Beveridge Curve Shifts across Countries since the Great Recession

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Beveridge curve shifts

Across countries since the start of the Great Recession

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Stable pre-recession Beveridge curve...

Actual Beveridge Curve
Monthly observations; seasonally adjusted

Source: JOLTS, CPS, and authors' calculations

before 2007 recession

Hobijn and Sahin (11/08/2012)
… fell apart since Great Recession

Actual Beveridge Curve
Monthly observations; seasonally adjusted

Source: JOLTS, CPS, and authors' calculations

before 2007 recession

since 2007 recession

Unemployment rate
Job openings rate

Source: JOLTS, CPS, and authors' calculations

Hobijn and Sahin (11/08/2012) Beveridge curve shifts
2.8 percentage points rightward shift

Beveridge Curve and shift
Monthly observations

Unemployment rate
Job openings rate

Source: JOLTS, CPS, and authors' calculations

before 2007 recession
since 2007 recession
Gap: 2.8%
Jun-12

Hobijn and Sahin (11/08/2012)
Is this shift unprecedented?

• Use cross-country evidence to put recent shift in U.S. Beveridge curve in global and historical perspective
No, it is not…

• Use cross-country evidence to put recent shift in U.S. Beveridge curve in global and historical perspective

• Current U.S. Beveridge curve shift fits standard profile (across countries and over time)
  – Deep recession leads to large displacement of workers, resulting in mismatch.
  – Policy response of increased UI generosity to alleviate burden of displacement.
Part 1: BEVERIDGE CURVE AS LABOR TURNOVER STEADY-STATE CONDITION
Unemployment and labor turnover

Unemployment rate constant when

Hires rate = Separations rate

Hobijn and Sahin (11/08/2012)
Unemployment and labor turnover

Unemployment rate constant when

Hires rate

= 

Separations rate

+ Entrants into labor force
- Exits out of the labor force

Hobijn and Sahin (11/08/2012)
Beveridge curve as steady-state condition

Unemployment rate constant when

\[ \text{Hires rate} = \text{Separations rate} \]

Beveridge curve:
For every unemployment rate, find the vacancy rate at which above equation holds.
Actual and fitted Beveridge Curve
Monthly observations; pre-2007-recession fit

Fitted

before 2007 recession

Gap: 2.8%

since 2007 recession

Source: JOLTS, CPS, and authors' calculations
Decline in match efficiency

Actual and Fitted Vacancy Yield
Monthly data; seasonally adjusted; regression ends 11/2007

Source: BLS and authors’ calculations

Hires per vacancy

Borowczyk-Martins et al. (2011), Davis, Faberman, and Haltiwanger (2012), and Sedláček (2012)
Workers stopped quitting jobs

Actual and Fitted Quits Rate (quits per employee)
Monthly data; seasonally adjusted; regression ends 11/2007

Source: BLS and authors' calculations
Lazear and Spletzer (2012), Saint-Paul (1995)
Effect on position of Beveridge curve

• At same unemployment and vacancy rate...
  – Fewer people get hired.
  – Fewer people quit their jobs.

• Hires effect dominates
  – For a given level of unemployment, we need more vacancies to keep unemployment constant

• Causes a rightward (upward) shift in Beveridge curve
Part 2:

CAUSES OF U.S. BEVERIDGE CURVE SHIFT

Elsby, Hobijn, and Şahin (2010), Daly, Hobijn, Şahin, and Valletta (2012)
Three main sources of shift

- House lock
- UI extensions
- Mismatch
Least evidence for house lock

House lock
Unimportant

UI extensions

Mismatch

UI extensions important but temporary

House lock
Unimportant


UI extensions
Expected to expire


Mismatch

Hobijn and Sahin (11/08/2012) Beveridge curve shifts
Mismatch most substantial factor

- **House lock**
  - Unimportant
- **UI extensions**
  - Expected to expire
- **Mismatch**
  - Largely transitory due to dynamics nature of U.S. market.

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Part 3: LABOR TURNOVER BEYOND THE U.S.
No JOLTS data for other countries

• Most countries do not run a Job Openings and Labor Turnover Survey.
  – No direct measure of hires and separations.

Hobijn and Sahin (11/08/2012)  Beveridge curve shifts
Alternative way to impute labor turnover

• Most countries do not run a Job Openings and Labor Turnover Survey.
  – No direct measure of hires and separations.

• Labor turnover can be imputed from data on employment by job tenure.
  – Construct annual time-series of hires and separations using new method.
  – Cyclicality of turnover is what is important for our analysis.

