
2/ Commodity importing, tourism intensive (CITI) countries include Antigua, Bahamas, Barbados, Belize, Dominica, Grenada, Jamaica, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines. (Preliminary data for 2009.)

11.   **Going forward, Guyana's policies are projected to remain supportive of growth and debt sustainability, but could become slightly pro-cyclical over the medium term.** Following the upfront fiscal consolidation effort of 2009, the 2010 budget and medium-term plans envisage a somewhat slower fiscal tightening. The NFPS would narrow slightly to 3.2 percent of GDP in 2010–11 and then further to reach 2¼ percent of GDP by 2014. The fiscal impulse could then become somewhat pro-cyclical, as the output gap narrows and turns from negative to positive (while supporting key infrastructure investment), and then returning to a neutral stance. Debt-to-GDP ratios are projected to remain on a downward path during this period. This overall assessment, however, is subject to the uncertainties underlying these estimations, particularly with respect to potential output and to commodity revenues. In particular, infrastructure spending could lead to a higher-than-envisaged potential output, widening the gap. Moreover, downside risks to the outlook could also slow output growth, preventing the gap from closing as fast as projected.

Guyana: Fiscal Indicators, 2010-14
(In percent of GDP)

	Projections				
	2010	2011	2012	2013	2014
Nonfinancial public sector					
Revenue and grants	29.2	29.2	29.8	29.5	28.8
Expenditure	32.5	32.4	32.7	32.1	30.9
Current	19.4	19.0	18.8	19.0	19.0
Capital	13.1	13.5	13.9	13.0	12.0
Overall balance (after grants)	-3.2	-3.2	-2.9	-2.5	-2.2

Sources: Ministry of Finance; and Fund staff estimates and projections.

Fiscal Impulses and Output Gap Changes
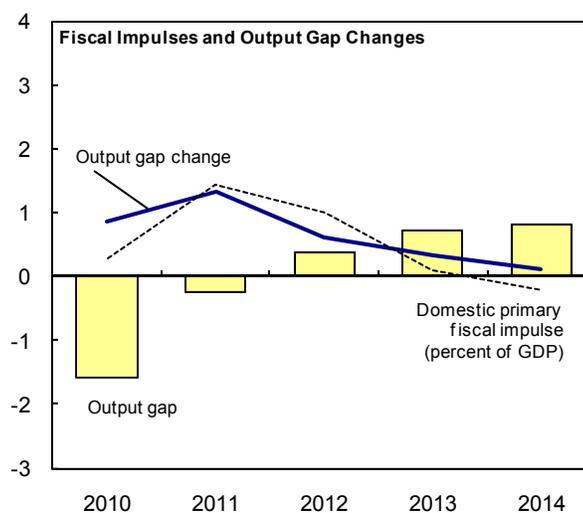
D. Anchoring Debt Sustainability

12. **Keeping the debt on a declining path will depend critically on sustaining fiscal consolidation.** The debt path is very sensitive to changes in the fiscal path assumptions, including the behavior of export revenues and of expenditure. Stress tests suggest that if revenue from sugar exports were only 60 percent of the baseline sugar projection, debt would increase to over 80 percent of GDP. This highlights the key importance of the sugar modernization plan. Along the same lines, stress tests on current expenditure show that an increase of 2 percent of GDP would take debt over 70 percent of GDP, which indicates the need of keeping a tight rein on expenditure.

