

ECO 407

**Competing Views in
Macroeconomic Theory and Policy**

Lecture 2

**The Determinants of
Consumption and Saving**

The Importance of Consumption and Consumption Theory

- From society's point of view, the ultimate goal of **production** is **consumption**
 - Production directly satisfies consumption in a **subsistence** economy
 - Production satisfies consumption through the mediation of the market in a **market** economy
 - Consumption accounts for about 60 percent of Canada's GDP
 - Therefore, in order to predict the impact of **government policy** on economic activity we need to understand what drives consumption
 - Major contributors to the development of **consumption theory** include Keynes, Tobin, Duesenberry, Modigliani, and Friedman
- They all follow an approach that could be called **methodological individualism**
 - Behaviour modelled at the level of the individual, and then aggregated to an economy-wide relationship

Keynes's Consumption Theory

- For Keynes, the consumption function was a **stable** relationship resting on a “**fundamental psychological law**” conditioned by habits and institutions

$$C = a + bY_d$$

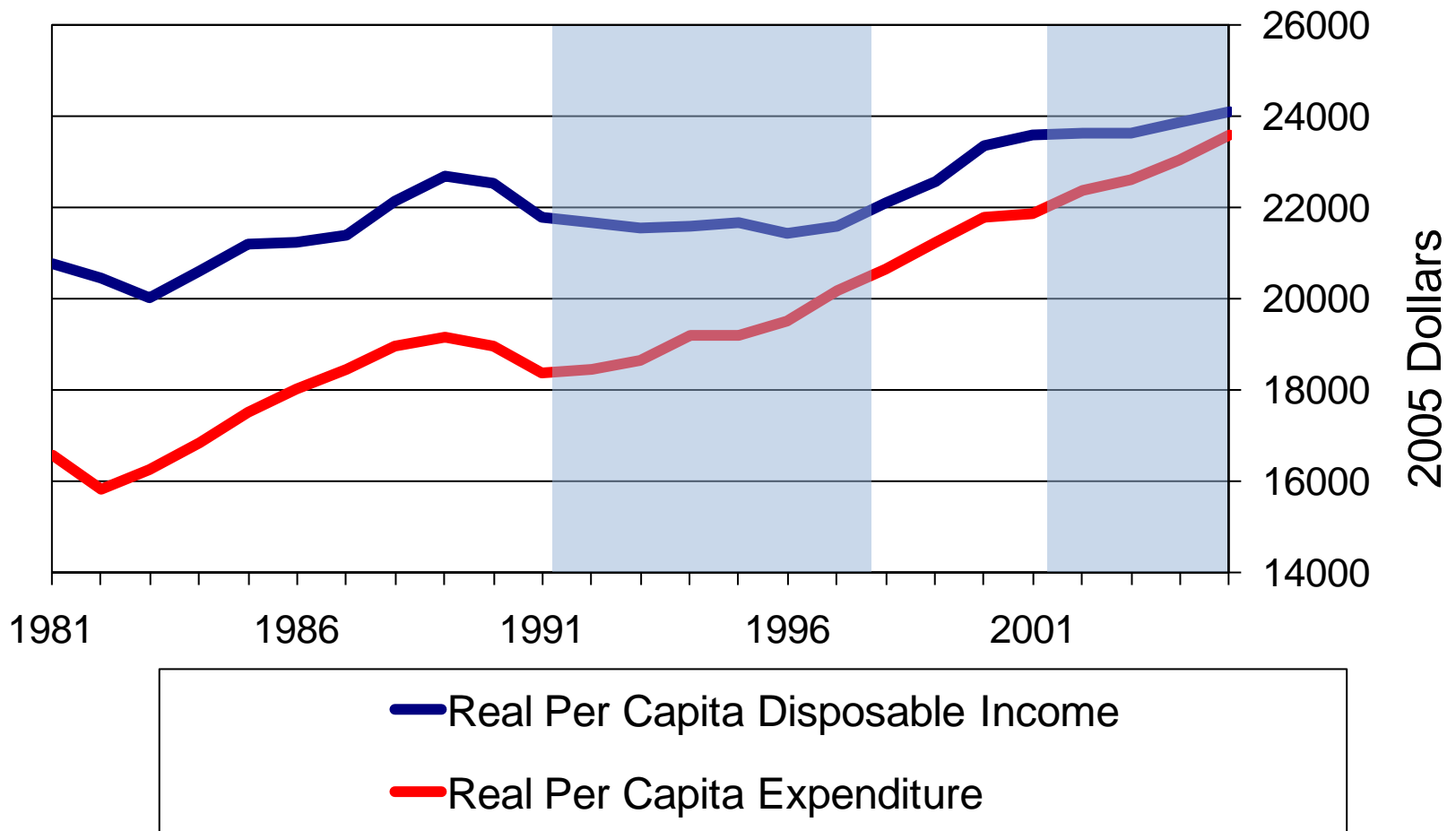
- Changes in current real **disposable income** would trigger proportional changes in consumption spending
 - He believed the **marginal propensity to consume (b)** was rather **constant** in the short run
 - Other variables such as **expected future income** were less important
 - The **rate of interest** was also less important, perhaps because the credit system was not then as developed as it is today

