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Intertemporal Consumption and the role of fiscal and monetary policy

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Key Concepts: intertemporal consumption; interest rates; real and hypothetical macroeconomic data; the role of central banks; fiscal policy; monetary policy.

Meet *Jordan*, a 22-year-old graduate who has just received £100 from dailylifeecon Bank. Jordan has two choices: (1) use the £100 as a deposit for a loan to buy a new laptop, or (2) save the money in a bank account that offers interest and use it later.

Intertemporal consumption refers to how individuals allocate consumption across different periods of time—*now versus later*. The decision often centres on interest rates: the cost of borrowing and the reward for saving.

If you decide to spend or borrow now, you directly contribute to increased demand for goods and services and higher revenues for businesses. In the aggregate, this raises GDP (Gross Domestic Product) in the short run.

If you decide to save, that money becomes available for banks to lend. It funds business investment and expansion, supporting long-term productivity and economic growth.

Monetary Policy and Jordan’s Choice (Unconstrained Case)

Central banks, such as the Bank of England, influence this decision through monetary policy—primarily by setting interest rates.

As Jordan is making this decision, dailylifeecon Bank sends a follow-up message: "Interest rate increased to 12%". That 12% return on savings is much more attractive. This incentivises saving and discourages immediate spending. Jordan is more likely to save the money instead of borrowing to buy a laptop. From a

macroeconomics perspective, this reduces consumption in the short term, cools down inflationary pressure, and boosts future investment.

But assume this last message was a mistake, and a few moments later, Jordan receives another message: "Apologies, interest rate remains at 2.5%"

At this lower rate, borrowing is relatively cheap again. The incentive to wait is weaker—Jordan might prefer to use the £100 to borrow now, buy the laptop, and repay later. We can see than when Jordan is financially unconstrained, monetary policy (via interest rates) is an effective tool. His decision-making responds directly to rate changes.

Individuals make decisions about whether to consume today or defer consumption to the future. This depends on preferences for current vs. future consumption and interest rates (i.e., the opportunity cost of spending now). High interest rates reward saving and discourage borrowing, and low interest rates do the opposite—encourage spending and borrowing.