OECD (2009)
Main intuition of imputation method

Employment and labor turnover in France 2006

Millions of persons employed

2006

25.7

2007

22.2

3.8

Employed longer than a year

Employed shorter than a year

Source: OECD

Hires derived from newly employed

Employment and labor turnover in France 2006

 Millions of persons employed

<table>
<thead>
<tr>
<th>Year</th>
<th>Employed longer than a year</th>
<th>Employed shorter than a year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>25.7</td>
<td>3.8</td>
</tr>
<tr>
<td>2007</td>
<td>22.2</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Source: OECD

Separations imputed from job leavers

Employment and labor turnover in France 2006

Millions of persons employed

Source: OECD

Similar cyclicality of turnover across countries

Estimated Cyclicality of vacancy yield and separations rate
Elasticity of labor turnover with respect to \((u/v)\)-ratio

Source: JOLTS, OECD, and author's calculations

Petrongolo and Pissarides (2001)
Part 4:

TWO PARTICULAR COUNTRIES: SPAIN AND GERMANY
Spain’s slow dynamics…

Spain: Actual and steady-state unemployment rates

Annual data

Share of labor force

Elsby, Hobijn, and Şahin (2010)
Actual and Fitted Beveridge Curve: Spain

Annual data; fitted curved based on pre-2007 data on tenure. Vacancy rate (index avg=100)

Source: OECD, Nickell and Nunziata (2004), Eurostat (2012), and authors’ calculations

Hobijn and Şahin (2012)
Match efficiency decline in Spain

Estimated Vacancy Yield: Spain
annual data

log hires per vacancy

Source: OECD and authors’ calculations

Hobijn and Sahin (11/08/2012)
Continued effect of reforms in Germany

Actual and Fitted Beveridge Curve: Germany
Annual data; fitted curved based on pre-2007 data on tenure. Vacancy rate (index avg=100)

Source: OECD, Nickell and Nunziata (2004), Eurostat (2012), and authors' calculations
Very few separations in Germany

Estimated Separations Rate: Germany
Annual observations

Source: OECD and authors’ calculations
Burda and Hunt (2011)
Part 5:

SHIFTS SINCE 2007 ACROSS COUNTRIES
Shifts in Beveridge curves since 2007

Deviances from fitted Beveridge Curve: 2010-2011
Average percentage point deviation in the unemployment rate, 2010-2011

Source: Authors’ calculations

Hobijn and Sahin (11/08/2012) Beveridge curve shifts 34
Portugal, Spain, Sweden, U.K. stand out

Deviations from fitted Beveridge Curve: 2010-2011

Average percentage point deviation in the unemployment rate, 2010-2011

Source: Authors’ calculations

Hobijn and Sahin (11/08/2012) Beveridge curve shifts
Shifts reflected in labor turnover

**Shortfall/excess in labor turnover**
2010 percent deviation from fitted value

Source: Authors' calculations

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Hobijn and Sahin (11/08/2012)  
Beveridge curve shifts  
36
Shifts reflected in labor turnover

Shortfall/excess in labor turnover
2010 percent deviation from fitted value

Source: Authors’ calculations

Hobijn and Sahin (11/08/2012)  Beveridge curve shifts
Part 6:

CAUSES AND HISTORICAL PERSPECTIVE
Extended UI in the U.S. and Sweden

Duration of Unemployment Insurance Benefits

Duration in months for 2007 and 2010

Source: OECD (2012)
Mismatch/house lock is rest of story

**Change in construction employment and house prices**

2007-2010 change in share of construction employment and house prices

<table>
<thead>
<tr>
<th>Country</th>
<th>Change in Construction Employment</th>
<th>Change in House Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>-2.5</td>
<td>-3</td>
</tr>
<tr>
<td>Austria</td>
<td>-1.0</td>
<td>-0.5</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.0</td>
<td>-0.5</td>
</tr>
<tr>
<td>France</td>
<td>-2.2</td>
<td>-1.5</td>
</tr>
<tr>
<td>Germany</td>
<td>0.2</td>
<td>-0.5</td>
</tr>
<tr>
<td>Japan</td>
<td>-3.0</td>
<td>-5.0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>-0.5</td>
<td>-5.0</td>
</tr>
<tr>
<td>Norway</td>
<td>0.5</td>
<td>-5.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>-3.0</td>
<td>-5.0</td>
</tr>
<tr>
<td>Spain</td>
<td>-15.0</td>
<td>-10.0</td>
</tr>
<tr>
<td>Sweden</td>
<td>-1.5</td>
<td>0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>-2.0</td>
<td>0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>United States</td>
<td>-2.5</td>
<td>-3.0</td>
</tr>
</tbody>
</table>

Source: OECD
Mismatch/house lock is rest of story

Change in construction employment and house prices
2007-2010 change in share of construction employment and house prices

Source: OECD

Hobijn and Sahin (11/08/2012)
Shifts small compared to ’80s

Current and historical Beveridge curve shifts
Shifts since 2007 and from ’75-’85 to ’91-’07 fitted curves

Source: authors’ calculations

Blanchard and Wolfers (2000), Nickell et al. (2001)
In case you just walked in…

- Use cross-country evidence to put recent shift in U.S. Beveridge curve in global and historical perspective

- Current U.S. Beveridge curve shift fits standard profile (across countries and over time)
  - Deep recession leads to large displacement of workers, resulting in mismatch.
  - Policy response of increased UI generosity to alleviate burden of displacement.
U.K. experience a roadmap for U.S.?

Beveridge Curve: United Kingdom

Unemployment rate
Vacancy rate (index 100 mean)

Source: OECD and authors' calculations

Annual data

Pissarides (2006)