Discussion of *Unemployment and Participation Dynamics: A Flow-Based Approach* by Eusepi and Şahin

Alexandre Janiak (PUC-Chile and M-NEW)

XXIX Annual Conference of the Central Bank of Chile

The paper in a nutshell

- A flow-based framework to assess labor market conditions in real time, applied to the US, Argentina, Brazil and Chile
- Why flows? Stocks lag flows, giving value to real-time analysis
  - Speed of adjustment: sum of the inflow and outflow rates
  - The lower the flows, the longer the lag: even more relevant for LA?

	Outflow rate, 2025	Per month	Half-life of a gap
United States	47% per month	47%	1.4 months
Brazil	53% per quarter	18%	3.6 months
Argentina	49% per quarter	16%	3.9 months
Chile	39% per quarter	13%	4.9 months
Chile, monthly ENE	30% per month	30%	2.1 months

Trend rates from the paper. Last row and half-lives: own calculation.

- By these 2-state rates, adjustment is about 3 times slower in LA
- With monthly ENE data, Chile is much closer to the US

The paper in a nutshell (cont.)

- Part 1: trend unemployment from unemployment inflows and outflows
  - Two states; trends estimated by age and gender group
  - US (6% to 4.1%) and Argentina (12.3% to 7%): falling inflows
  - Brazil: flat. Chile: up from 6.7% to 8.4%, falling outflows
- Part 2: unemployment and participation decomposed into six flows between employment, unemployment and inactivity
  - Job loss and job finding: about 2/3 of unemployment fluctuations
  - Flows in and out of the labor force amplify them
  - The unemployed are less attached than the employed, so participation recovers 9 months after unemployment in the US
  - Latin America: entry and exit matter more
- Policy: three US episodes where flows helped read the labor market

On the motivation

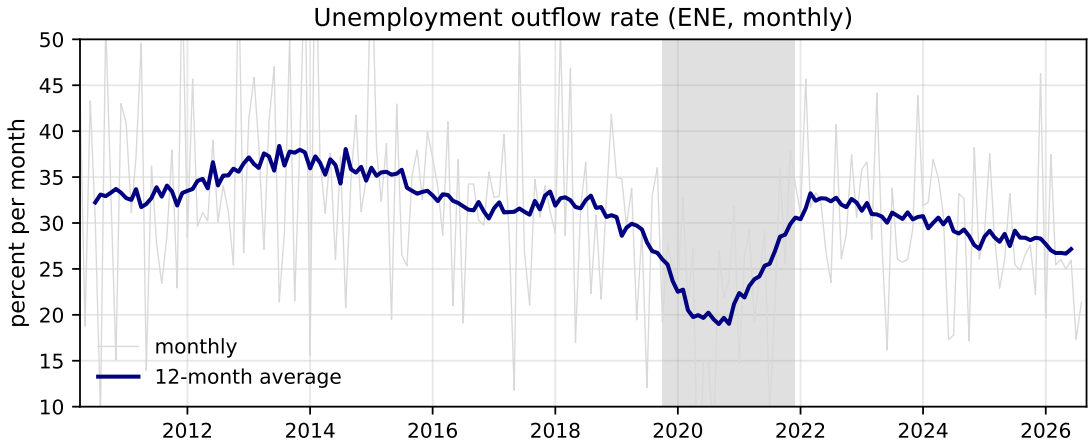
- The introduction has a central-bank motivation
- Is there room to push this motivation further?
- Central banks are interested in the NAIRU, but it typically requires incorporating inflation into the analysis
- Real time is in the abstract and in Section 5, but hardly in the introduction

