02/10/2015

Chapter 12

FISCAL BALANCE AND PUBLIC DEBT

Public Finance, 10th Edition
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for Public Economics 2952331

Outline: Chapter 12 FISCAL BALANCE AND PUBLIC DEBT

5. Burden of the Debt

1. The Federal Budget Balance
2. Economic Effects of the Federal Budget Balance
3. The Government Debt
4. Borrowing by State and Local Governments
5. Burden of the Debt
6. National Saving and Government Budget Balance

Federal Budget Balance

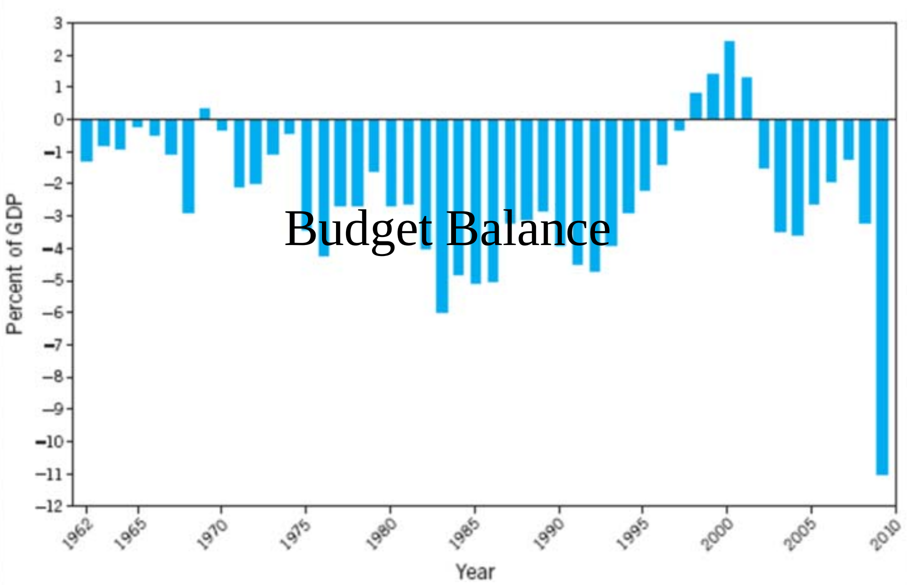
- Borrowing is an alternative to current taxation as a means of financing government expenditures.

- *Budget deficit* is <u>excess of government outlays</u> over receipts taken in taxes, fees, and charges levied by government authorities.
- *Budget surplus* is <u>excess of government receipts</u> over outlays.

- Federal budget balance as a percentage of GDP has been negative, signifying a budget deficit, in most years over the period 1962–2005.

Federal Budget Balance (USA)

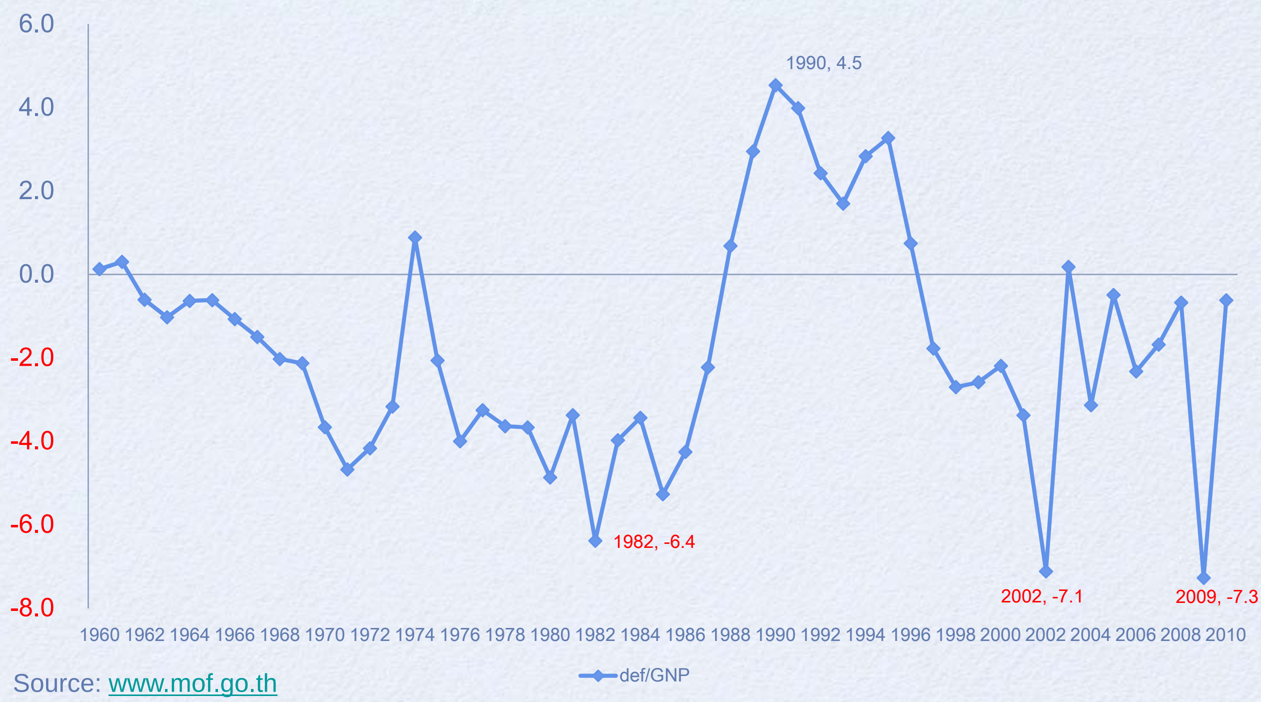
FIGURE 12.1 Federal Budget Balance, 1962–2009



Source: U.S. Department of Commerce, Bureau of Economic Analysis. Deficit for 2009 is an estimate.

