

The Aging World Population & Long-Term Considerations for Bond Investors

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Key Considerations

- Large and developed bond markets are prone to big problems
- Risk premia are currently very low and are unlikely to persist
 - Mile markers for the way out

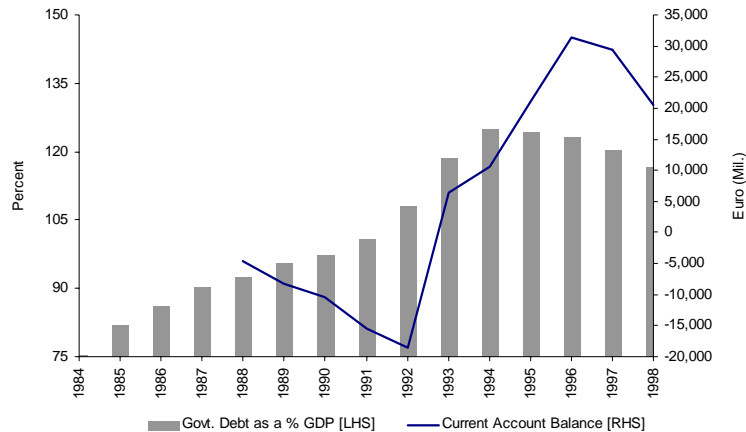
Sovereign Bond Markets

Recent history suggests that large and developed bond markets are also prone to big problems.

- Italy
- Japan

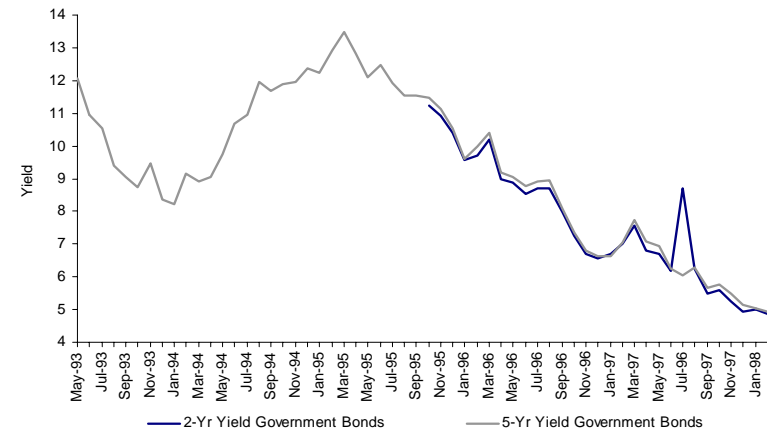
Sovereign Bond Markets – Italy

Debt-to-GDP and Current Account



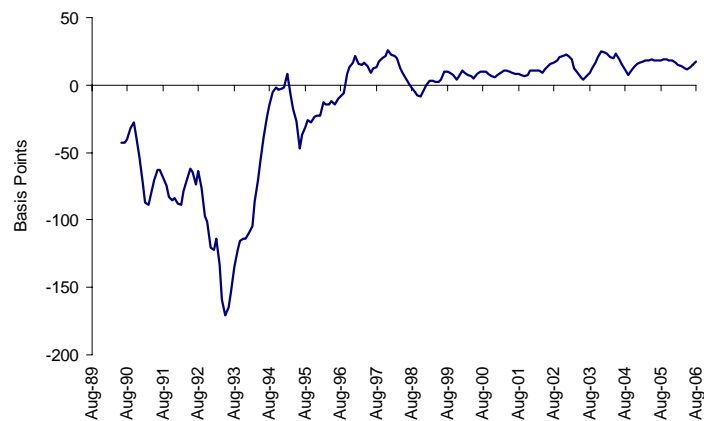
Sources: Eurostat, Italian Foreign Exchange Office

