Overview of the Ten Papers

The lecture slides cover ten papers on business cycles. The papers try to answer a range questions:

- What causes unemployment?
- Why does unemployment fluctuate?
- How does the unemployment gap vary over time?
- How should monetary and fiscal policies respond to fluctuations in the unemployment gap?
- How are the policies affected by the zero lower bound?
- And what is the origin of monetary nonneutrality?

Models of Unemployment

In matching models, unemployment becomes vanishingly small when unemployed workers search sufficiently hard for jobs. Unemployment also becomes vanishingly small when recruiting costs are sufficiently low. These properties are difficult to reconcile with the long queues of unemployed workers at job bureaus and factory gates observed during the Great Depression. Conversely, in rationing models, jobs are always lacking in the economy. This property is difficult to reconcile with the many unfilled vacancies observed after the Coronavirus Pandemic.

"Do Matching Friction Explain Unemployment? Not in Bad Times" (Michaillat 2012) blends the matching and rationing models of unemployment to build a model with both frictional unemployment -- caused by difficulties in matching workers and firms -- and rationing unemployment -- caused by a lack of job. The model describes well good and bad times. In bad times, labor demand is low so rationing unemployment is high. Hence total unemployment is high. But, maybe surprisingly, frictional unemployment is low.

The model in "Do Matching Friction Explain Unemployment? Not in Bad Times" suffers from one limitation, however. All unemployment fluctuations are driven by productivity shocks. This is because the model is in the Diamond-Mortensen-Pissarides tradition: it only features a labor market, so there is no scope for aggregate-demand shocks.

"Aggregate Demand, Idle Time, and Unemployment" (Michaillat & Saez 2015) addresses this limitation by adding to the labor market a product market with similar structure. In this extended model, not all workers are employed, and not all goods and services produced by firms are sold. Unemployment is therefore affected by aggregate demand (Keynesian component), productivity and real wages (classical component), and the matching process (frictional component). Furthermore, the comovements between output, employment, product-market tightness, and labor-market tightness observed in the United States indicate that unemployment fluctuations are caused by fluctuations in labor demand, themselves caused by fluctuations in aggregate demand.

Monetary Policy with Unemployment

Unlike in neoclassical models, in matching models there is no guarantee of efficiency. The prevailing unemployment rate is generally inefficient: either inefficiently high or inefficiently low.

"Beveridgean Unemployment Gap" (Michaillat & Saez 2021) develops a measure of the unemployment gap to assess how far the unemployment rate is from its socially efficient level. The paper finds that in the United States, the unemployment rate is generally inefficient: the unemployment gap is generally nonzero, and it is in fact sharply countercyclical. The unemployment gap was above 6 percentage points in the aftermath of the Great Recession. It was below -1 percentage points at the end of the Coronavirus Pandemic.

Since the US unemployment rate is always inefficiently high in slumps, and sometimes inefficiently low in booms, monetary

policy has scope to stabilize the unemployment rate better.

"An Economical Business-Cycle Model" (Michaillat & Saez 2022) develops a monetary version of the model in "Aggregate Demand, Idle Time, and Unemployment" to characterize optimal monetary policy when unemployment is inefficient. In the monetary model, unemployment is determined by the intersection of an aggregate-demand curve, stemming from households' consumption-saving decisions, and an aggregate-supply curve, corresponding to the Beveridge curve. Monetary policy influences the aggregate-demand curve, so it can be used to shrink the unemployment gap. In fact, the optimal monetary policy is to adjust interest rates to eliminate the unemployment gap entirely.

Public Expenditure with Unemployment

Monetary policy should eliminate the unemployment gap, but this is not always possible. Once monetary policy reaches the zero lower bound, for instance, it becomes impotent, and it has to be supplemented by fiscal policy.

"Optimal Public Expenditure with Inefficient Unemployment" (Michaillat & Saez 2019) studies how public expenditure should be adjusted when unemployment is inefficient. The paper finds that optimal public expenditure deviates from the Samuelson rule to reduce, but not eliminate, the unemployment gap. The amplitude of the deviation depends on the unemployment gap, fiscal multiplier, and elasticity of substitution between public and private goods.

"A Theory of Countercyclical Government Multiplier" (Michaillat 2014) describes another advantage of the model of unemployment developed in "Do Matching Friction Explain Unemployment? Not in Bad Times". The model produces fiscal multipliers that are higher when unemployment is high than when unemployment is low. This result is consistent with a growing body of evidence from the United States and abroad.

Unemployment Insurance

Fluctuations in unemployment raise another policy question: how should the generosity of unemployment insurance respond to unemployment fluctuations? This question was hotly debated during the Great Recession. Some argued that unemployment insurance should be reduced because it discouraged job search and would raise unemployment further. Other countered that unemployment insurance could be increased without raising unemployment much -- as there were no jobs available for jobseekers.

"A Macroeconomic Approach to Optimal Unemployment Insurance: Theory" (Landais, Michaillat, & Saez 2018) weights the two sides of the argument and obtains a formula that contrasts how generous unemployment insurance should be in good times and in bad times. The formula shows that the generosity of unemployment insurance should be adjusted over the business cycle; the adjustment depends on how unemployment insurance affects labor-market tightness.

"A Macroeconomic Approach to Optimal Unemployment Insurance: Applications" (Landais, Michaillat, & Saez 2018) then applies the optimal unemployment insurance formula to the United States. Since increasing unemployment insurance raises labor-market tightness, unemployment insurance should be more generous in bad times than in good times, as it is in practice.

Behavioral New Keynesian Models

"An Economical Business-Cycle Model" assumes that people derive direct utility from wealth -- because wealth is a marker of social status, and people value high social status. Thanks to this assumption, the model features a nondegenerate aggregate-demand curve and behaves well at the zero lower bound.

"Resolving New Keynesian Anomalies with Wealth in the Utility Function" (Michaillat & Saez 2021) exports this assumption to the New Keynesian model and shows that the assumption resolves the anomalies that appear in the New Keynesian model at the zero lower bound. With wealth in the utility function, at the zero lower bound, there is no collapse of output and inflation, and the effects of government spending and forward guidance are bounded and reasonable.

In "An Economical Business-Cycle Model", all goods and services are traded between sellers and customers engaged in long-term relationships. In these relationships, a pricing norm dictates that prices grow at a constant rate. Because inflation remains fixed, monetary policy is nonneutral.

"Pricing under Fairness Concerns" (Eyster, Madarasz, & Michaillat 2021) examines the possible origins of such pricing norm. The paper develops a theory of price rigidity that conforms to customers' and firms' motivations when setting prices. The theory is consistent with evidence that firms stabilize prices out of fairness to their consumers. The paper also embeds the theory in a New Keynesian model to generate price rigidity. The resulting model describes well the effects of monetary policy. The model also explains why people dislike inflation so much. When monetary policy loosens and inflation rises, customers misperceive markups as higher and feel unfairly treated by firms. Firms partially alleviate these feelings by reducing their markups, which makes monetary policy nonneutral. However, because the alleviation is only partial, people continue to dislike inflation.