Budget Balance (Thailand)

1. The Federal Budget Balance



Source: www.mof.go.th

High-Employment Deficit or Surplus

1. The Federal Budget Balance

- A calculation that estimates the budget deficit or surplus that would prevail at a certain designated level of unemployment in the economy
  - Government expenditures raise as unemployment rates go up
  - Tax revenues increase with increase in employment
- Standardized level of unemployment usually set between 5% and 6%.
- Receipts and expenditures adjusted accordingly to reflect their levels if 94% to 95% of those in the labor force were actually employed

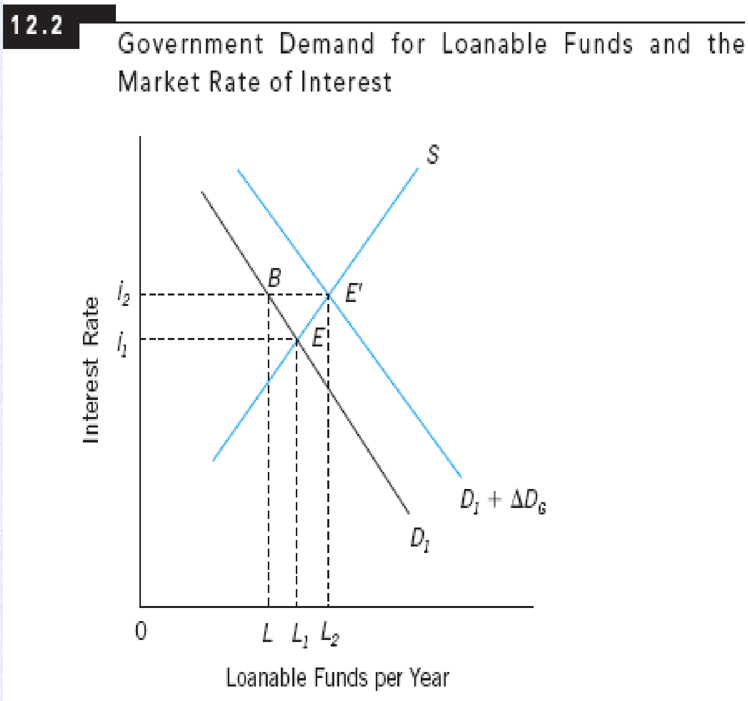
Measuring the Budget Balance

- Unified budget balance is the difference between all federal government expenditures and revenues, "on budget" or "off budget".
  - Main "off budget" operations – Social Security, postal service
- NIPA budget balance is official measure of federal deficit in the National Income and Product Accounts.
  - Does not include transactions that finance preexisting debts, such as outlays for deposit insurance
- *Real budget balance* is a measure of change in federal debt after adjustment for effects of inflation and changing interest rates on the real market value of the outstanding net debt.

Deficit and Political Equilibrium

- By borrowing rather than using taxes to finance government activities, politicians can influence willingness of voters to vote for increased spending.
  - Deficits can affect resource allocation and overall size of government in the economy.
- Borrowing postpones burden of taxation, so often used to finance investments that will provide a stream of future benefits.
  - Often used to finance wars, military technology
- Surpluses can be used to finance new government spending or tax rate reductions.