2-Year vs. 5-Year Yield



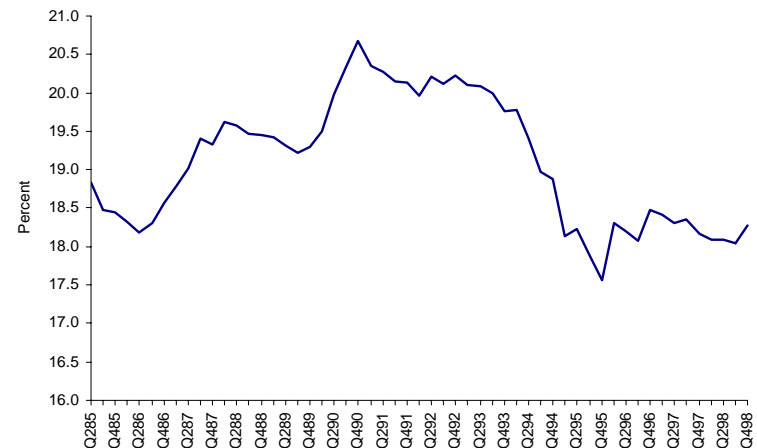
Source: Bloomberg

2-Year Swap Spread (5 Month Average)



Source: Reuters

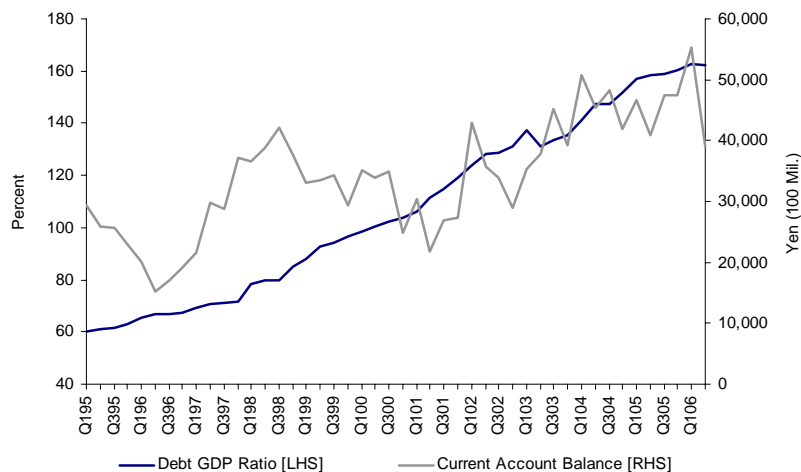
Government Spending as Percent of GDP



Source: Italian Foreign Exchange Office

Sovereign Bond Markets – Japan

Debt-to-GDP and Current Account



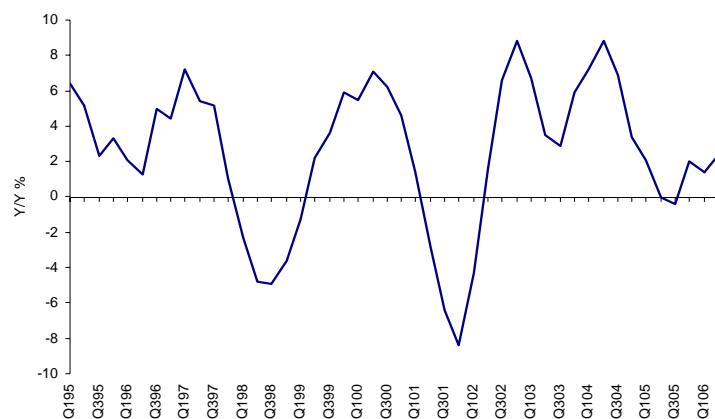
Sources: Bank of Japan, Cabinet Office, Ministry of Finance

