How Regions React to Recession: Resistance, Recoverability and the Role of Economic Structure

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How Regions React to Recessions

Even now, many economists still think of recessions as a minor issue, their study as a faintly disreputable subject; the trendy work has all been concerned with technological progress and long-run growth. These are fine, important questions, and in the long run they are what really matter - but as Keynes pointed out, in the long run we are all dead (Paul Krugman, 1999, p. 156).
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• Interest in regional business cycles goes back to 1940s and 1950s in USA (Vining, Neff)
• More work in 1970s and 1980s
• But then declined - interest shifted to regional development, regional innovation clusters, etc
• Yet there have been four major recessions over last 40 years (1974-76, 1979-82, 1990-93, 2008-2010)
• How regions have reacted to these is a key issue – links with new interest in resilience
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• Paper explores this issue (in terms of employment)
• Constructs indices of relative resistance to, and relative recoverability from, these recessions
• Examines how resistance and recoverability have varied from one economic cycle to the next
• Analyses how far regional differences in reaction have been shaped by economic structure
• And how the role of economic structure has varied over time
• Looks at impact on public sector in recent cycle
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- Anatomy of a Recession and Recovery
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• Different recoverability paths – 1.
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• Different recoverability paths – 2.
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- Measuring regional reactions to recessions and recoveries
- Comparing actual outcomes ($Y$) against some form of counterfactual (expectation) ($Y^e$)
- Eg:

  Resistance = \[
  \frac{Y^e_{tough} - Y_{tough}}{Y^e_{tough}}
  \]

  Recoverability by time $t$ = \[
  \frac{Y_{tough+t} - Y^e_{tough+t}}{Y^e_{tough+t}}
  \]
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- We use the recovery to next cyclical peak to measure recoverability.
- Since we are interested in comparing regional reactions, we use the national proportionate changes in employment as our counterfactuals.

\[
R_{i \text{res}} = \frac{(\Delta Y_i)_{\text{recession}} - (\Delta Y_i)^e_{\text{recession}}}{(\Delta Y_i)^e_{\text{recession}}}
\]

\[
R_{i \text{rec}} = \frac{(\Delta Y_i)_{\text{recovery}} - (\Delta Y_i)^e_{\text{recovery}}}{(\Delta Y_i)^e_{\text{recovery}}}
\]

where \(\Delta Y_i^e = \Delta Y_N\)
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• Regional employment evolutions, 1971-2012
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• Four major recessions
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- Average regional resistance and recoverability over the four cycles (current cycle as yet incomplete)
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• However, regional resistance and recoverability have changed from one cycle to the next
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• How regional resistance and recoverability have changed from one cycle to the next
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• Regional differences in both resistance and recoverability declined over first three cycles (1974-79, 1979-90, 1990-2008)
• Have widened in most recent cycle (2008-)
• Relationship between regional resistance and recoverability has varied from cycle to cycle
• Regional patterns of resistance and of recoverability have varied from one cycle to the next
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- The changing relationship (correlation) between regional resistance and recoverability

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<tr>
<td>1974-1976</td>
<td>0.303</td>
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<td>1979-1983</td>
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<td>0.665</td>
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<td>1990-1993</td>
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<td></td>
<td>0.086</td>
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<td>2008-2010</td>
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<td>0.250</td>
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Note: * Latest recovery phase is as yet incomplete
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• The changing relationship (correlation) between regional resistance over successive cycles

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<tr>
<td>Resistance 1974-1976</td>
<td>-0.029</td>
<td>0.621</td>
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<td>Resistance 1979-1983</td>
<td>-0.121</td>
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<tr>
<td>Resistance 1990-1993</td>
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<td>-0.249</td>
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• And between regional recoverability

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<tbody>
<tr>
<td>Recoverability 1976-1979</td>
<td>0.748</td>
<td>0.287</td>
<td>0.048</td>
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<tr>
<td>Recoverability 1983-1990</td>
<td></td>
<td>-0.068</td>
<td>0.275</td>
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<tr>
<td>Recoverability 1993-2008</td>
<td></td>
<td></td>
<td>-0.137</td>
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- What determines regional cyclical behaviour?
- Numerous factors – see schematic
- But, typically, regional industrial structure assumed to be particularly significant
- Specialisation increases cyclical vulnerability
- Sectoral diversity reduces vulnerability and instability:
  The general contention is that those places with diverse economies are more resilient in socio-economic terms than those with a narrow economic base (Davies and Tonts, 2010, p. 232).
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Recessionary Shock
- Origin of shock
- Nature of shock
- Duration of shock
- Severity of shock

Nature of Regional Economy
- Industrial structure and specialization
- Export orientation
- Inherent economic dynamism/enterprise
- Size, age and ownership of firms
- Firms’ competitiveness
- Firms’ capacity utilization
- Firms’ financial viability
- Skills of local workforce
- Wage structures
- Labour mobility
- Local/national economic and other policies

Pre-shock Regional Growth Path

Vulnerability and Exposure to Recessions

Resistance to Recessions

Extent and Nature of Adjustment

Recovery from Recessions

Post-shock Regional Growth Path
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• Sectors differ in cyclical behaviour
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• The role of economic structure (27 sectors)
• We use dynamic shift share to decompose regional resistance and recoverability into three components:

\[
\Delta Y_i^{t+k} = NC_i^{t+k} + IM_i^{t+k} + RC_i^{t+k}
\]

or

\[
\Delta Y_i^{t+k} - NC_i^{t+k} = IM_i^{t+k} + RC_i^{t+k}
\]

where:
- \( NC_i^{t+k} \) is national component
- \( IM_i^{t+k} \) is industrial mix component
- \( RC_i^{t+k} \) is region-specific ('competitiveness') component
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**1974-76 Recession**