Deficit Effect on Credit Markets

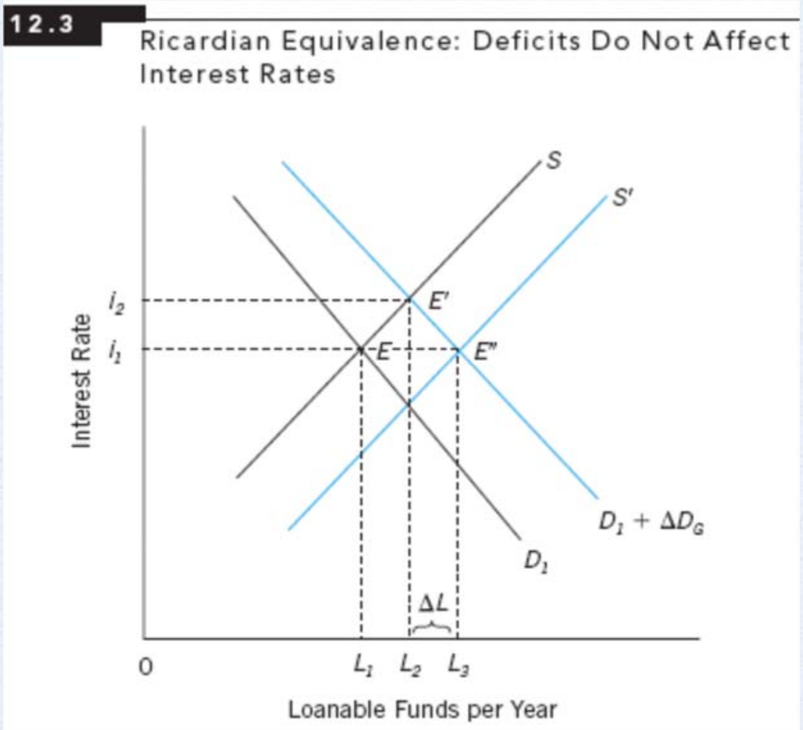


- An increase in government demand for loanable funds to cover budget deficits shifts the demand curve from D_1 to $D_1+\Delta D_G$.
- This increases the equilibrium market rate of interest from i_1 to i_2.
- The higher interest rate increases the quantity of loanable funds supplied to the market but also "crowds out" some private borrowing that would have otherwise occurred.
- As the quantity of funds demanded for private investment falls, these funds are reallocated to finance the deficit.

Deficit Effect on Credit Markets

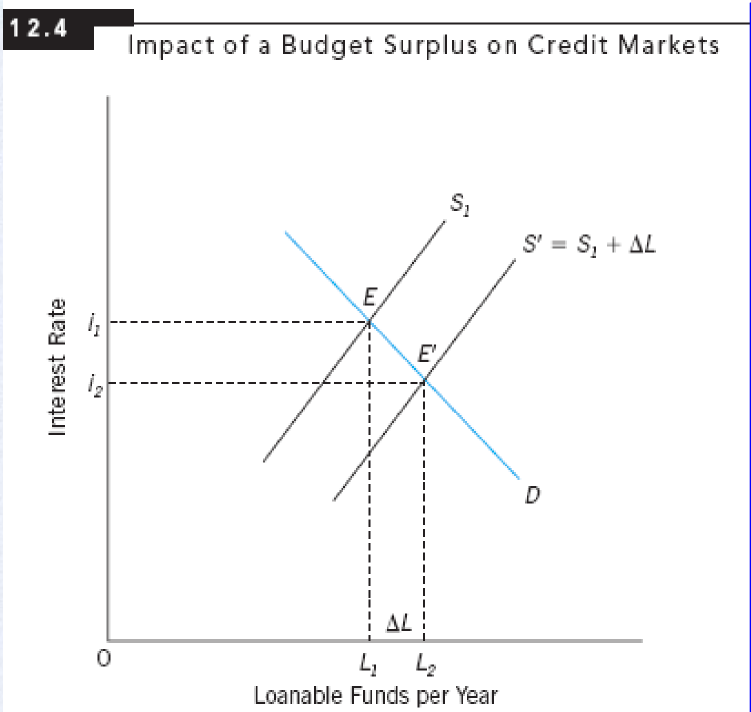
- Traditional view holds that deficit contributes to higher interest rates.
  - Higher interest rates encourage more saving, decreasing private consumption
  - Can choke off private investment, slowing real rate of economic growth
    - Borrowing by households to finance durable goods such as cars and homes
- *Ricardian equivalence* is when an increase in government borrowing to finance deficit causes increase in private saving that keeps level of interest rates fixed.

Ricardian Equivalence



- Under Ricardian equivalence, the <u>increase in government borrowing</u> (L_3-L_1) to finance the deficit is <u>exactly offset</u> by an increase in annual private savings (L_3-L_1) to pay the taxes necessary in the future to retire the debt.
- Consequently, the interest rate does not increase above its initial level, i_1.

Surplus Effect on Credit Markets



- An increase in supply of loanable funds results from using a surplus to repay existing federal debt.
- By repaying the debt, the federal government adds loanable funds to the credit markets.
- The increase in supply lowers market interest rates and encourages more investment.

Surplus Effect on Credit Markets

- Balanced budget or surplus implies that market demand for credit is equal to private demand for credit.
- However, government can affect supply of loanable funds available for private investment in credit markets
- If surplus is used for tax reduction, it supplies funds to consumers as well as investors
  - If result with consumers is consumption instead of saving, no increase in supply of loanable funds, no decline in real interest rates

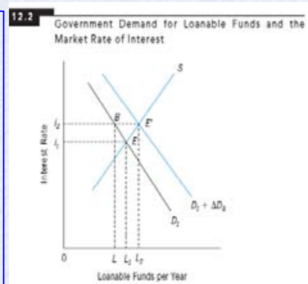
1. The current market rate of interest is 8 percent. At that rate of interest, businesses borrow $500 billion per year for investment and consumers borrow $100 billion per year to finance purchases. The government is currently
1 borrowing $100 billion per year to cover its budget deficit. Derive the market demand for loanable funds, and show how investors and consumers will be
2 affected if the budget deficit increases to $200 billion per year. Show the impact on the market rate of interest, assuming that taxpayers do not anticipate any
3 future tax increases. How would your conclusion differ if taxpayers fully anticipate future tax increases?

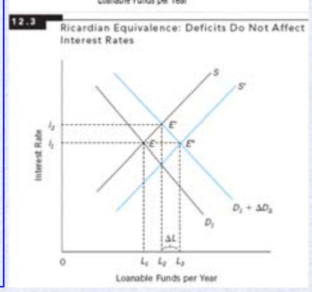
Ans.