2-Year vs. 10-Year Yield, JGB



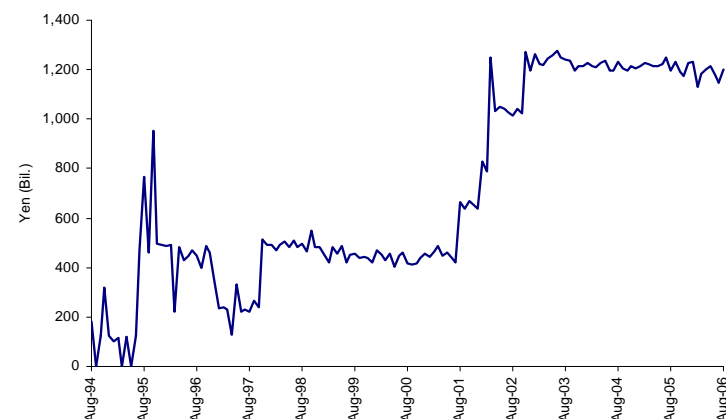
Sources: Bank of Japan, The Underwriters Association of Japan

Productivity Growth



Source: Japan Productivity Center for Socio-Economic Development

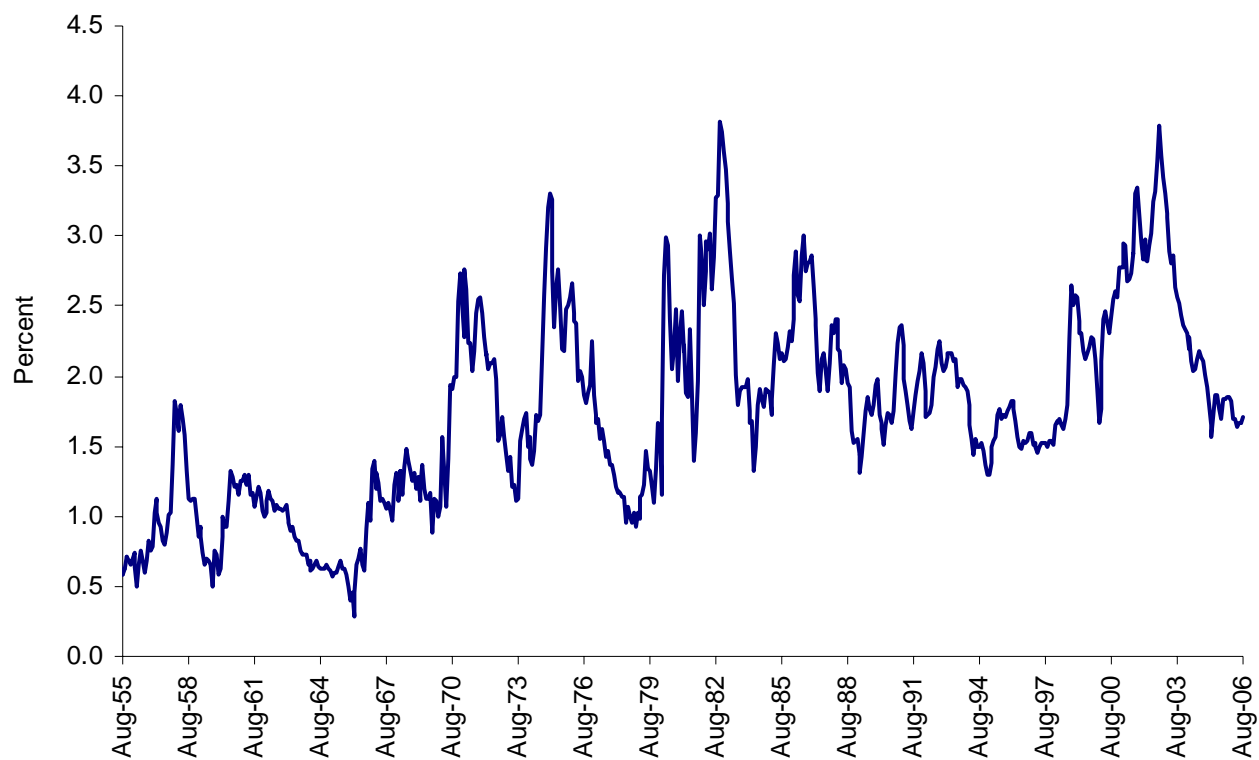
BoJ Purchases of JGBs



Source: Bank of Japan

Risk Premia – Currently Very Low and Unlikely to Persist

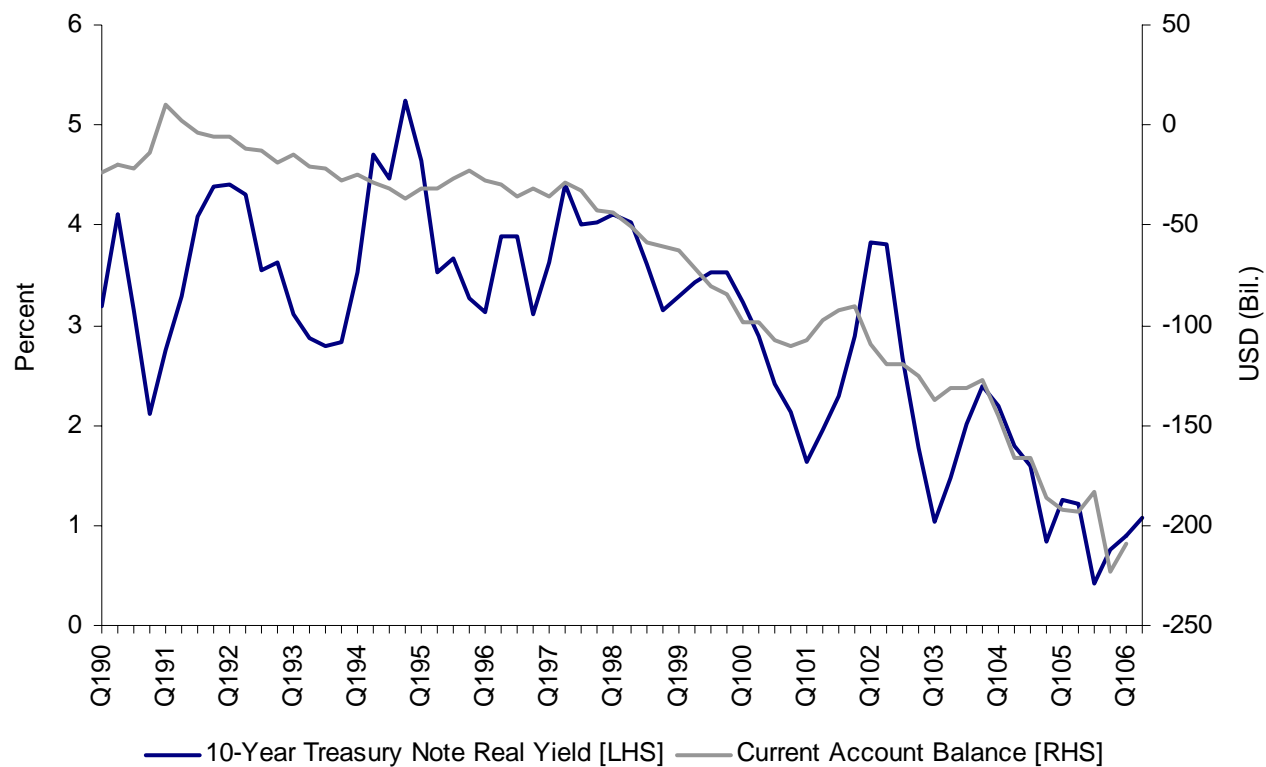
Risk Premia, BAA Bond minus 10-Year Treasury Yield



