Why Has the US Economy Recovered So Consistently from Every Recession in the Past 70 Years?

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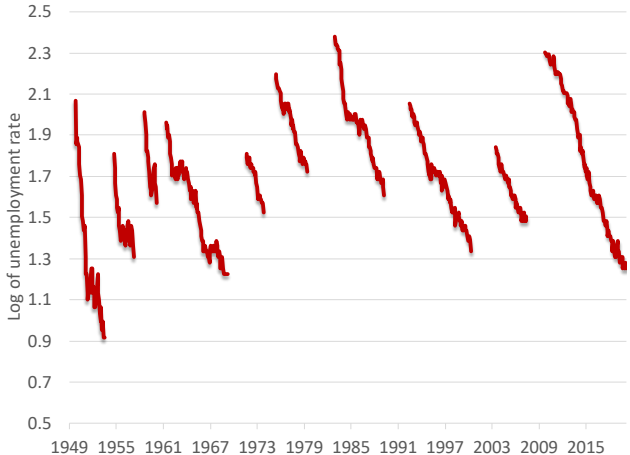
Hoover Institution

Our first principal claim

We demonstrate that the unemployment recovery process is similar in all of the past 10 recoveries: the annual reduction in the unemployment rate is stable at around ten percent of the current level of unemployment

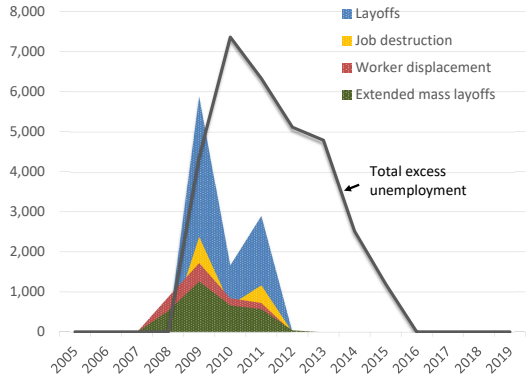
The paths of log-unemployment during recoveries



Our second principal claim

Recessions involve displacement of large numbers of workers, but the elevated level of unemployment along the recovery path involves far more people than the original displacement—unemployment is contagious

The direct channel from job loss to subsequent lingering extra unemployment



The direct channel is only a part of the source of lingering extra unemployment.

Our third principal claim

Self-recovery occurs in the Diamond-Mortensen-Pissarides model even without any external force.

But the recovery in the model with standard parameter values is too fast, compared to data.

Our fourth principal claim

A model with negative feedback from unemployment to labor market tightness provides an internally consistent version of the DMP model with reliable but slow recoveries, as in the data. No external force involved.

Why has the US economy recovered so consistently from every recession in the past 70 years?

Our answer:

- Recoveries are endogenous—there is a natural force causing job-seekers to match with available jobs and to lower unemployment.

- The bulge of unemployment created by a crisis at the beginning of a recovery creates a negative feedback to labor market tightness, endogenously slowing the recovery.

Policy implication:

- During a recovery, unemployment seems little responsive to demand disturbances. Economic policy should focus on preventing recessions rather than trying to ameliorate their effects.

Papers in this project

Joint with Marianna Kudlyak, available on her website

This paper: "Why Has the US Economy Recovered So Consistently from Every Recession in the Past 70 Years? "

"The Unemployed with Jobs and without Jobs" studying unemployment during the pandemic

"The Inexorable Recoveries of US Unemployment" documenting the consistent slow pace of US recoveries in unemployment

Pandemic?

In this paper, we study the labor market through February 2020.

In the pandemic, an overwhelming fraction of the huge spike of unemployment in April 2020 comprised people who were not working but expected to be recalled to existing jobs. Before the pandemic, this fraction was tiny.

The recovery rate for that category of unemployment is many times higher than for the category we study here; temporary layoff unemployment is currently almost back to normal.

Jobless unemployment rose from 3 percent in 2019 to level out at 5 percent; it is too early to tell if it will follow the usual glide path back to 3 percent.

Related literature

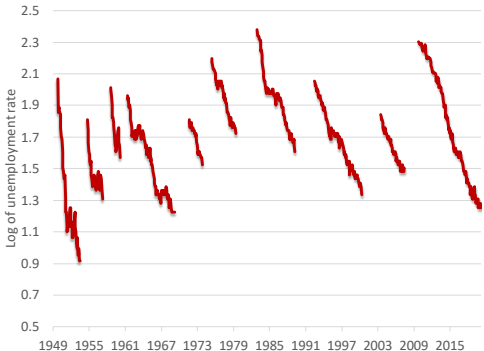
We cite related research as we go along, but highlight two papers here:

Cole and Rogerson (1999) observed that recoveries are much slower than expected from evidence on job-finding rates.