**1976-1979 Recovery**

**1979-1983 Recession**

**1983-1990 Recovery**
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- 1990-1993 Recession
- 1993-2008 Recovery
- 2008-10 Recession
- 2010-2013 Recovery
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- Industrial structure has tended to have negative effect in traditional manufacturing regions; positive effect in southern regions
- But, influence of sectoral structure has varied from cycle to cycle
- This reflects nature of each recession and recovery
- And changes in regional economies over time
- Moreover, in most cases region-specific effect has been more significant than industrial mix
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• What is the ‘region-specific’ effect?
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• Exploring the relative importance of such a wide variety of possible region-specific influences is not straightforward
  – Huge data issues
  – No obvious theoretical framework
  – Also for some regions, like the industrial mix effect, the region-specific effect has varied over time, from cycle to cycle
  – For example, in London’s case region-specific effect was negative up to early-1990s recession, but positive since
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• Analysis suggests that how regions react to recession is influenced by long-term processes:
  “How regional economies respond to major shocks, such as a deep recession, may itself be the product of a slower, more cumulative process of adaptation or ‘resilience building’” (Simmie and Martin, 2010, p.27)

• The last 40 years have witnessed dramatic structural change in the economy, eg:
  – Deindustrialisation
  – Growth of business services
  – Expansion of public sector
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• According to some, these trends have led to a more balanced incidence of recessionary shocks:

  “The traditional ‘north-south divide’ unemployment problem has all but disappeared in the 1990s. This may prove to be a permanent development, since the manufacturing and production sectors, the main sources of regional imbalance in the past, no longer dominate shifts in the employment structure to the same extent. Future shocks will have a more balanced regional incidence than has been the case in the past” (Jackman and Savouri, 1999, p. 27).
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- Regions have converged in terms of industrial structure, except London
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• Can use dynamic shift-share to estimate the long-run cumulative impact of industrial structure and regional-specific effects on regional employment growth

• This confirms the positive industry and region-specific effects for southern regions, and negative industry and region-specific effects for West Midlands and Northern regions

• Main exception is London – positive industry effect, but large negative region-specific effect until early-1990s recession, since when it has stabilised
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- Cumulative employment change due to industrial structure effects, 1971-2012
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- Cumulative employment change due to ‘region-specific’ effects, 1971-2012
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• What about role of public sector?
• Public sector employment has grown in every region, especially since mid-1990s
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• But northern regions became more dependent on public sector employment than southern

• Since introduction of austerity measures in 2010, public sector employment has fallen by 848,000, with more losses to follow

• Two concerns:
  – Whether private sector jobs recovery would offset public sector job losses
  – Whether public sector job losses would fall most heavily on Northern regions
## How Regions React to Recessions

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<tbody>
<tr>
<td>London</td>
<td>19.5%</td>
<td>-84,000</td>
<td>432,000</td>
<td>16.2%</td>
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<tr>
<td>South East</td>
<td>18.4%</td>
<td>-98,000</td>
<td>207,000</td>
<td>15.5%</td>
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<tr>
<td>South West</td>
<td>22.3%</td>
<td>-103,000</td>
<td>193,000</td>
<td>17.6%</td>
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<td>East of England</td>
<td>18.6%</td>
<td>-68,000</td>
<td>208,000</td>
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<tr>
<td>East Midlands</td>
<td>19.4%</td>
<td>-48,000</td>
<td>61,000</td>
<td>17.4%</td>
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<tr>
<td>West Midlands</td>
<td>22.1%</td>
<td>-74,000</td>
<td>123,000</td>
<td>18.6%</td>
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<td>Yorks-Humberside</td>
<td>23.5%</td>
<td>-92,000</td>
<td>172,000</td>
<td>19.1%</td>
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<tr>
<td>North West</td>
<td>23.1%</td>
<td>-110,000</td>
<td>105,000</td>
<td>19.7%</td>
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<tr>
<td>North East</td>
<td>26.8%</td>
<td>-54,000</td>
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<td>Wales</td>
<td>27.6%</td>
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<td>93,000</td>
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<td>Scotland</td>
<td>26.0%</td>
<td>-81,000</td>
<td>118,000</td>
<td>22.1%</td>
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<tr>
<td>N. Ireland</td>
<td>30.6%</td>
<td>-11,000</td>
<td>45,000</td>
<td>27.8%</td>
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<tr>
<td>UK</td>
<td>21.9%</td>
<td>-848,000</td>
<td>1,837,000</td>
<td>18.2%</td>
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- However, while significance of public sector has declined everywhere (and will thereby be less of a buffer in the future), it still accounts for a higher proportion of employment base in North

- And private sector job recovery has exceeded public sector job losses in every region

- Although the four Southern regions (London, South East, Eastern and South West) have accounted for 56 percent of private sector job growth in the recovery thus far
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• Some Conclusions:
  – Some overall patterns in geography of recessions and recoveries – the south and east tend to be more resilient
  – But those patterns also vary from one cycle to the next
  – Until recent recession, a tendency for impact of economic cycles to become more regionally balanced
  – Industrial structure has played a role, but region-specific effects have tended to be more important
  – And regions are becoming more similar in industrial structure anyway
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• Some Conclusions:
  – What the region-specific effects are remains largely unexplained
  – Long-run trends in both industry structure and regional effects are key to understanding how regional reactions to economic cycles vary over time
  – How far the current, unfinished cycle will vary from previous cycles (e.g., because of unprecedented reduction of public sector employment), remains to be seen
  – But possible that regional differences in resilience having narrowed, are widening once again?