Source: Federal Reserve

Real Yields Are Low Notwithstanding Our Debtor Status

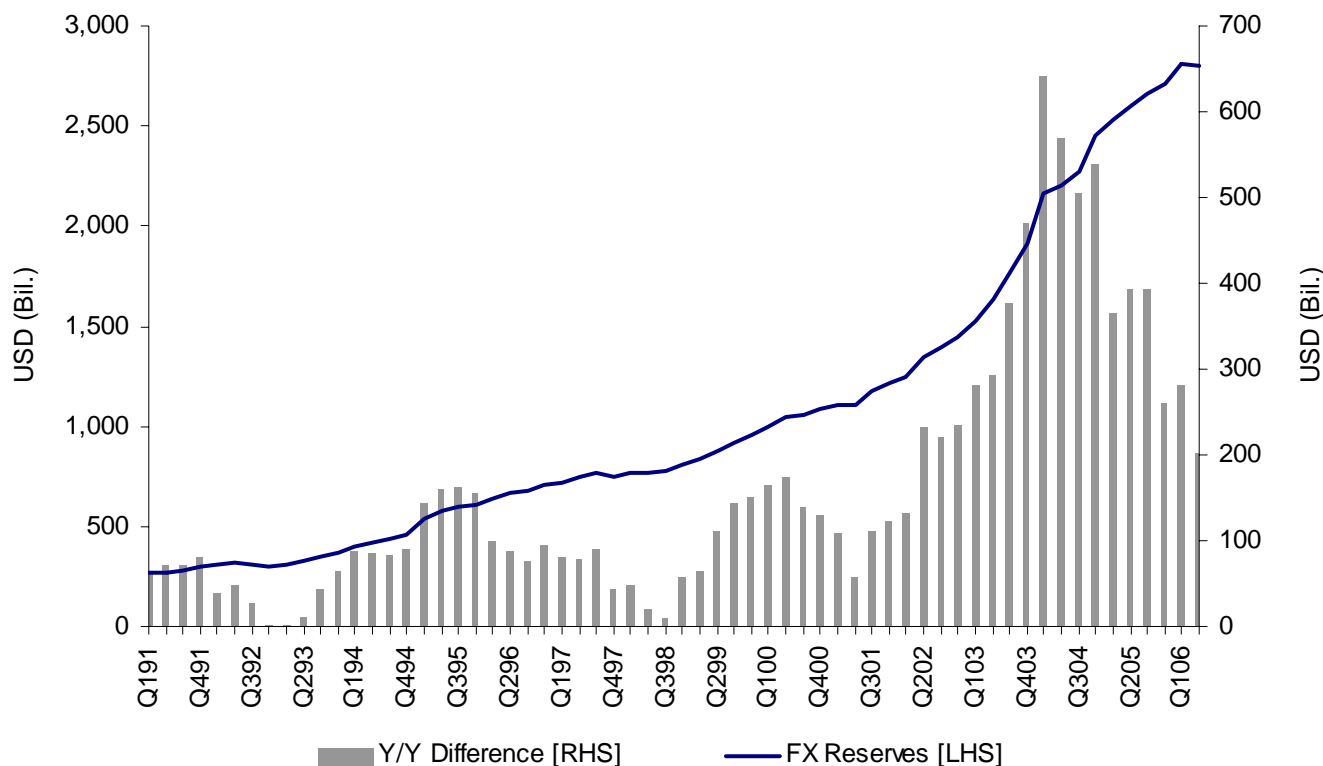
10-Year Treasury Yield vs. US Current Account



Sources: BEA, BLS, Federal Reserve

Asian Economies Will Need to Reallocate Resources as Their Populations Age as Well...