Optimal Consumption: borrower

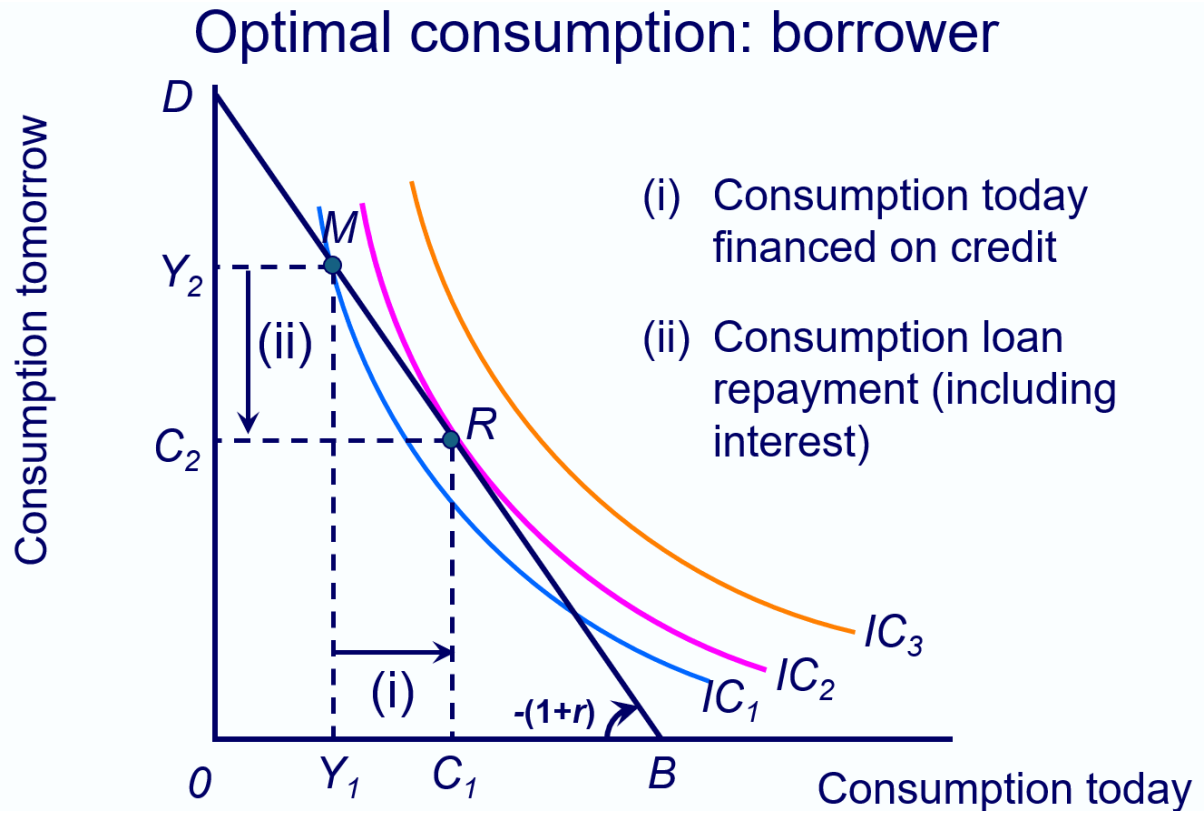

Figure 1: Optimal Consumption for an unconstrained borrower

Let’s place Jordan at point M in Figure 1, his endowment. He has low current income (just £100), but expects higher income in the future. Because he’s unconstrained, he can borrow today against his future income. That allows him to shift to point R, where he consumes more today by borrowing (Enjoy that Laptop Jordan! Just remember you need to pay for this in the future). Indeed, he repays tomorrow by consuming less in the future—this is reflected in the downward sloping budget line with slope –(1+r).

At point R, Jordan is on the highest indifference curve he can afford, showing his optimal consumption. Note that his utility is higher here than his initial indifference curve at point M on the blue line, indicating that he is happy with the laptop purchase despite have to pay interest on the loan and repay in the future.

Effect of an increase in the interest rate: borrower

Now that we talking about interest rates, lets see how they affect Jordans decision! Lets suppose the interest rate increases from 2.5% to 12%. For Jordan, a borrower, this is bad news - it means the cost of borrowing increases. Figure 2 highlights this case. The budget line pivots inward (BD to B’D′), essentially for every pound Jordan borrows today he must give up more of his future income (and future consumption) to pay for it. Jordan’s optimal point shifts from R to R′.” This shift includes:

- A **substitution effect**: borrowing is now more expensive, so Jordan reduces today’s consumption.
- An **income effect**: Jordan feels poorer because he has to repay more tomorrow.”

Both effects reduce today’s consumption. In the case in figure 2, Jordan still borrows but he borrows less (maybe a cheaper laptop). It could also be the case that Jordan may now decide it’s better to wait and save, especially if he no longer finds borrowing worthwhile.