Another possible motivation: long-run unemployment

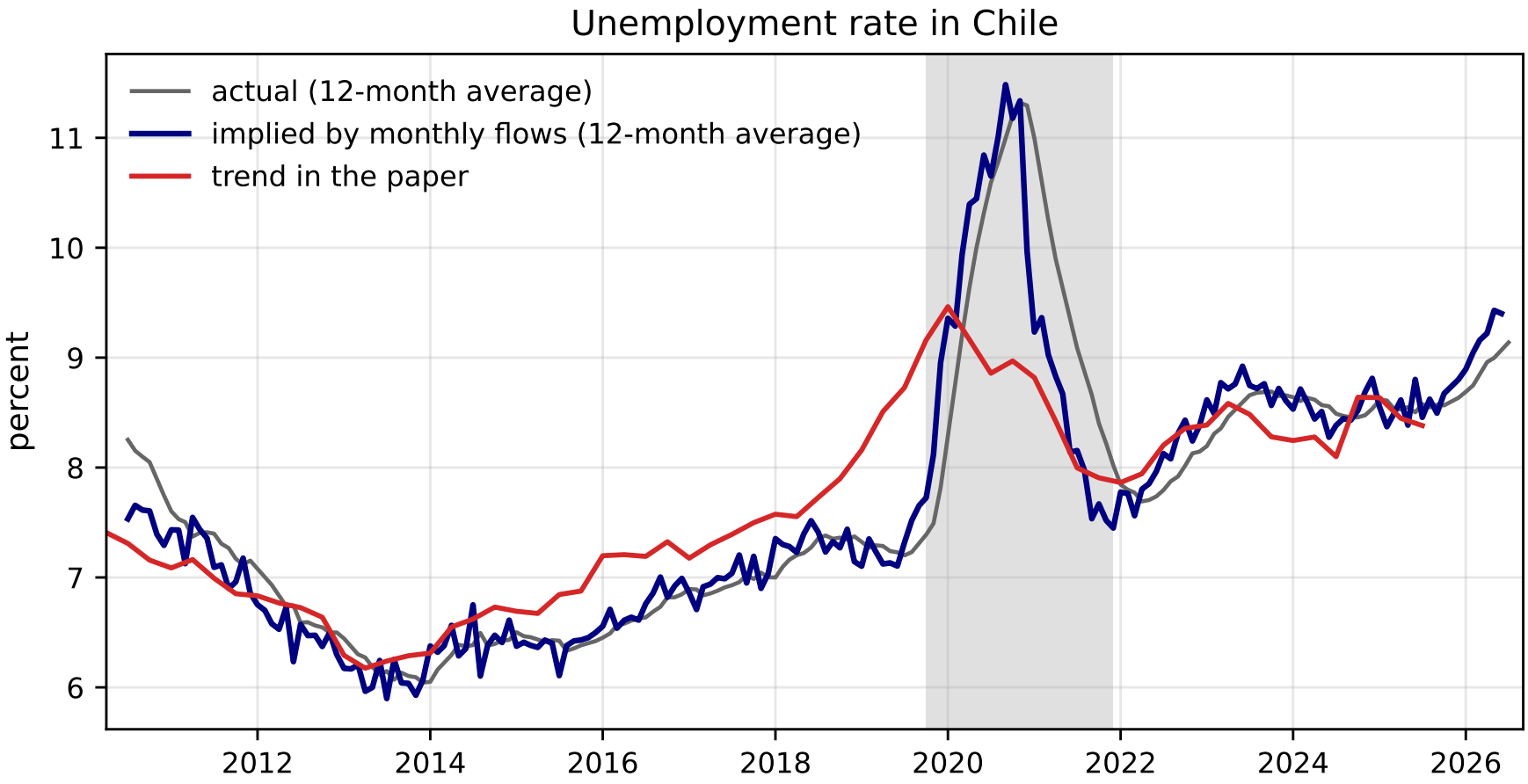
- Flow research has focused on the cycle
- Long-run unemployment has mostly been studied with levels
- Inflow and outflow trends can tell theories apart
  - Growth: capitalization effect acts on outflows, creative destruction on inflows (Aghion-Howitt 1994, Pissarides-Vallanti 2007)
  - Chile: falling outflow trend alongside the productivity slowdown
  - Declining dynamism and market power: falling inflows in the US (Davis-Haltiwanger 2014, De Loecker-Eeckhout-Mongey 2021)
  - Automation and tasks: effects on participation, would need a three-state trend (Acemoglu-Restrepo 2020, Jaimovich-Siu 2020)

A suggestion for Chile: use the month of interview

- Table A1: is short-term unemployment defined by the trimester?
- The ENE records the month of interview within each trimester
- Search duration could be measured up to that month, instead of the end of the trimester
  - This limits the upward bias in search duration
  - More short-term unemployed, so higher outflow and inflow rates
  - Trend unemployment little affected: both rates move together
- One step further: monthly rates, as for the US
  - Outflow rate of about 30% per month (US: 47%)



Chile: the paper's trend and the data



Trend from Figure 10 in the paper. Data: ENE. Shaded: Oct. 2019 to Dec. 2021.

Chile: the trend, the social unrest and the pandemic

- Paper: trend unemployment rises before 2020, as outflows fall
- Until 2018 the trend stays close to the data
- From mid-2018 to 2019Q4 it rises from 7.6% to 9.2%; the data stay near 7.3%
- Social unrest (Oct. 2019) and pandemic may have raised the trend, but hardly before October 2019: the smoothed trend uses later data
- Suggestions
  - Estimate with data up to 2019Q3, as done for the US in 2011
  - Drop 2019Q4-2021, or allow larger shocks then (Lenza-Primiceri 2022)
  - Show the trend under the flexible random-walk specification

Participation in Latin America

	Change in u	Job loss and finding	Entry and exit
Argentina, 2004-08	-7.0 pts	60%	37%
Brazil, 2014-17	$+7.3$ pts	59%	40%
Chile, 2010-13	-2.6 pts	54%	35%
Chile, 2013-19	$+1.1$ pts	36%	64%

Shares of the change in unemployment, from Tables 2, 4 and 6. Own calculation.