1 At the current equilibrium interest rate of 8 percent, the allocation of credit is L_1=$500 billion for investment, $100 billion to consumer credit, and $100 billion to government.

2 An increase in government demand will crowd out some consumer and investment credit ($L_1 \rightarrow L$) and also increase the quantity of loanable funds demanded ($L_1 \rightarrow L_2$).

3 If there is anticipation of an increase in future taxes, the supply of credit will increase ($L_2 \rightarrow L_3$), putting downward pressure on interest rates.



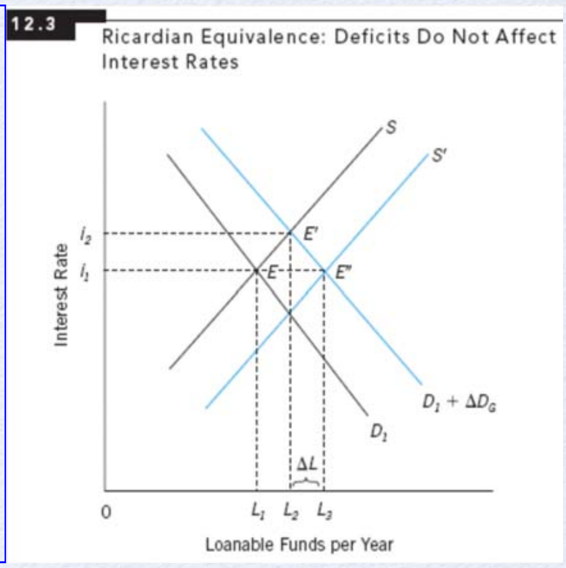


3. The classical economists argued that budget deficits would not affect current spending. Suppose the federal government increases its purchases of goods and services by $100 billion this year. Classical economists who believe in the idea of Ricardian equivalence would argue that the increase in federal spending would have no effect on aggregate spending in the economy and no effect on private investment. Explain how a $100 billion increase in spending financed by a deficit can have no effect on the economy other than a reallocation of resources from private to government use.

Ans.

Classical economists believed that prices were flexible enough to keep the economy at full employment at almost all times. Under such circumstances, an increase in government spending, no matter how financed, could only reallocate resources from private to government use.

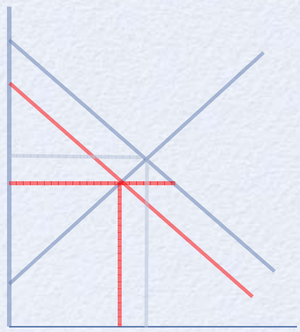
Under Ricardian equivalence, the increase in government borrowing (L_3-L_1) to finance the deficit is exactly offset by an increase in annual private savings (L_3-L_1) to pay the taxes necessary in the future to retire the debt.



4. Trace the implications of a government budget surplus on the following:

a. national saving
b. interest rates
c. private investment
d. economic growth
e. future living standards

When tracing the effects of the budget surplus, list the assumptions you are making.



Ans.

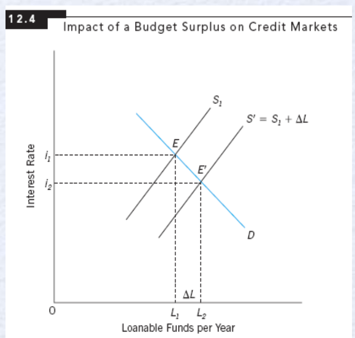
a. Other things being equal, national saving will increase, assuming that the supply of private saving does not decrease as the government relies less on borrowing and more on taxes.

b. Interest rates will fall, assuming that the supply of private saving does not decrease as the government relies less on borrowing and more on taxes.

c. Private investment will increase, assuming that the supply of private saving does not decrease as the government relies less on borrowing and more on taxes and assuming that investment demand is responsive to a decline in interest rates.

d. Economic growth in the future will increase because of higher saving and higher investment rates.

e. An increase in economic growth will improve future living standards.

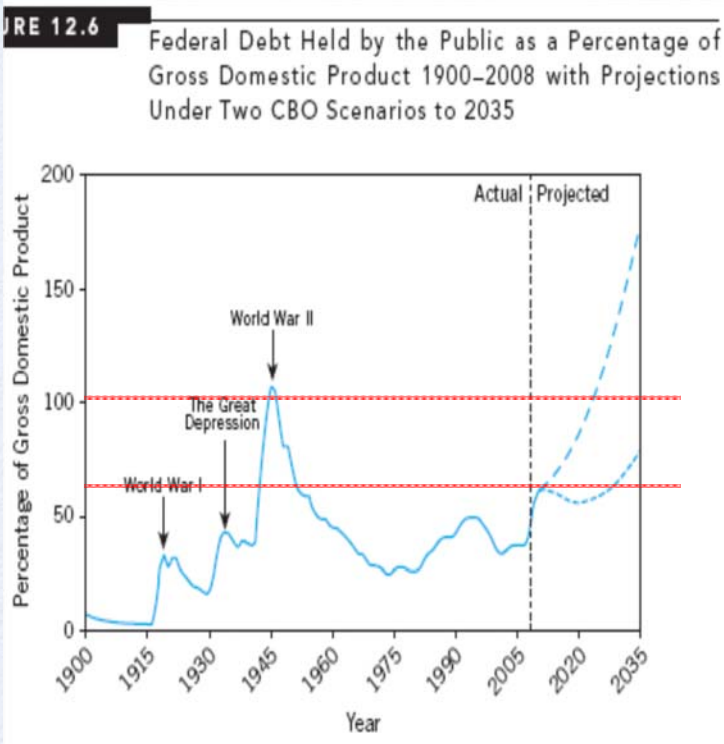


Net Federal Debt

- *Net Federal debt* – that portion of the debt of the federal government held by the general public, excluding holdings of U.S. government agencies, trust funds, Federal Reserve banks