Fujita and G. Ramey (2007) identified the high elasticity of vacancy creation as the cause of that problem and tamed the elasticity with adjustment costs.

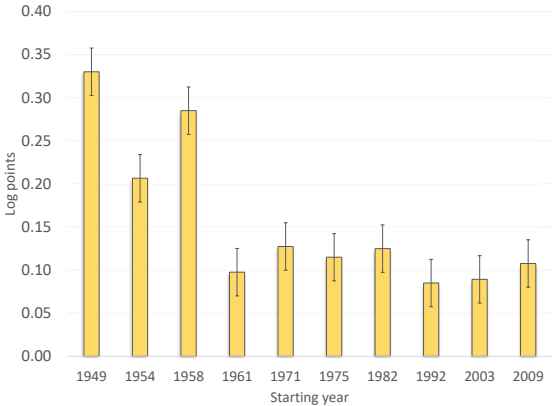
The inexorable recoveries of the US unemployment rate

The paths of log-unemployment during recoveries



We estimate the recovery rate using (1) chronologies and (2) a hidden Markov model.

Estimated annual log unemployment recovery rate, by recovery



These results nail down our first principal claim—the uniformity of recovery rates.

Inference

The evidence does not support the hypothesis of a curving relation (quadratic) between recovery duration and the recovery rate: the 95 percent confidence interval for the coefficient on squared duration is [-0.00004, 0.00015]; all of these values are small in relation to the recovery rate itself.

The evidence is strong that the recovery rates in the most recent 7 recoveries are highly similar—the upper end of the 95 percent confidence interval for the standard deviation across the βs is 0.020 and the lower end is 0.0085, compared to estimates of β clustering around 0.1.

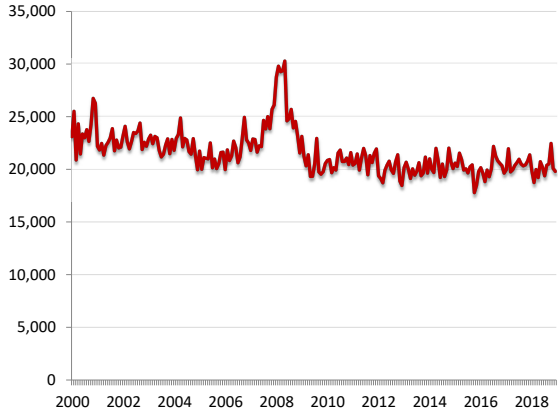
Our place in the literature on the statistical properties of the unemployment rate

- The asymmetry in unemployment dynamics, where unemployment rises faster in contractions than it falls during expansions, has been found in a long line of research:
  - Neftci (1984), Sichel (1993), Andolfatto (1997), Kim and Nelson (1999), Sinclair (2009), Ferraro (2017), Dupraz, Nakamura and Steinsson (2019).

- By contrast, we focus on the slow and uniform decline in unemployment in recoveries.

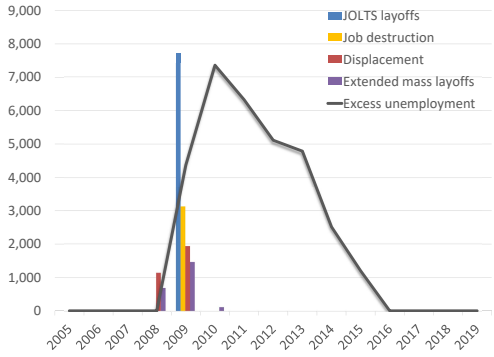
The direct contribution of job loss in recessions to the ensuing long period of excess unemployment

Layoffs in JOLTS



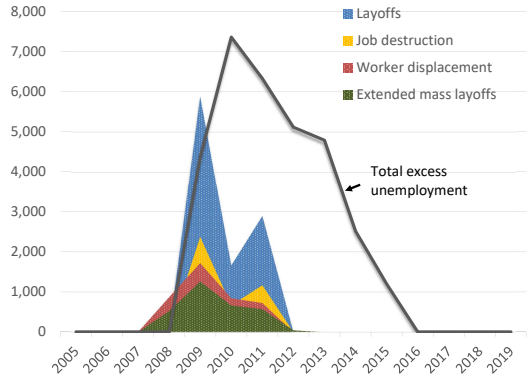
Layoffs recorded in JOLTS, monthly at annual rate, in thousands of workers

Excess job loss in 2009 and excess unemployment



Annual excess job loss by different measures, in thousands.
All four job loss measures show a substantial but short-lived spike.
Unemployment shows a substantial increase and slow return to its pre-recession level.

The direct channel from job loss to subsequent lingering extra unemployment



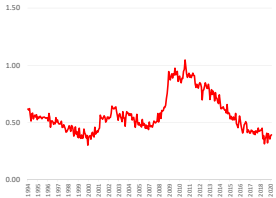
The direct channel is only a part of the source of lingering extra unemployment.