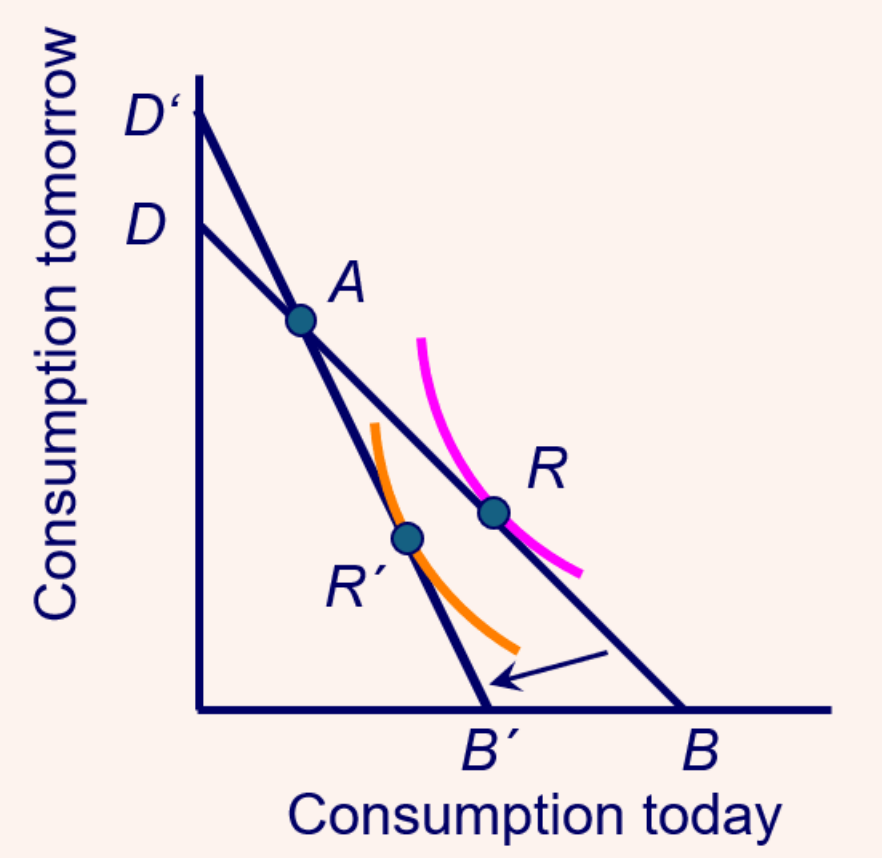

Figure 2-Effect of an increase in the interest rate: borrower

What If Jordan *Is* Constrained? The ineffectiveness of monetary policy.

Suppose Jordan wants to buy a laptop but doesn't currently have the funds—and cannot borrow (due to poor credit, job insecurity, or strict lending standards). Figure 3 highlights this case. We see here that his ideal choice would be point D—where he borrows to increase current consumption (say, to buy that laptop now).

But because of borrowing constraints, that point is out of reach. The best he can do is point E, which lies on the kinked part of the budget constraint. He can only consume up to Y_1 in the present. So even if the interest rate drops, it doesn’t matter to Jordan—he still can’t borrow. Monetary policy becomes ineffective for people like Jordan.

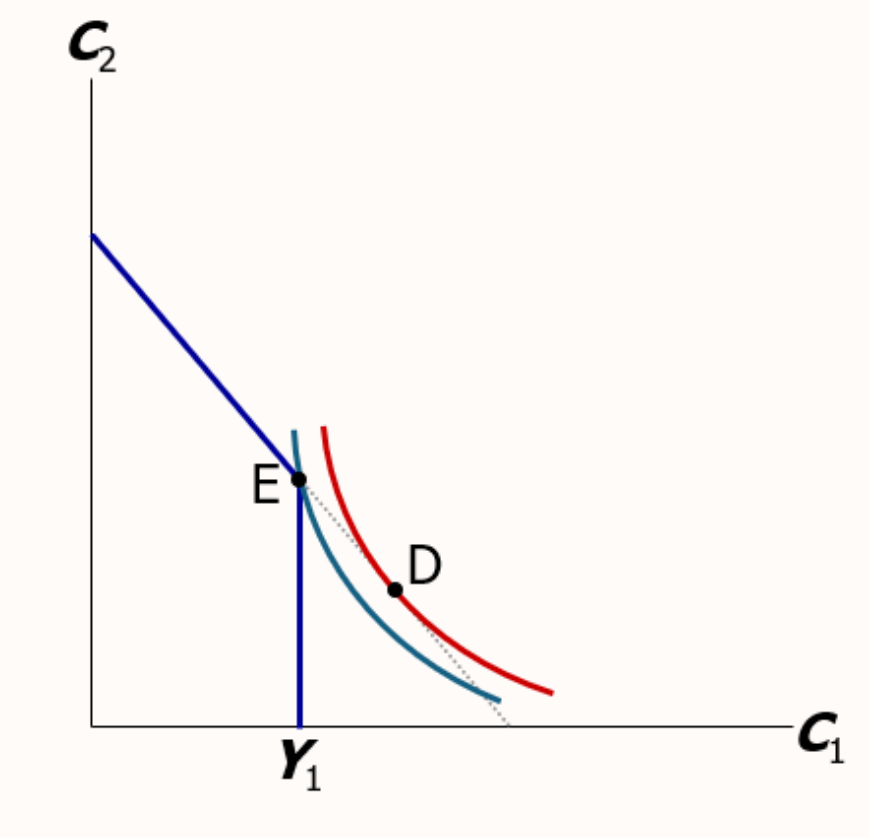

Figure 3 Consumer optimization when the borrowing constraint is binding

What If Jordan *Is* Constrained? The Role of Fiscal Policy

To help Jordan in this case, we’d need fiscal policy—something like a direct transfer, voucher, or subsidy—to raise his current consumption. For example:

- A government stimulus cheque,
- A targeted youth employment grant,
- Temporary VAT cuts on electronics or essentials.

These actions directly increase Jordan’s disposable income, enabling spending even when monetary policy has limited reach. Fiscal tools are especially crucial when individuals face liquidity constraints, or when the economy is in a downturn and private sector demand is weak.