Guyana. Total Public Sector Debt
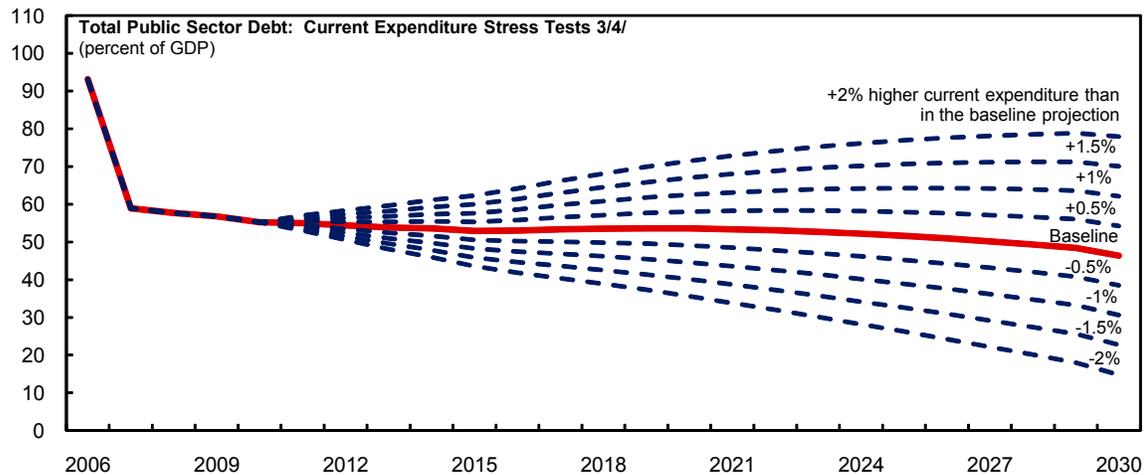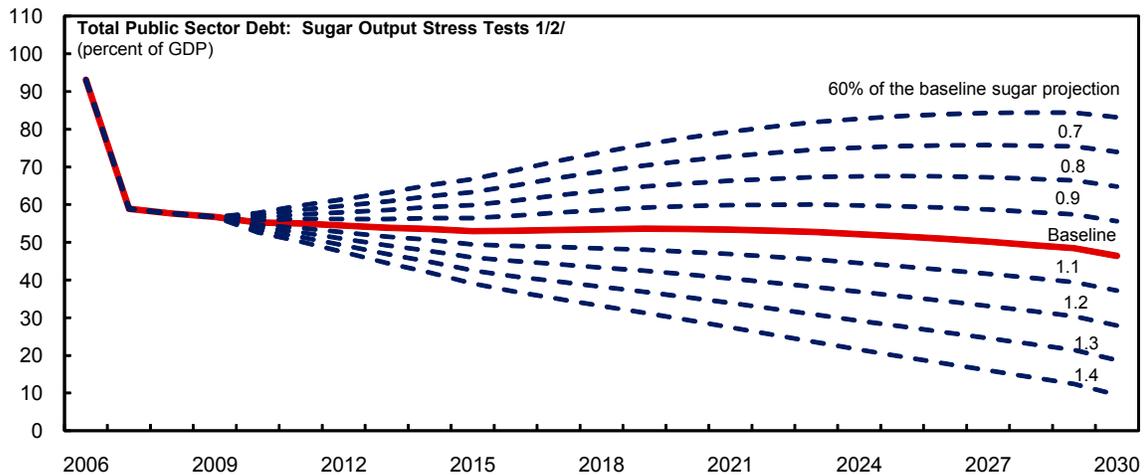
1/ Debt-to-GDP ratios for different sugar output scenarios.
2/ Fan chart based on shocks to the baseline sugar projection.
3/ Debt-to-GDP ratios for different current expenditure scenarios.
4/ Fan chart based on shocks to the baseline current expenditure projection.

13.   **A question would then be how Guyana could generate space to continue implementing neutral or moderately countercyclical policies while protecting debt sustainability.** For instance, the implementation of a structurally neutral fiscal policy should allow a country to "save" during good times and "dis-save" during bad times—, which could maintain public debt broadly unchanged.[11] While this type of policy can be easily implemented by a country with an already sustainable and low debt level—which does not need to be reduced over time—it is not advisable for a country with a strong need to reduce its debt. In the latter case, the needed "savings" during good times will likely need to be stronger than the "dis-savings" incurred during periods in which output falls below potential—so that a debt reduction can be assured. Thus, it is critical to design a medium-term fiscal framework that could gradually allow for greater symmetry in the response (and thus more space to implement countercyclical policies when adverse shocks hit).

14.   **There are different mechanisms that can be used to ease the tension between the need to reduce debt and allow for the implementation of neutral or countercyclical policies over the medium term.** The authorities could, for example:

- *Anchor debt reduction by targeting the ratio of primary expenditure-to-potential GDP* to a level calibrated to ensure that public debt outcomes will remain within a desired target range with a certain degree of probability. This provides assurances that debt will remain sustainable while allowing the automatic revenue stabilizers to operate, thus providing space for a consistently neutral fiscal policy that can be implemented safely over time.[12] Targeting this ratio could help guide the formulation of fiscal policy, without needing to become a legal rule.[13] [14]

- *Target a structural surplus à-la-Chile*—which could help ensure that windfalls from "excess revenues" (including from commodities) are saved during good time, thus helping reduce the debt stock. This would be equivalent to targeting a neutral policy, since the difference between the targeted structural surpluses would entail a fiscal impulse equal to zero—thus permitting the automatic stabilizers to offset the impact of shocks. Moreover, there could be space to gradually modify the structural surplus target to make it less strict over time, once the reserve buffer builds up and debt vulnerabilities decline sufficiently.