- *Internal debt* – portion of a government's indebtedness owed to its citizens
- *External debt* – portion of a government's debt borrowed from abroad

Net Federal Debt



- An Federal debt held by the public declined after World War II from more than 100 percent of GDP to 20 percent of GDP in the mid-1970s.
- The deficits of the last quarter of the 20th century contributed to an increased net public debt share of GDP.
- After peaking at 50 percent of GDP in 1995, the debt has declined as a share of GDP as a result of budget surpluses between 1998 and 2001.
- The graph shows a range of paths projected by the Congressional Budget Office for the share of the federal debt in the economy from 2009 to 2035.
- The lower path assumes higher taxes and lower spending than the upper path.
- The projections indicate that if spending is not cut and taxes are not increased, the net federal debt could approach 200 percent of GDP by 2035.

Source: Congressional Budget Office.

Ownership of the Federal Debt

TABLE 12.1 Gross Public Debt of the U.S. Treasury by Holder, March 2009

HOLDER	AMOUNT OF DEBT (TRILLIONS OF DOLLARS)	PERCENTAGE OF TOTAL
U.S. Government Agencies, Trust Funds, and Federal Reserve Banks	4.85	43.9
Private Investors	6.30	56.1
Total	11.15	100.0

Source: U.S. Treasury, Bureau of Public Debt.

Ownership of the Federal Debt

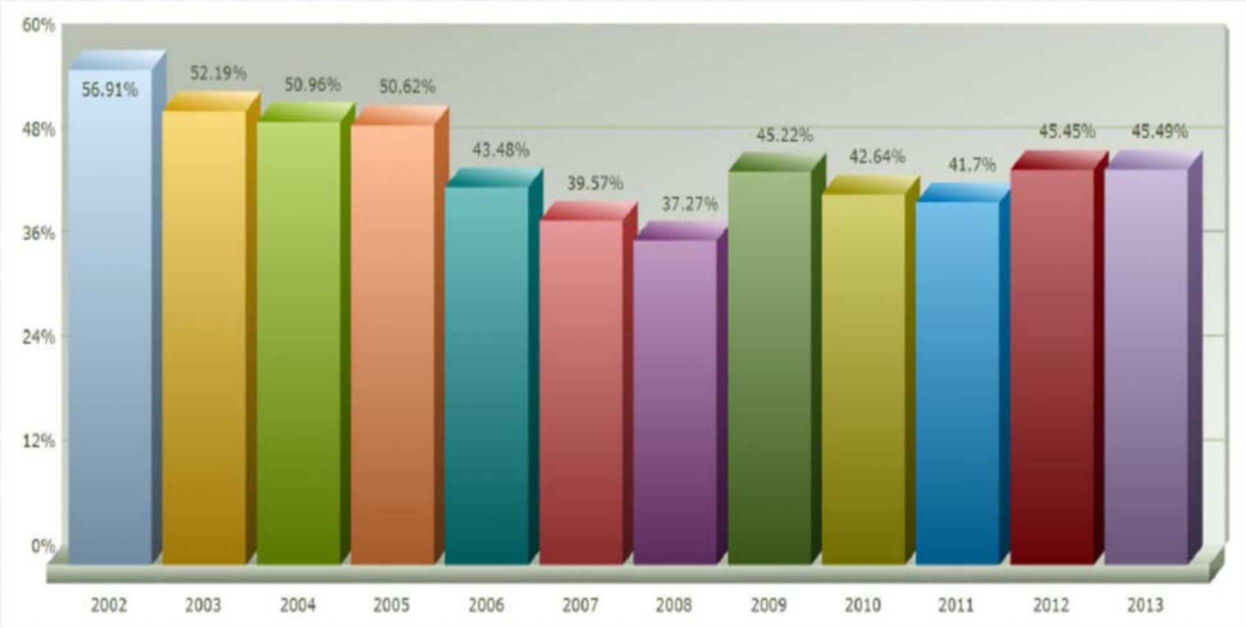
TABLE 12.2 Net Public Debt of the U.S. Treasury by Holder (Percent Distribution), December 2008

HOLDER	PERCENTAGE OF TOTAL
Depository Institutions	1.8
Mutual Funds	13.0
Insurance Companies	2.1
Pension Funds	7.9
State and Local Governments	8.9
Foreign and International Accounts	52.2
Other Investors	14.1
Total	100.0

Source: U.S. Department of Treasury.