Empirical Support for Keynes's Theory

$$C = a + bY_d$$

- Empirical studies suggests that a might be **positive** in the short run (cross-section studies) and close to **zero** in the long run (time-series studies)
- If a is positive, proportion of Y_d spent on consumption decreases as Y_d increases
- The parameter a has been interpreted as the **subsistence** level of consumption
- Empirical studies show that the later the date of a cross-section study, the greater the value of a
 - This might suggest that the **subsistence** level of consumption is socially determined

Canada: Per Capita Consumption and Disposable Income, 1981-2005



Tobin's Contribution to Keynesian Consumption Theory

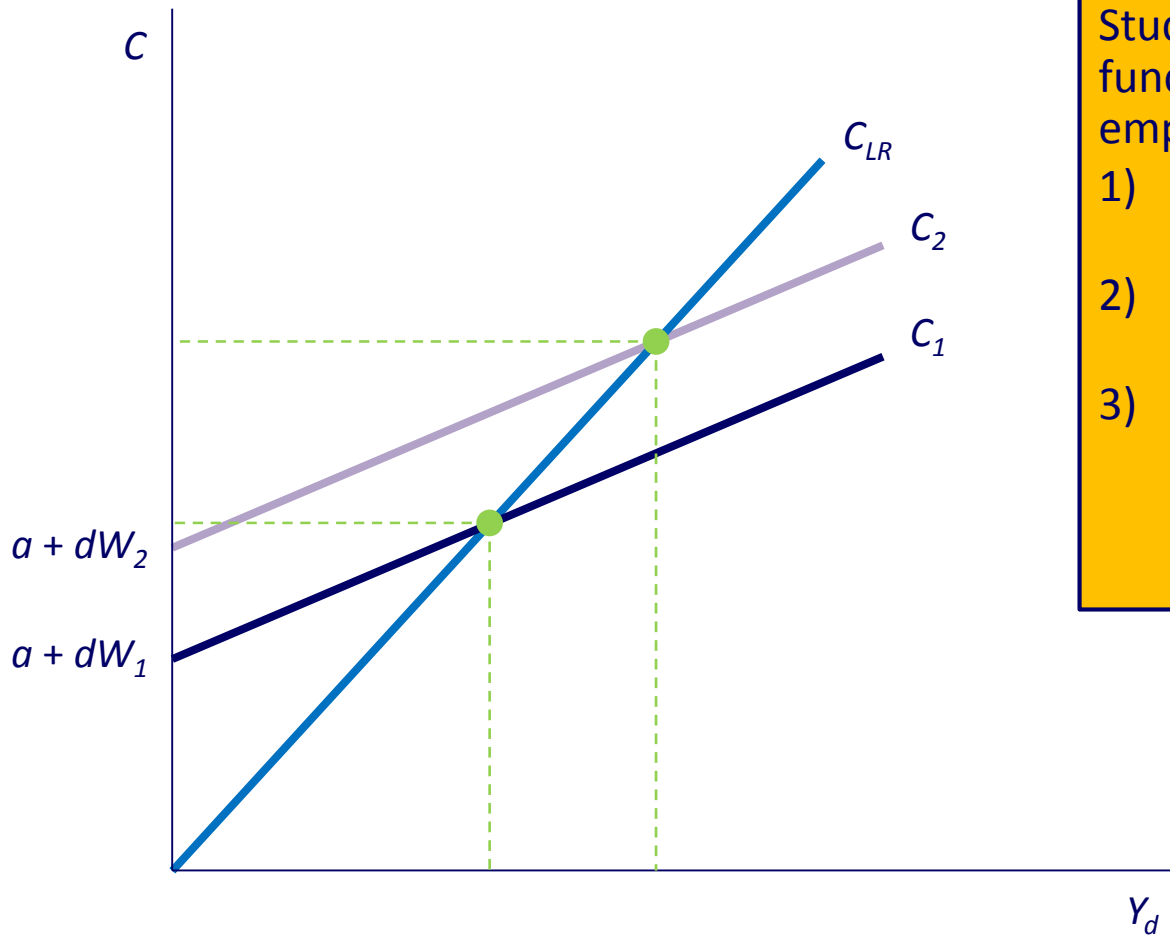
- Tobin suggested that the stylized fact of the ***vertical intercept*** increasing over time could be accounted for by the following consumption function:

$$C = a + bY_d + dW$$

where ***W*** is real ***wealth*** and ***d*** is the marginal propensity to consume out of household wealth

- The short-run consumption curve would thus shift over time because wealth increases with economic growth
 - Therefore, it reconciles the results of the short-run (cross-section) and long-run (time-series) studies

Keynesian Consumption Function



Studies of the consumption function have shown three main empirical facts:

- 1) the consumption function is relatively flat in the short-run;
- 2) the short-run consumption curve shifts upward over time;
- 3) the long-run consumption function is steeper than the short-run functions and passes through the origin.

$$C_1 = a + bY_d + dW_1$$

$$C_2 = a + bY_d + dW_2$$

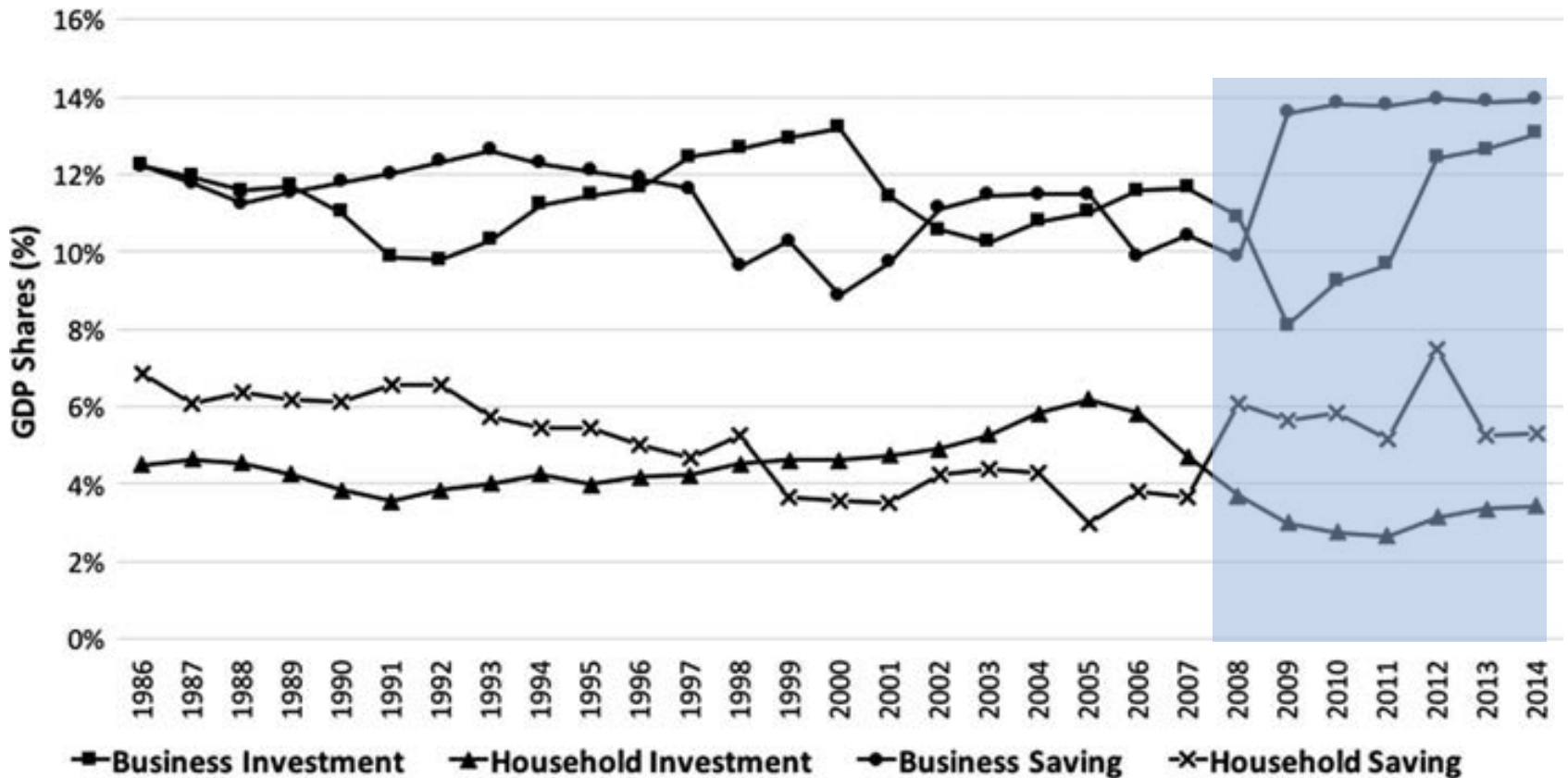
Consumption, Savings, and the Rate of Interest

- In my view, the ***rate of interest*** does not affect households' ***inter-temporal*** consumption-saving decisions
 - Consumers do not decide to ***save*** more when the rate of interest is high in order to be able to ***consume*** even more in the future
 - The problem rests on the unrealistic ***assumptions*** for a model describing a ***capitalist*** economy
- Changes in the rate of interest affect the ***timing*** of purchasing those consumer goods usually purchased by credit
- Therefore, changes in the rate of interest affect the level of ***dissavings***, and thus ***indirectly*** the aggregate level of ***savings***

Savings and the Rate of Interest

- Does the level of *savings* decrease when the *rate of interest* falls?
 - Consider a model with three types of individuals: **1)** savers; **2)** borrowers; and **3)** neither savers nor borrowers
 - The *total savings* in the economy is the sum of the amount *saved* by the *savers* minus the amount *dissaved* by the *borrowers*
- All else equal, when the *rate of interest* falls:
 - *Savers* continue saving more or less the same amount
 - *Borrowers* borrow a greater amount
 - Therefore, *total savings* falls

U.S.: Savings and Investment



Source: L. Taylor, "The 'Natural' Interest Rate and Secular Stagnation: Loanable Funds Macro Models Don't Fit Today's Institutions or Data," *Challenge*, Vol. 60, No. 1, 2017, pp. 27-39.