Asian Central Banks' Official Reserves in Dollars

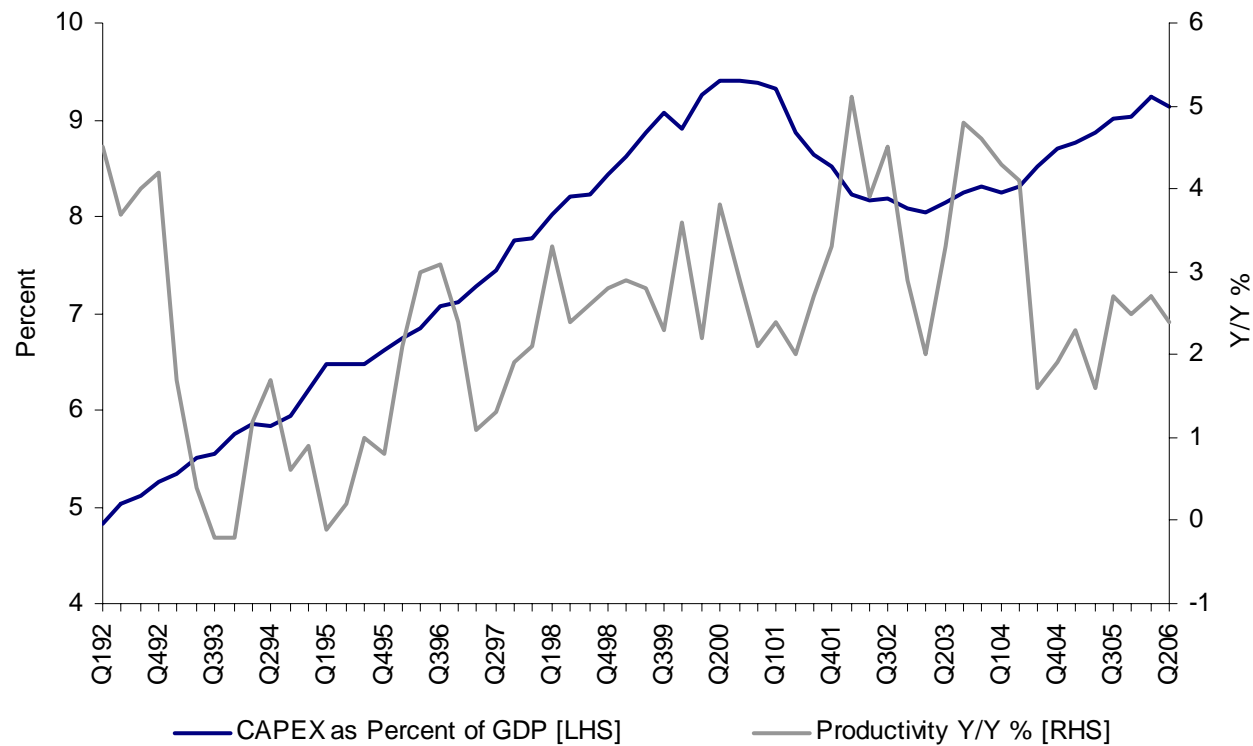


Source: Various Asian Central Banks

Mile Markers for the Way Out

Sustained Productivity Growth & Capital Deepening

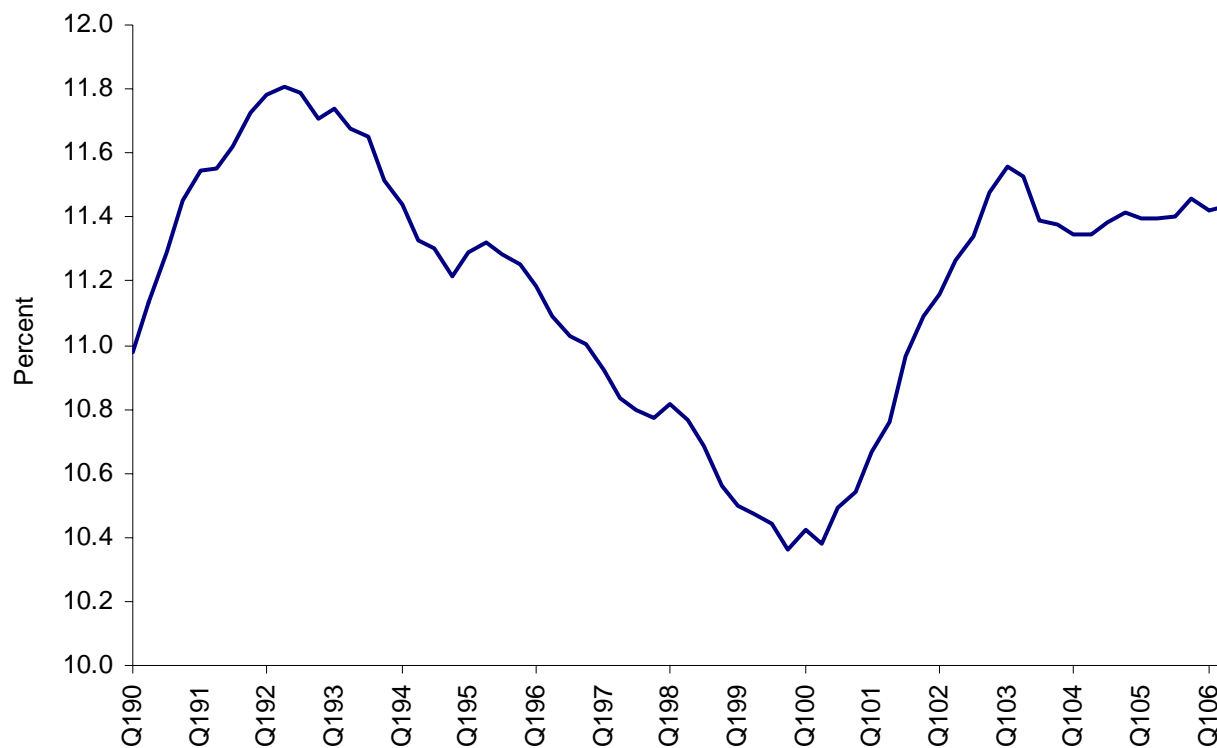
US CAPEX as Percent of GDP vs. Productivity Growth