Monthly exit rate from unemployment is high but the decline in unemployment is slow

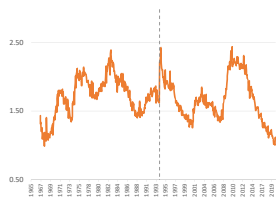
- This is the puzzle of *slow decline* of unemployment, initially raised by Cole and Rogerson (1999).
- Low effective exit rate from unemployment during recoveries:
  - Many jobs during re-employment search are brief
  - Job losers often circle among short-term employment, unemployment, and out of the labor force.
- Consequently, the effective exit rate from unemployment to a new, long-term job is much lower than the average job finding rate measured in the data.
- We estimate an effective exit rate from unemployment of 0.1, which is lower than the exit rate from unemployment spells (0.5), because a single job loss often leads to multiple spells of unemployment.

Circling among short-term jobs, unemployment, and OLF increases in recession

(a) Permanent job losers



(b) Completed temporary job



(c) Labor force re-entrants

Recessions involve not only an increase in unemployment from permanent and temporary layoffs but also from completion of temporary jobs and labor force re-entry. This points towards an elevated number of individuals taking temporary jobs and circling between unemployment and OLF.

Conclusions about the role of job loss in recessions

- The estimated effective exit rate from unemployment (0.1) is lower than the exit rate from unemployment spells (0.5), because a single job loss often leads to multiple spells of unemployment.
- In a post-recession economy, there is an elevated number of individuals taking temporary jobs and circling between unemployment and out-of-labor-force.
- The direct role of job loss in a recession during the ensuing recovery is important but far from the whole story; we need a model of induced downstream unemployment.

How the DMP model may explain contagion in unemployment

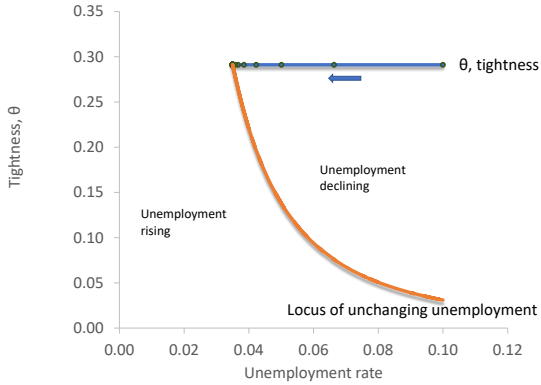
Potential driving forces of the DMP model

$$\theta = \left(\mu \frac{P - W}{\kappa} \right)^2$$

$$\dot{u} = (1 - u)s - u\,\mu\,\theta^{1/2}$$

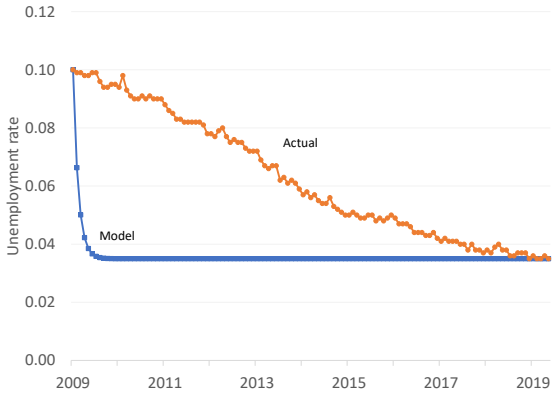
- present value of a newly hired worker's productivity, P,
- present value of their wage, W,
- flow cost of a vacancy, κ,
- matching efficiency, μ,
- separation rate, s.

The phase diagram for the standard DMP model



All potential driving forces are constant.

The recovery path in the standard DMP model



Unemployment recovery in the basic DMP model with constant driving forces is much faster than in the data. Cole and Rogerson (1999)

Endogenous negative feedback from unemployment to tightness θ

- We consider mechanisms that can be described in terms of feedback from unemployment to tightness.

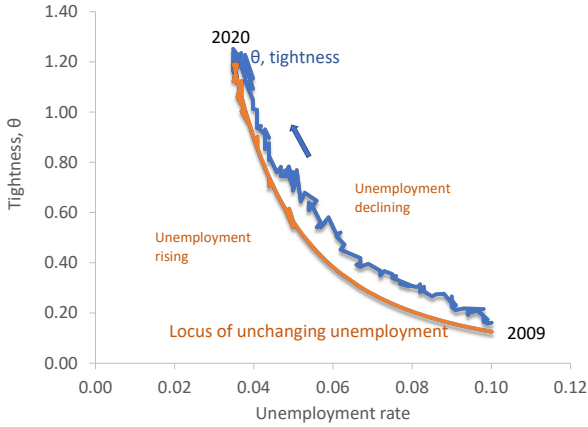
- The θ function becomes

$$\theta(u) = \left(\mu \frac{P - W}{\kappa}\right)^2 - \gamma(u),$$

  where $\gamma(\cdot)$ is an increasing function in u.