Net Federal debt – that portion of the debt of the federal government held by the general public, excluding holdings of U.S. government agencies, trust funds, Federal Reserve banks

Thailand's Public Debt to GDP



Public Debt = 5,449,795M, GDP = 11,922,000M
Debt/GDP = 45.71

Source: http://www.pdmo.go.th

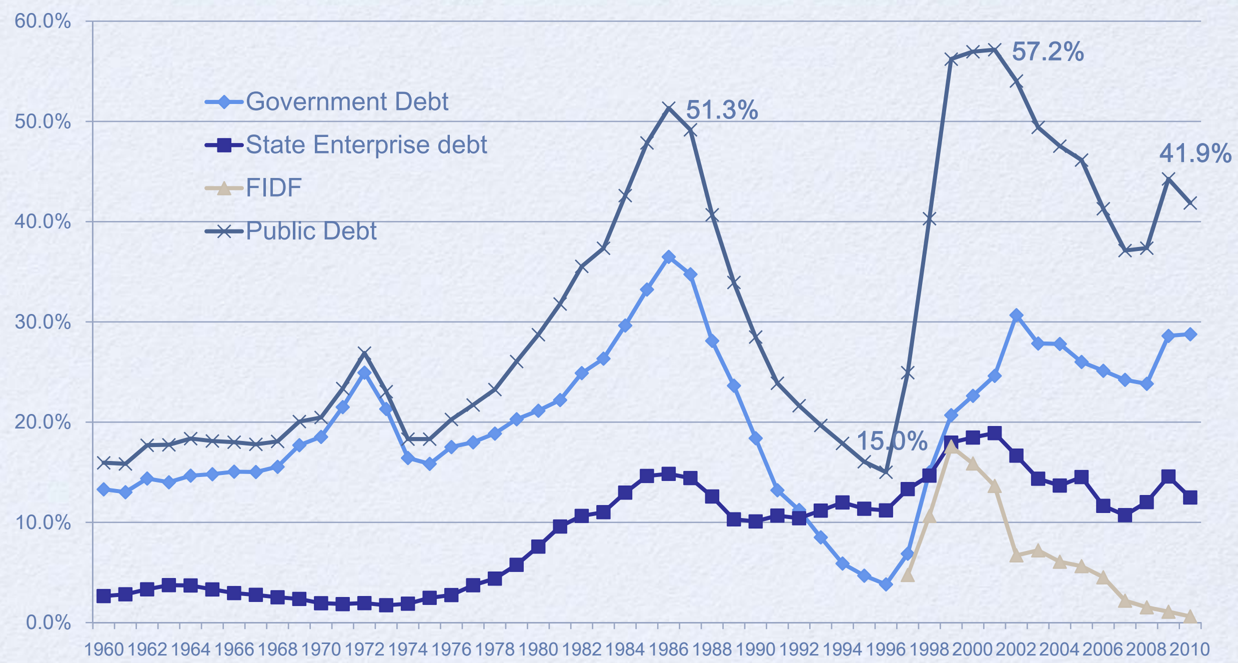
Public Debt Report in Thailand

December 2013
Millions : Baht

Source: http://www.pdmo.go.th

Public Debt (1960-2010)

3. The Government Debt



Source: http://www.pdmo.go.th

Public Debt (Dec 2013)

4. Borrowing by State and Local Governments

Public Debt Outstanding

	Dec 2013	External Debt
1. Government Debt (1.1+1.2+1.3)	3,827,070.350	
1.1 Direct Government	2,709,830.110	
- External Debt	70,851.180	1.3%
- Domestic Debt	2,638,978.930	
1.2 Bond to Compensate FIDF's Loss	1,097,240.240	
1.3 Debt Prefunding	20,000.000	
2. Non-Finanical State Enterprise Debt (2.1+2.2)	1,084,988.050	
2.1 Guaranteed Debt	437,443.970	
- External Debt	112,507.920	2.1%
- Domestic Debt	324,936.050	
2.2 Non-Guaranteed Debt	647,544.080	
- External Debt	182,481.570	3.3%
- Domestic Debt	465,062.510	
3. Special Financial Institutions Guaranteed Debt (3.1+3.2)	536,902.900	
3.1 External Debt	3,378.200	0.1%
3.2 Domestic Debt	533,524.700	
5. Autonomous Agency Debt (5.1+5.2)	834.690	
Total	5,449,795.990	6.8%
Public Debt/GDP	45.710	

Source: http://www.pdmo.go.th

State and Local Government Debt

4. Borrowing by State and Local Governments

- Much of the holdings of debt likely to be external debt, or held by those not residing in that jurisdiction
  - Undue reliance on debt finance can redistribute future income away from residents, as tax revenues used to pay creditors in other jurisdictions

- Use two broad types of securities to cover debt:
  - *General obligation bonds*, backed by <u>taxing power of government</u> issuing securities
  - *Revenue bonds*, backed by <u>promise of revenue to be earned on the facility</u> being financed by the bonds

Burden of the Debt

5. Burden of the Debt

- The redistributive effect of debt financing
- Compared with tax financing, debt financing allows current generation more private consumption opportunities over its lifetime
  - But to pay interest and return principal on the debt, government usually <u>increases taxes</u>; future taxpayers undergo reductions in consumption, saving

- <u>Future generations</u> also suffer reduction in living standards if <u>past deficits cause interest rates to rise</u>, reduce private investment
  - Burden of debt can be offset if revenue obtained from public debt used to finance <u>projects that yield future benefits</u>

2. Suppose 90 percent of the net federal debt was acquired by foreign investors. How would this affect the burden of the debt for U.S. citizens?