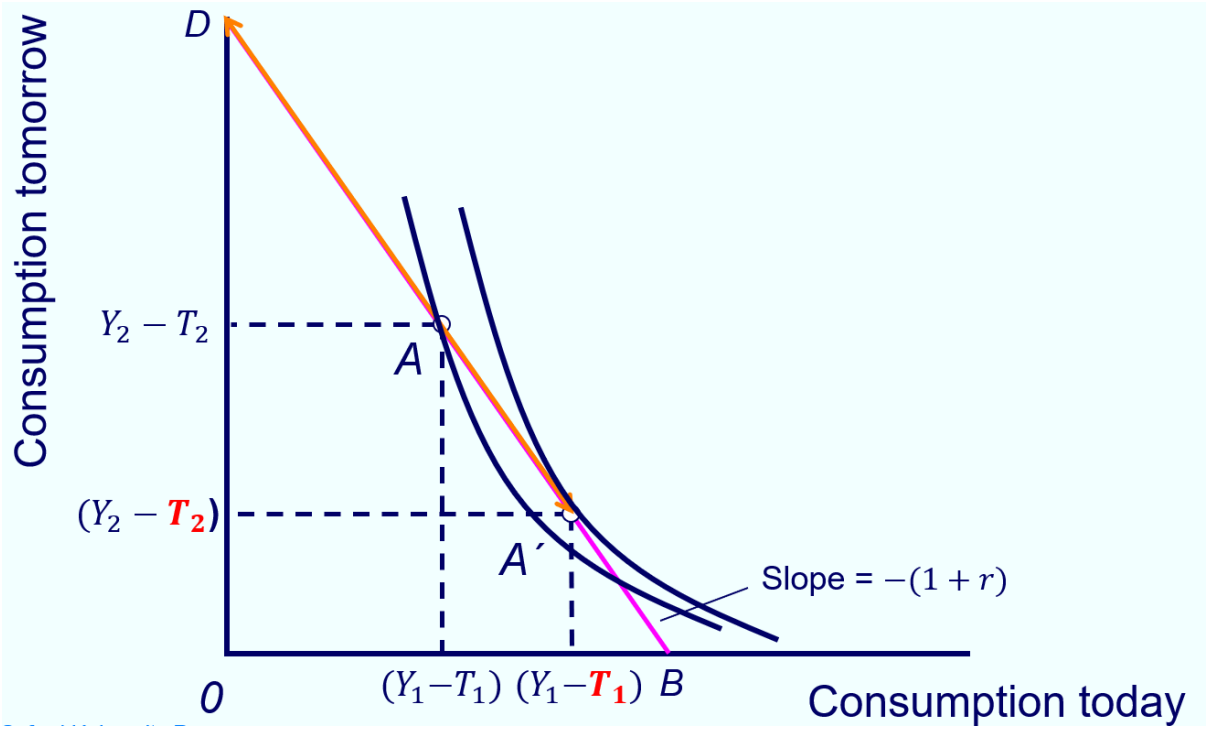

Figure 4 A tax cut when a borrower is credit constrained

Figure 4 highlights the role of fiscal policy. Jordan is initially stuck along segment AD. He can save what he earns, but cannot borrow despite wanting to. But here’s where the government comes in. Through fiscal policy, it can cut taxes today (T_1 to $\boldsymbol{T_1}$) and raise them in the future (T_2 to $\boldsymbol{T_2}$). This increases the household’s budget segment and now Jordan can move to A′, effectively gaining the consumption room he couldn't access before. This is not just theory. If the government gives Jordan a cash transfer or a tax holiday today, he can buy the laptop. That’s how fiscal policy relaxes borrowing constraints.

Final Thoughts

Jordan just wanted a laptop… but instead, he became a walking case study in macroeconomic policy. When interest rates went up, Jordan flirted with the idea of becoming a saver. When they stayed low, he was ready to spend. But when he realised he couldn’t borrow? Suddenly, monetary policy could not save the day.

Thankfully, fiscal policy came to the rescue, offering him the help he actually needed. Whether it’s a tax cut, a voucher, or a good old-fashioned government grant, sometimes the Treasury has to step in where the central bank can’t.

Jordan’s experience shows that when people are unable to borrow, lowering interest rates isn’t enough to boost spending—direct support through fiscal policy becomes essential. What’s true for Jordan is true for the whole economy: in times of constraint, monetary policy alone can’t do the heavy lifting—fiscal action is needed to unlock demand and support recovery.