

Introduction to the IS-LM Model

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The IS-LM Model

- The IS-LM Model was proposed by Hicks and Hansen. It formalizes the ideas of Keynes' (1936) *The General Theory of Employment, Interest and Money*.
- This model is based on a simultaneous equilibrium of the goods and financial markets.
- The Model:
 - 1 homogenous good
 - 2 types of financial assets: Money and Bonds

Variables in the IS-LM Model

- Endogenous variables:
 - Income/Production: Y
 - Consumption: C
 - Investment: I
 - Net exports: $X - Q$
 - Interest rate: i
- Exogenous variables:
 - Government spending: G
 - Taxes minus transfers: T
 - Money supply: M
- Pre-determined variable:
 - Price level: P

Boom in the U.S. housing market

- Consequences of low interest rates:
 - less expensive mortgage payments
 - easier to subprime borrowers with higher risk of default
- New financial development:
 - Securization: The process by which a financial institution makes loans and then bundles them together into a variety of investment instrument called “mortgage-backed securities” that are sold to other financial institutions.
 - Moral hazard: The economic agent who makes the loan is not the same agent who pays the cost in case of default.

Boom in the U.S. housing market

- 1995-2006: Housing prices in the U.S. more than doubled
- 2006-2008: Housing prices fell about 20%.
 - Substantial rise in mortgage defaults.
- Consequences:
 - Large losses at the various financial institutions that own mortgage-backed securities
 - The ability to make loans was impaired.
 - Rise in stock market volatility.
 - Decline in consumer confidence
 - Large contraction of the U.S. economy.

U.S. government response

- Septembre 2007, $i = 5.25\%$. Decembre 2008: $i = 0\%$.
- Octobre 2008: The US Congress agrees to spend 700 billions to help the banking system. The idea was to rebuild lending capability of the banking system.
- January 2009: Obama increases substantially government spendings, G .

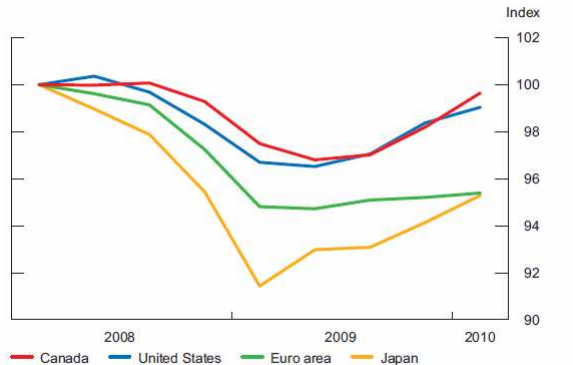
The crisis in Canada

- There is no financial crisis in Canada in 2008. The recession in 2009 was the consequence of a decrease in exports.
- Four differences between the Canadian and the American banking systems
 - Canada has a branch banking system, the US has a unit banking system.
 - Banking, stock brokerage and insurance are more separate in Canada.
 - Regulation on risk free assets: 1/18 in Canada, 1/25 in the U.S.A.
 - Home ownership is not as heavily promoted in Canada:
 - U.S.A.: Mortgage payments are tax deductible and it is possible to buy a house with 0% equity.
 - Canada: the minimum equity on a house should be 20%. It is possible to buy a house with an equity between 5% and 20% if the loan is insured by the CMHC.

Crisis dynamics

Chart 1: Major economies are recovering

Real GDP, 2008Q1 = 100, quarterly data



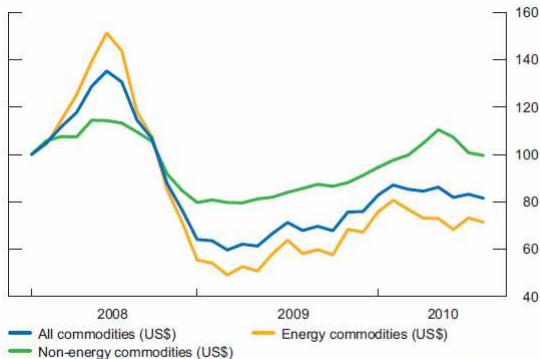
Sources: Statistics Canada, U.S. Bureau of Economic Analysis, Eurostat, and Japan Statistics Bureau

Last observation: 2010Q1

Price level

Chart 2: Commodity prices have weakened recently

Bank of Canada commodity price index (rebased to January 2008 = 100), monthly data



Note: Values in July 2010 are estimates based on the average daily spot prices up to 16 July 2010.