Ans.

Each time the debt is repaid, income will flow from U.S. citizens to foreigners.

TABLE 12.2 Net Public Debt of the U.S. Treasury by Holder (Percent Distribution), December 2008

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Total	100.0

Source: U.S. Department of Treasury.

National Saving

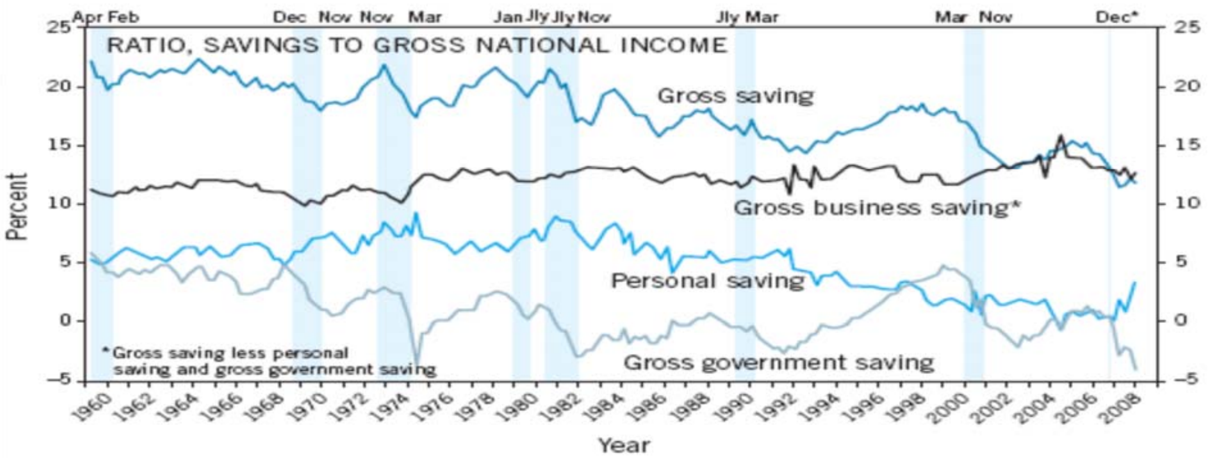
- The more we save today, the greater our future rate of growth output; the less we save, the smaller our future potential to grow.
- National saving is the sum of personal saving by households, business saving, and saving by the government sector.
  - For government to help increase national saving, it must run a surplus
- Net contribution of government to national saving is combined deficit/surplus of federal government and all state and local governments.
- Reduced supply of savings can contribute to higher real interest rates and lower economic growth.

National Saving

National saving in the United States as a percent of gross national income has fallen substantially between 1998 and 2009.

Note: Bars indicate recession periods.
Source: Department of Commerce; Bureau of Economic Analysis.

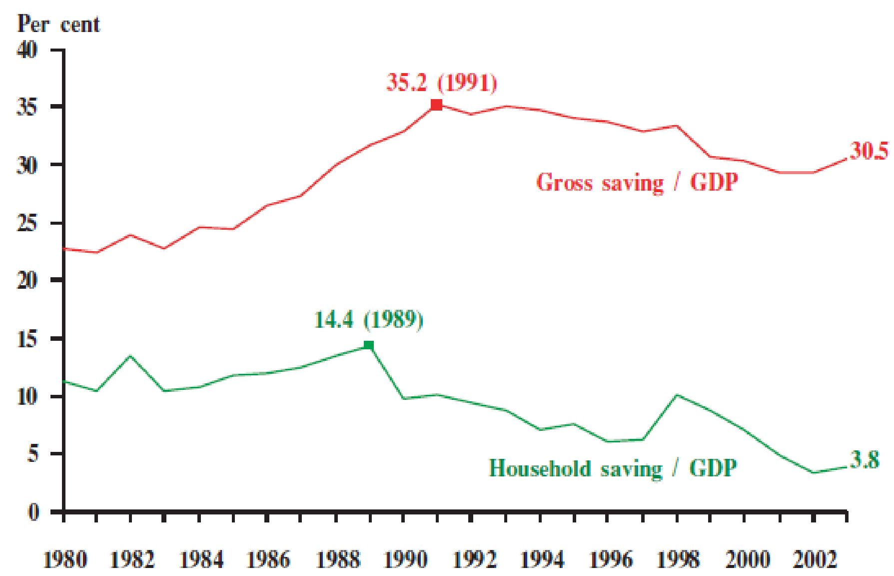
FIGURE 12.5 The National Savings Rate and Its Components, 1959–2009 (Measured as Ratio of Savings to Gross National Income)



Gross Savings (Thailand)