The Rate of Interest and the Consumption Function

- The following *consumption function* takes into account the impact of changes on the *rate of interest* on consumption expenditure:

$$C = a + bY_d - gr$$

where r is real rate of interest and g measures the sensitivity of consumption to a change in r

- Therefore, the short-run *consumption curve* shifts as the *rate of interest* changes

➤ This implies that the impact of *monetary policy* also depends on a large extent on *consumption behaviour*

Consumption, Saving, and Investment

- According to the *inter-temporal* allocation model, an increase in the *rate of interest* in period 1 will cause:
 - An increase in *saving* (and a decrease in *consumption*) in *period 1*
 - An increase in *income* (and Y_d) and thus an increase in *consumption* in *period 2*
 - But for this to happen, the increase in *saving* in period 1 has to be translated into an increase in *productive investment* in period 1
 - This will allow the increase in Y_d and in the production of consumer goods in period 2
- But then we encounter the *contradiction* that (productive) *investment* increases when the *rate of interest* rises!

Different Views on Consumption, Saving, and Investment

- Mainstream economists subscribe to the view that *savers* are critical to the *investment* process
 - It is ultimately the *supply of loans* (provided by *savers*) that finances *investment*
 - Therefore, a policy that encourages *saving* is needed for a rise in long-term *investment*
- Keynesian economists reject this causality
 - It is not *saving* that determines *investment* but the other way around
 - *Investment* is financed by *bank credit* and not by savers
 - Lower *saving* increases *economic activity* and might encourage firms to *invest* more

The Rate of Interest and the Saving Function

- $S = Y_d - C$

$$= Y_d - (a + bY_d - gr)$$

$$= -a + (1 - b)Y_d + gr$$

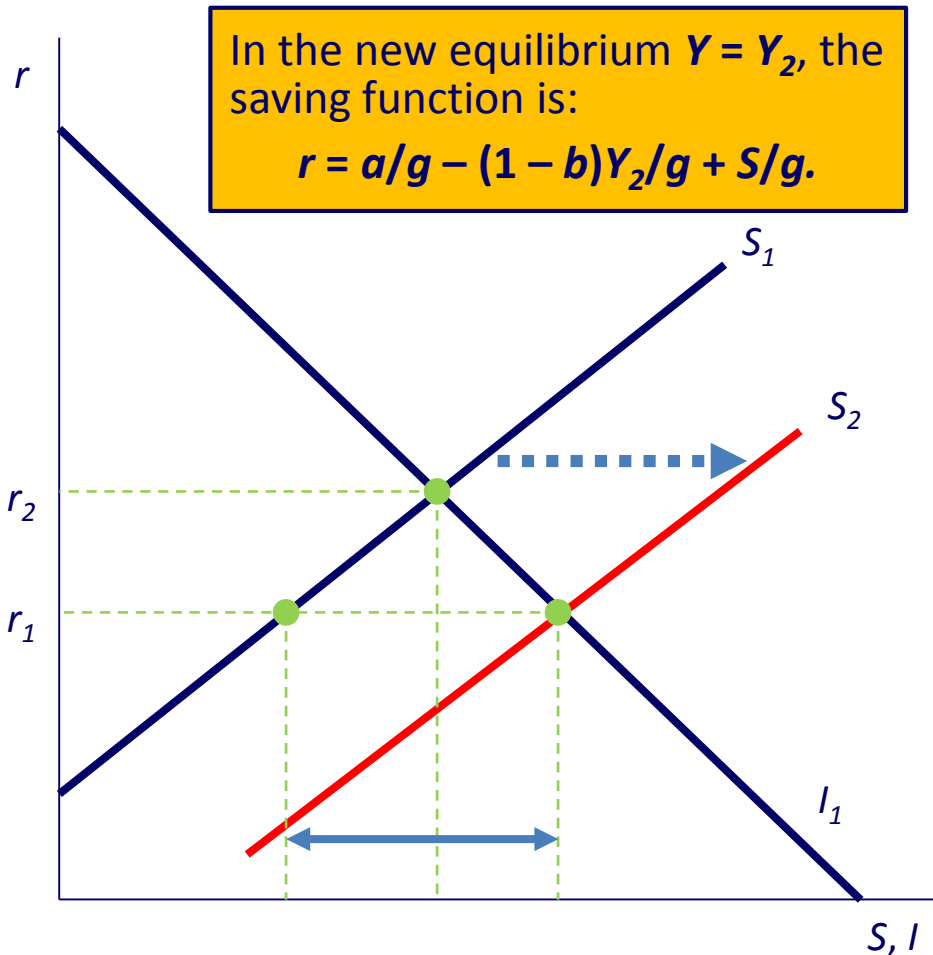
- And in a closed economy without government ($Y = Y_d$):