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[11] Assuming a symmetric distribution of shocks and impact on the overall fiscal balance.

[12] See Guerson, A. (forthcoming), "The case for a buffer of fiscal savings for expenditure smoothing and debt sustainability. An application to Barbados". *Working Paper,* IMF, Washington.

[13] See IMF (2009a) *Fiscal Rules- Anchoring Expectations for Sustainable Public Finances* (SM/09/274) and IMF (2007), "Hungary: Strengthening Budget Management, Draft Report of an FAD Technical Assistance Mission" *mimeo*.

[14] Another indicator that could guide policy design could be the cyclically-adjusted domestic primary balance.

E. Conclusion

15. **In recent years, Guyana has made important progress in embarking on a fiscal consolidation process, despite facing significant shocks.** At the same time, it implemented counter-cyclical fiscal policies, in contrast to numerous countries in the region. The revision of GDP, which has shown significantly lower fiscal deficit and debt to GDP ratios, suggests that Guyana is in a stronger position than previously considered to further strengthen debt reduction while continuing to open up space for the implementation of neutral fiscal policies over time. In this context, the structural fiscal balance and the fiscal impulse should become useful tools for strengthening the formulation of fiscal policy, underpinning the medium-term fiscal strategy.

References

Balassone F. and M. S. Kumar, 2007, "Addressing the procyclical bias," *Promoting Fiscal Discipline,* Kumar and Ter-Minassian (eds.), Washington: International Monetary Fund.

Chalk, N., 2002, "Structural Balances and All That: Which Indicators to Use in Assessing Fiscal Policy," *Working Paper,* Washington: International Monetary Fund.

Corbacho A. and G. Schwartz, 2007, "Fiscal Responsibility Laws," *Promoting Fiscal Discipline* Kumar and Ter-Minassian (eds.), Washington: International Monetary Fund.

Daniel J., J Davis, M. Fouad, and C. Van Rijckeghem, 2006, *Fiscal Adjustment for Stability and Growth*, Washington: International Monetary Fund.

Di Bella, G, 2008, "A Stochastic Framework for Public Debt Sustainability Analysis," *Working Paper,* Washington: International Monetary Fund.

———, Gracia, B., and M. Cerisola, 2009, "A Longer Term Approach to Fiscal Policy in Chile", *Chile: Selected Issues Paper, Chile, 2009 Article IV Consultation*, Washington DC.

Guerson, A., (forthcoming), "The Case for a Buffer of Fiscal Savings for Expenditure Smoothing and Debt Sustainability. An application to Barbados," *IMF Working Paper*, Washington: International Monetary Fund.

International Monetary Fund, 2005, "Promoting Fiscal Discipline over the Business Cycle," Board Paper SM/05/392, Washington, D.C.

———, 2007, "Hungary: Strengthening Budget Management, Draft Report of an FAD Technical Assistance Mission," *mimeo.*

———, 2009a, "Fiscal Rules - Anchoring Expectations for Sustainable Public Finances," Board Paper SM/09/274, Washington, D.C.

———, 2009b, "Guyana's Policy Responses to Commodity Shocks: Lessons from the 1970s and the Recent Shocks," *Selected Issues and Statistical Appendix, Guyana 2008 Article IV Consultation*, Washington: International Monetary Fund, February.

———, 2009c, "Fiscal Policy Response to the Crisis: How Much Space for Countercyclical Policy," *Regional Economic Outlook Western Hemisphere*, Washington: International Monetary Fund, October.

Kumar, M and T. Ter-Minassian (eds.), 2007, *Promoting Fiscal Discipline*, IMF Washington: International Monetary Fund.

Vegh, C. A. and E. Ilzetzki, 2008, "Procyclical Fiscal Policy in Developing countries: Truth or Fiction?" *NBER Working Paper Series,* NBER Cambridge.

Vladkova-Hollar I. and J. Zettelmeyer, 2008, "Fiscal Positions in Latin America: Have they really improved?" Working Paper, Washington: International Monetary Fund.