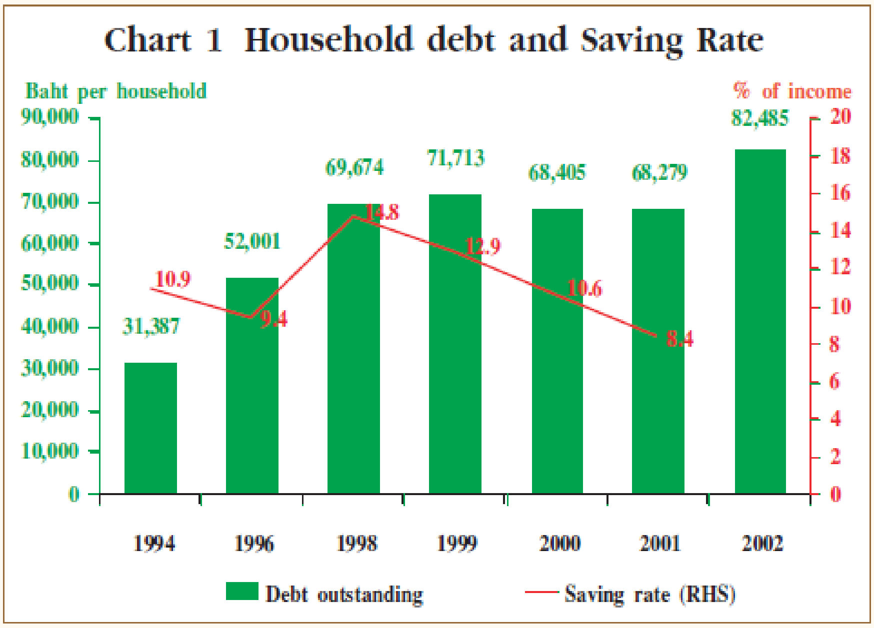
Gross savings are calculated as *gross* national income less total consumption, plus net transfers

Chart 1 Saving trends



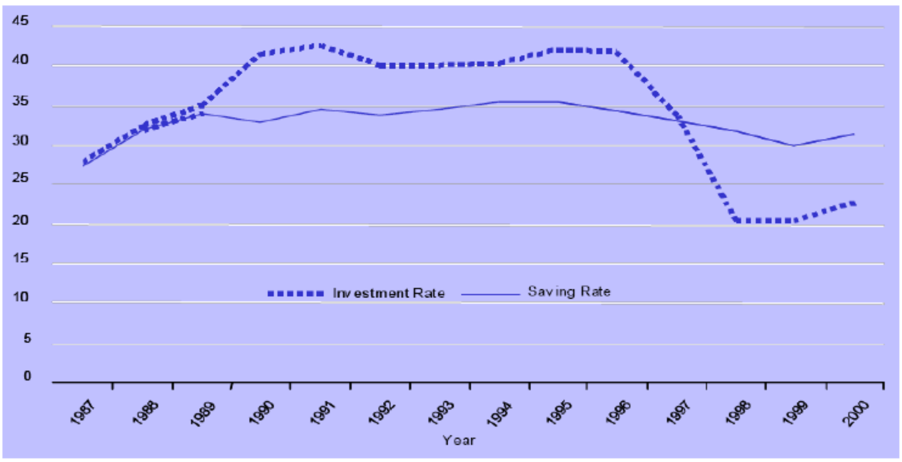
Source: National Economic and Social Development Board

Household Saving Rate (Thailand)



Source: NSO and NESDB

Investment and Saving Rates (Thailand)



Source: 9th APEC FINANCEMINISTERS´ PROCESS

5. Suppose gross saving in the United States is 20 percent of Gross National Product (GNP). If business saving is 15 percent of GNP and government saving is 4 percent of GNP, what percent of GNP is personal saving? Explain why a federal budget surplus increases national saving while a budget deficit decreases national saving. How can a federal budget deficit increase market equilibrium interest rates and reduce private investment and future economic growth?

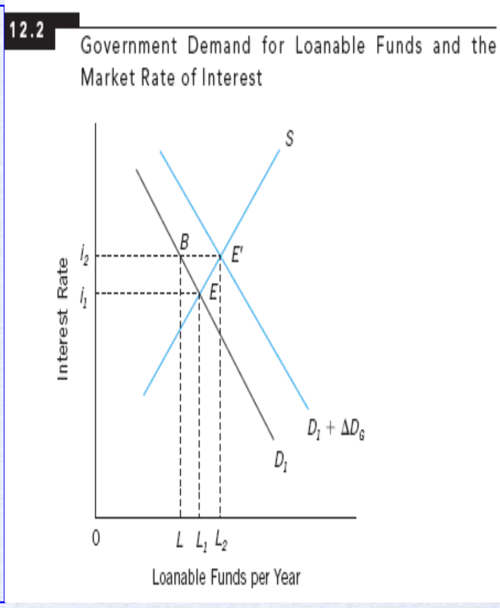
Ans.

Personal saving is 1 percent of GNP. A surplus amounts to government saving, so a federal budget surplus will increase national saving.

A budget deficit is negative government saving and will reduce national saving.

Other things being equal, a federal budget deficit increases the demand for credit ($L_1 \rightarrow L_2$) and bids up interest rates ($i_1 \rightarrow i_2$).

This, combined with the fact that the deficit absorbs savings that would otherwise finance investment, can decrease investment in the United States and decrease future economic growth.



Recap: Chapter 12 FISCAL BALANCE AND PUBLIC DEBT

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