Sources: BEA, BLS

Health Care Expenditures as Percent of GDP in a Narrow Range

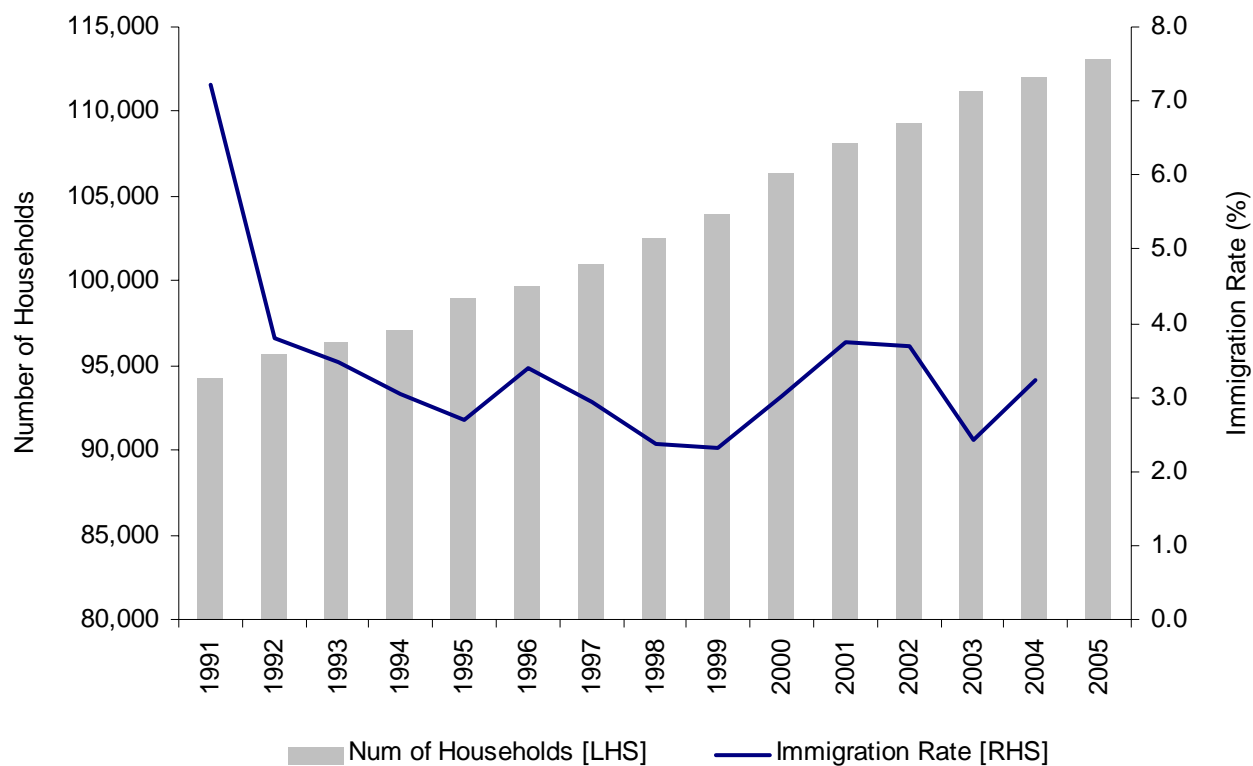
US Health Care Spending as a Percent of GDP



