**Additional comments**

**EI056, class of September 19, 2023**

This note provides some comments on the slides that I did not have time to cover in class (slides 28 and later).

Slide 28

The two main macroeconomic policies aimed at moving demand are monetary and fiscal policy.

Monetary policy moves the interest rate. What actually matters for economic activity is the *real* interest rate, that is the cost of funds (nominal interest rate) adjusted by inflation. If a firm pays 10% on its loan to invest in producing goods, and the price of these goods will increase by 15% by the time it produces, it’s a worthy investment. If the firm can borrow for free at 0%, but will see the price of its goods fall by 10%, borrowing even for free is not worth it.

Usually, central banks moved the real interest rate by moving the *nominal* interest rate, keeping expected inflation constant. Since 2008, the nominal interest rate has reach a lower bound below which it cannot go. Central banks have then moved to managing inflation expectations, as higher inflation leads to a lower real interest rate (or more precisely they work to prevent inflation expectations from falling, which would make their job even harder).

Fiscal policy is about government spending and tax cuts. Until 2008 it was not really used, as it was seen as powerless. If we give people a tax cut now, but they know they have to pay it back tomorrow, they will simply save it and there is no effect on demand. This so-called Ricardian equivalence points that whatever the government does is undone by private agents. In the crisis however, this equivalence has broken: when jobless people get money, they spend it and don’t care so much about the future taxes. Government spending has been used quite a bit in the crisis, and studies show that it has worked. Of course, deficit spending leads to higher debt, but bear in mind that without it we may have gotten a much deeper recession, which would have raised the ratio of debt to (lower) GDP anyway.

Slide 29 – transition

Slide 30

Before the great depression of the 1930’s macroeconomics had two broad lines of research. Monetary theory focused on the neutrality of money (more money leads to inflation), focused on questions such as whether money should be linked to gold or not. Business cycle analysis had some of the ingredients we see today, but was not formalized which limited progress.

The Great Depression showed that demand can remain substantially depressed for a long time, and the economy does not correct imbalances by itself. Policy is then needed to help. The Keynes school of analysis developed the interactions between goods and money markets, i.e. the general equilibrium analysis. This analysis was static and relied on rules of thumbs (for instance people consume 90% of their income), and largely abstracted from expectations.

Slide 31

Keynes analysis predicts a negative relation between inflation and unemployment. But this stopped being the case in the 1970’s. At the same time economists developed rational expectations models, where agents adjust to changing circumstances. Ad-hoc rules (such as people consuming 90% of their income) should not be seen as structural.

This led to the Lucas critique: a relation between two endogenous variables is conditional on the specific economic environment, including policy rules. If you change the rules, the endogenous variables will adjust and the relation my disappear (or shift to a different level, for instance with similar movements but around an average inflation of 5% instead of 2%).

To get around this macroeconomics has developed micro foundation, with explicit optimization behavior. This is more solid than relying on correlation between endogenous variables that can shift. The real business cycle view has developed model with shocks to see whether an economy without any inefficiencies – but in an uncertain world – can behave like the one we see. These models have been refined to include frictions, such as slow adjustment of prices, leading to a role for policy. Such Dynamic Stochastic General Equilibrium models are used in central banks.

Expectations have become at the heart of macroeconomic policy, which has focused on provided a long run anchor (such as a 2% inflation) and stabilize the economy around it. Models have been enriched to include frictions in labor markets, as well as in financial markets (financial accelerator) to deliver richer dynamics.

Slide 32

Since 2008 macroeconomics has evolved a lot.

The financial crisis has painfully shown the relevance of financial frictions, and macroeconomic models have been expanded to include banks and other financial intermediaries, with endogenous limits to credit. There has also been a critique that before the crisis mathematical complexity had gone too far.

The crisis has also pushed central banks to their limits, bringing the interest rate all the way down to zero, or even below. This *liquidity trap* raises the question of how central banks should behave differently, and whether they need help from fiscal policy.

Slide 33

Several lines of research have been undertaken in the last 10 years.

First, the financial sector now occupies a larger place in model. This is because it amplifies the impact of other shocks, but also because it can itself be a source of shock (for instance borrowing limits can become tighter).

The literature has also gone beyond models with a representative agents to include heterogeneity, for instance with different agents having different access to financial assets (not everyone can invest in firms).

The policy toolkit has been expanded, with *quantitative easing* where the central bank increases its balance sheet, and *forward guidance* where the central bank works not by doing anything today but by telling what it will do tomorrow.

Fiscal policy, which had been set aside, is now being considered more seriously. Recent works stress that with low interest rates we should not be too worried about debt (but still worried a bit).

The Covid crisis has generated interest in asymmetric business cycles, where some sectors are hit hard while others do fine. This makes the usual split between shocks on demand and supply more challenging, as different lockdowns across sectors lead to some being affected by a supply shocks (they workers cannot come to the office) and others by a demand shock (nobody can go to restaurants).

The most recent challenge has been the return of inflation since 2021. After years of inflation being steady and low (even too low), it increased rapidly once the disruptions from Covid were lifted, as some supply bottlenecks remains (for instance shipping took a long time to come back to normal) and people started spending the money that they had saved during lockdowns. Quickly after that, the Ukraine war led to sharp increases in commodity prices. This has led to a rapid and sizable increase in inflation, leading central banks to rapidly increase interest rates. As of today, inflation appears to have peaked, but remains more persistent in some regions (Europe) than others (United States).