- Entry and exit amplify unemployment by at least 1/3, as in the US
  - Mostly through entry into unemployment
  - Chile, 2013-19: job finding explains only 0.2 of the 1.1 pts
- The participation lag (9 months in the US): what is it in LA?
  - Job loss and job finding move participation little, least in Chile
- This lag gives flows their real-time value

Where do stocks lag flows?

Shock: job loss +41%, job finding −39% (US Great Recession)

	Unemployment	Participation
United States	2.0 months	10.0 months
Chile	2.7 months	13.1 months

Time to close half of a gap. Own calculation, CPS and ENE.

- Shimer (2012): unemployment is always close to its flow steady state
- Not so for participation: three states bring slow internal dynamics
- This is where the real-time value of flows comes from, also in Chile

To sum up

- A rich paper: one flow framework, with microdata for four countries
- Chile: the month of interview could be used, and the trend deserves a check around the 2019 social unrest
- The real-time value of flows comes from the participation lag, in Chile as in the US
- A suggestion: a real-time application for Latin America

Backup: real-time application, the Great Recession

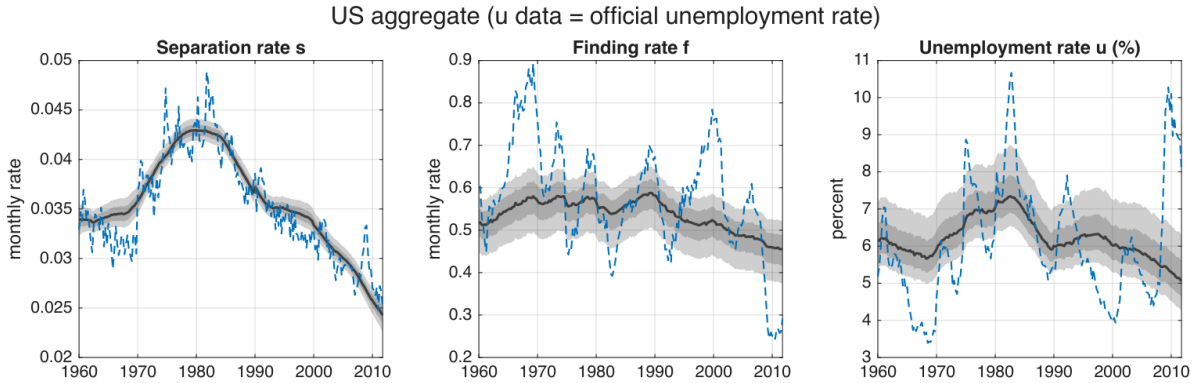


Figure 31 in the paper: US trends estimated with data up to 2011Q4

- 2011: is the 9% unemployment rate structural? The paper's answer: the low outflow rate is cyclical
- Which trend specification gives this result?
  - The paper allows a flexible random walk or a smooth trend, with a tight or loose prior: which one is used?
  - With a smooth trend or a tight prior, the result owes more to the specification
- Suggestion: report the choice by country, and show the 2011 result under both

Backup: half-life of an unemployment gap

- With inflow rate s and outflow rate f:

$$\dot{u} = s(1-u) - fu = -(s+f)(u-u^*), \qquad u^* = \frac{s}{s+f}$$

- The gap to the steady state shrinks at rate $s+f$:

$$u(t) - u^* = (u(0) - u^*)\, e^{-(s+f)t}$$

- Half-life: time needed to divide the gap by two

$$t_{1/2} = \frac{\ln 2}{s+f}$$

- Rates per month; quarterly rates are divided by 3
- Chile, paper: $s+f = (3.6\% + 39\%)/3 = 14.2\%$: 4.9 months
- Chile, monthly ENE: $s+f = 2.8\% + 29.6\% = 32.4\%$: 2.1 months

Backup: stock adjustment in three states

- Average transition matrix P between employment, unemployment and inactivity, 2010 to 2019Q3 (CPS: monthly; ENE: quarterly)
- Initial stocks: steady state $\pi = \pi P$
- Shock: job loss (E to U) $+41\%$, job finding (U to E) -39%, as in the US between 2006-07 and 2009-10; other flows unchanged. New matrix P'
- Path: $\pi_t = \pi_{t-1} P'$, with $u_t = U_t/(E_t + U_t)$ and participation $E_t + U_t$
- Half-life: time to cover half of the distance between the old and the new steady state
- Other recessions as shocks: participation 9.6 to 10.0 months (US), 11.9 to 13.1 months (Chile)