Source: BEA

Mitigating Influences Sustained

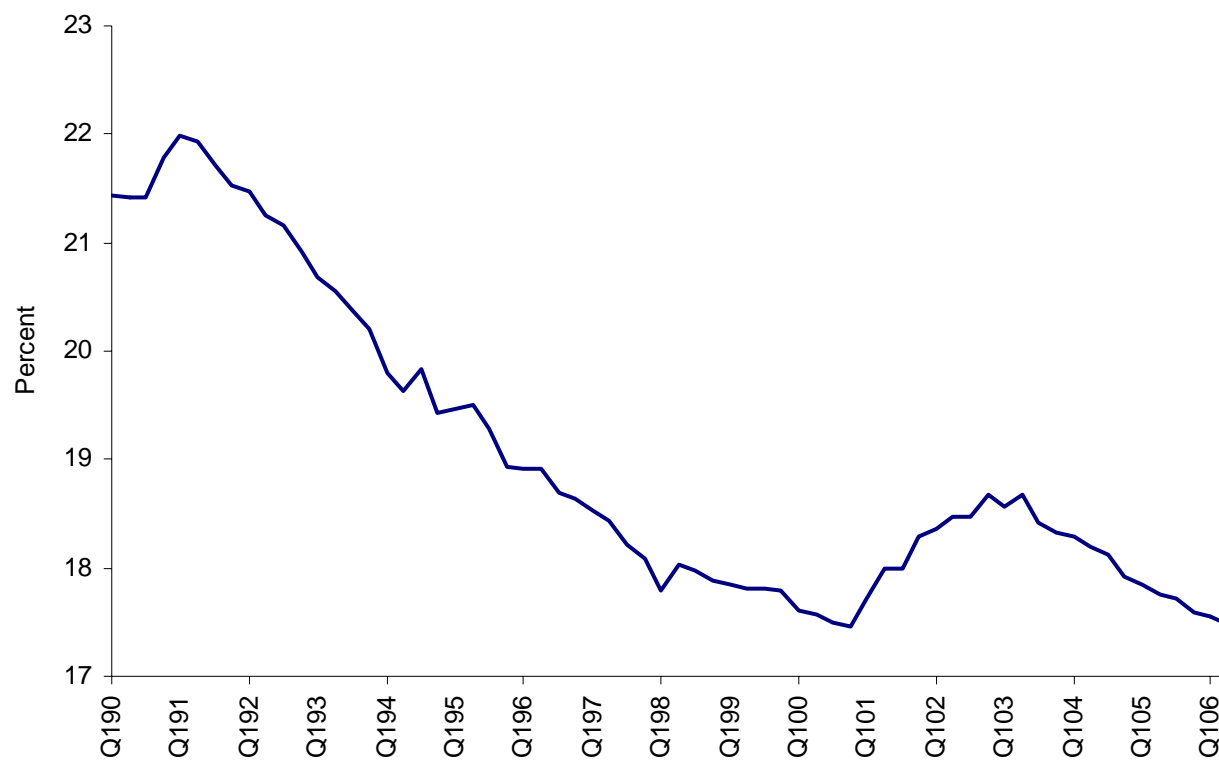
Household Formation and Immigration Rate



Sources: Census Bureau, Department of Homeland Security

Fiscal Restraint

US Government Expenditures as a Percent of GDP



Source: BEA

Discussion - Questions