$$S = -a + (1 - b)Y + gr \text{ or } r = a/g - (1 - b)Y/g + S/g$$

- And for $Y = Y_1$, we can place r on the vertical axis and S on the horizontal axis and sketch the following *saving function*:

$$r = a/g - (1 - b)Y_1/g + S/g$$

The Saving and Investment Functions



Let's consider the *saving* or *supply of loans* function:

$$r = a/g - (1 - b)Y_1/g + S/g$$

and the *investment* or *demand for loans* function:

$$I = A - hr \text{ or } r = A/h - I/h.$$

Mainstream economists will argue that at r_1 there is an *excess demand* for *loanable funds* and thus the rate of interest will increase to r_2 .

Keynesian economists will argue that at r_1 there is an *excess demand* in the *goods market* and thus Y will increase. As Y rises, the S curve shifts to the right until $S = I$ at r_1 .

Concerns with Keynes's Theory: *Heterodox Perspective*

- They find problematic the aggregate nature of the original analysis based on the ***representative consumer***
- They distinguish ***propensity to consume*** according to income class affiliation
 - Therefore, the impact of ***fiscal policy*** would depend on which income-sector of the population is affected
- An important missing motivation was the ***emulative behaviour*** of households (Duesenberry)
 - ***Individual choice*** is not made in a vacuum
 - ***Individual choice*** is the by-product of the individual's upbringing and the institutions that have moulded his/her preferences

Concerns with Keynes's Theory:

Heterodox Perspective (cont'd)

- The rich save at higher rates than the poor and thus the ***national saving*** rate should increase over time as Y increases
 - But ***national savings*** rates remain roughly ***constant***
- Duesenberry explains that ***poverty*** is relative
 - The poor save at lower rates because they try to ***emulate*** consumption patterns of the more affluent
 - This difficulty persists even as national income grows
- Families look at living standards of others but also to their own ***past experience*** (habits)
 - The latter explains to some extent why consumption changes little during recessions

Concerns with Keynes's Theory: *Orthodox* (Neoclassical) Perspective

- They find problematic Keynes's view of current ***disposable income*** as the main determinant of consumption
- They argue that real ***wealth*** is the most important determinant of consumption expenditure
- Also ***ideologically*** opposed to Keynes's view:
 - If consumption depended primarily on ***disposable income***, it would give too much relevance to ***government policy*** intervention
 - If consumption depended primarily on ***wealth***, temporary tax cuts should have little impact on consumption

Some Conclusions

- Consumption behaviour is difficult to explain due to consumer heterogeneity
- Economists tend to underestimate the importance of psychological factors affecting consumption
- Since the 1970s, models based on consumer emulation tend to explain consumption behaviour better than those models based on the significance of wealth
 - Rising income inequality over the last 30 years has been accompanied by increasing *indebtedness* of middle-income groups
- Consumption expenditure has been one *bright* feature of the Canadian economy during the Great Recession