- We can recover the γ function from the observed relation between unemployment and tightness during the expansion from 2009 to 2020.

Phase diagram for the DMP model with negative dependence of tightness on unemployment



Explanation

We start at the lower right with 10 percent unemployment; The economy tracks along the blue curve to the right of the orange curve, so unemployment is falling, but not very fast, because it is close to that line. Unemployment creeps downward, but the blue curve remains close to the orange one.

The blue curve can be read directly out of the data, which shows the pairing of unemployment, on the horizontal axis, and tightness, on the vertical axis.

Endogenous mechanisms

A Higher vacancy costs early in the recovery: Fujita and Ramey (2007), Ferraro (2017),Coles and Kelishomi (2018)

B Models of the adverse effects of unemployment on the recruiting process: Hall (1990, 2005), Moscarini (2001), Engbom (2021)

C Externalities from recruitment selection: Gautier (2002), Villena-Roldan (2012), Molavi (2018), Lockwood (1991), Fishman, Parker and Straub (2020)

D Matching efficiency Hall and Schulhofer-Wohl (2018)

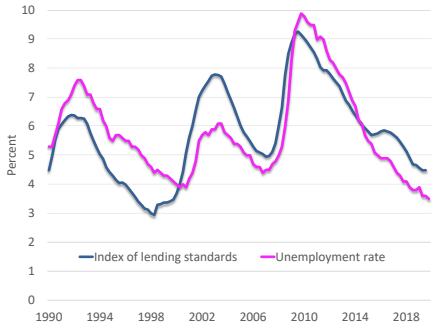
E Endogenous impaired profitability when unemployment is high: Ljungqvist and Sargent (1998), Eeckhout and Lindenlaub (2019), Mercan, Schoefer and Sedlacek (2020)

F Gradual decline of the separation rate as a function of the unemployment rate: Fujita (2011), Barnichon (2012), Fujita and Ramey (2012), Portugal and Rua (2020)

Financial sources of rising $P - W$ in recoveries

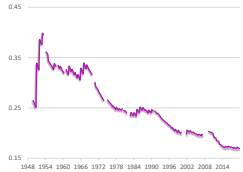
- Discount effects operating through $P - W$ will be present if W moves less than P.
- Spikes in general financial discounts coincide with spikes in unemployment. But declines in discounts are not persistent enough to account for the lengthy recoveries observed in unemployment.
- One potential source of persistent financial effects is a crisis-induced cut in the availability of credit, which raises discount rates for credit-dependent firms and thereby cuts $P - W$

Scaled index of loan availability compared to unemployment

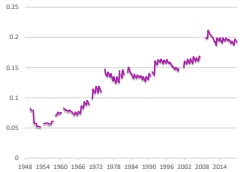


Authors calculations using data from the Federal Reserve Board's Survey of Senior Loan Officers.

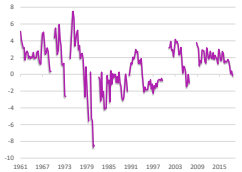
Unemployment recovers reliably despite irregular behavior of other forces



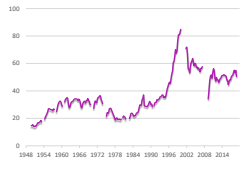
(a) Real government purchases



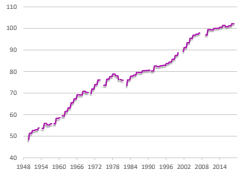
(b) Govern. transfer payments/disp income



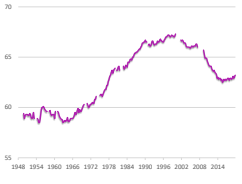
(c) r*-r



(d) Price/dividend ratio



(e) TFP



(f) LFP rate

How this paper relates to macro theory

- The economy has a powerful tendency to recover from serious adverse shocks, but recovery takes time.
- Until the recovery is complete, unemployment remains high and is effectively a reduction in labor *supply*.
- In contrast, the dominant current view emphasizes slow recoveries in labor demand and treats the elevated unemployment as the result of a shortfall of *demand*.
- During a recovery, unemployment seems little responsive to demand disturbances. Economic policy should focus on preventing recessions rather than trying to ameliorate their effects.

We conclude that

- the economy includes a strong internal force toward recovery that operates apart from policy instruments and from financial developments or productivity growth
- policymakers understand this point and withdraw expansionary policies as the internal force does its job
- the internal force is job creation as in the DMP model
- but operating more slowly than previously realized
- via a negative feedback from unemployment to job creation.

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