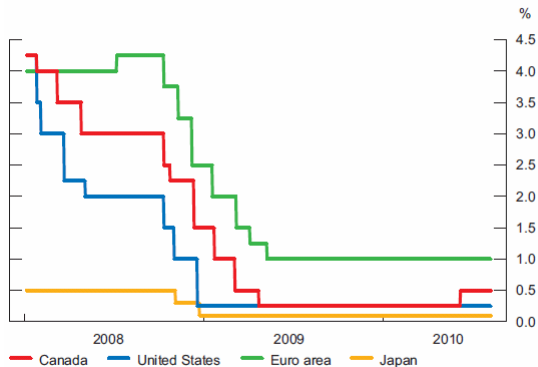
Source: Bank of Canada

Last observation: July 2010

Interest rates

Chart 5: Policy rates have remained at historic lows in most countries

Daily data



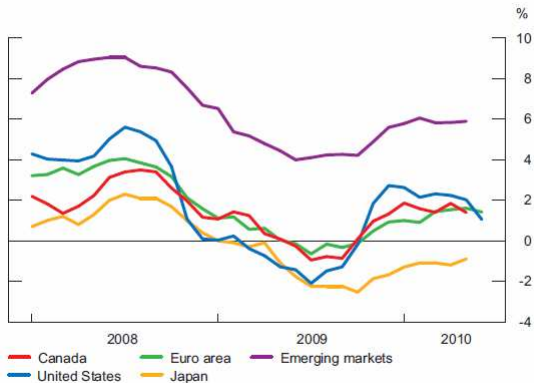
Sources: Bank of Canada, U.S. Federal Reserve, European Central Bank, and Bank of Japan

Last observation: 16 July 2010

Inflation

Chart 6: Inflation pressures remain subdued in the major advanced economies, but are increasing in emerging-market countries

Year-over-year percentage change in total CPI, monthly data



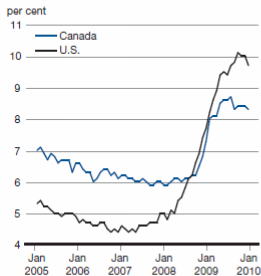
Sources: Statistics Canada, U.S. Bureau of Labor Statistics, Eurostat, Japan Statistics Bureau, and IMF

Last observations: May and June 2010

Unemployment

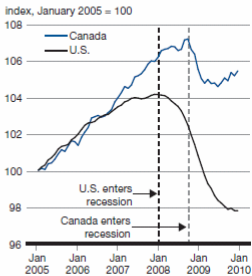
The Canadian labour market has been significantly stronger than in the U.S.

Chart 2.10
Unemployment Rate



Sources: Statistics Canada; U.S. Bureau of Labor Statistics.

Total Employment



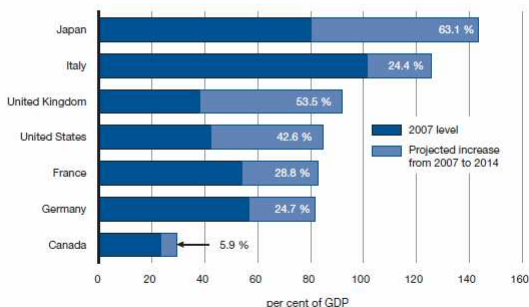
Sources: Statistics Canada; U.S. Bureau of Labor Statistics.

Canada's relative fiscal position

Canada's Fiscal Position Will Remain the Strongest in the G7

Chart 3.2.1

Total Government Net Debt, G7 Countries



Source: IMF, *World Economic Outlook* (October 2009).

Projection of deficits

