

# The Midwest Economy: The Impacts of Interdependence

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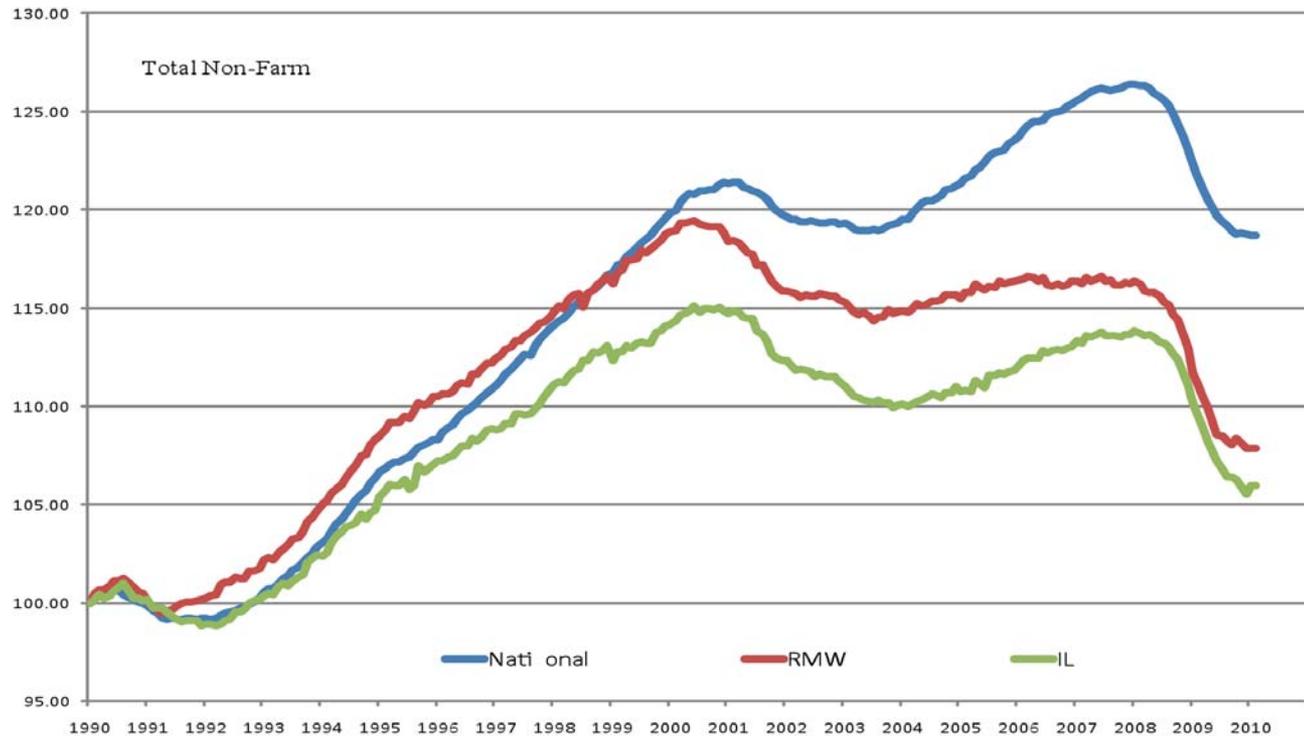
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# The Challenge



- Illinois and the Rest of the Midwest have underperformed the US economy for most of the last 20 years

# The Problem

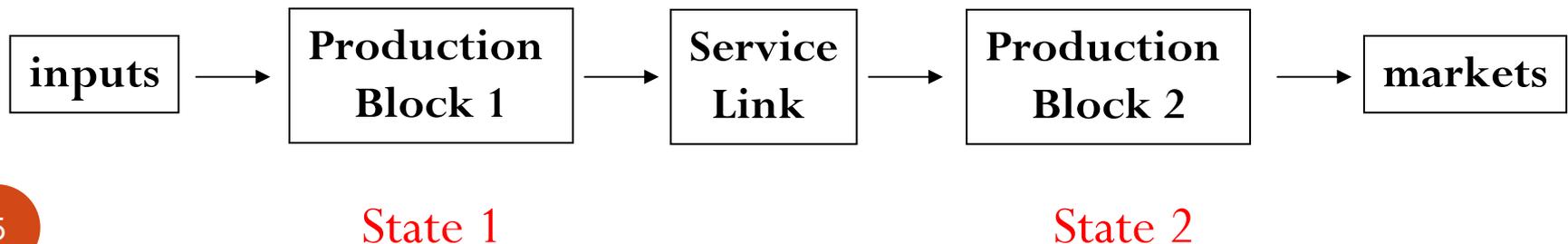
- Policy analysts continue to view the Midwest as a collection of independent states
- Parallel view that they have “muddled” their way through past recessions and will do the same in emerging from this one
- But....
  - The structure of the economy has changed
  - The nature and spatial organization of production has changed
  - Prior and current approaches to problem-solving suggest that policy-makers view sister states in the Midwest as competitors rather than complements

# Will the Midwest recover?

- Eventually – but how long is that?
- Consider Illinois...
  - Never recovered from 2000-2001 recession
  - Now 478,000 jobs below prior peak of November 2000 – close to 600,000 if account for decreases in labor force participation rates and growth in population and labor force
  - Has only grown faster than US 3 times since 1980 – and all before 1990
  - Added >50,000 jobs only once since 2000
  - Recovery might extend for the rest of the decade....

# How has the economy changed?

- Three important characteristics:
  1. Each state is hollowing out – typical establishment is now less dependent on sources of inputs within the state and on markets within the state ---- ripple effects of change within the state are now smaller than 20 years ago
  2. Structure of production is changing – fragmentation is now a characteristic of production
    - The value chain is now longer
    - Firms are organizing production to exploit economies of scale in individual plants in specialized component production and shipping to other plants to add further components



# How has the economy changed?

- Three important characteristics:
  3. The organization of production is changing
    - More establishments are part of multi-regional and multi-national enterprises
    - Decision-making – on location of new activity, introduction of new production lines and services – is now more often removed from the location of production

# Implications

- Production is now more transport/logistics intensive
- Labor quality and productivity assuming the pre-eminent role in location decision-making
- States at one at the same time are becoming:
  - **More competitive** – as they seek to retain or attract new activity in complex value chains of production
  - **More complementary** – as the value chains bind states together in webs of dependency
- Interstate trade is increasing more rapidly than state gross products – in similar fashion to developments internationally

# Addressing the Challenge

- Over a decade ago, REAL constructed a set of Midwest models designed to provide analytical capability for impact analysis and forecasting
- Models identified six regions – WI, IL, IN, OH, MI and the Rest of the US
- Model has recently been updated is being expanded
  - To 25 sectors
  - And eventually to 11 regions
- Use model to illustrate
  - Nature of trade between 5 states
  - Illustrate the existence and strength of specific value chains
  - Explore the interstate impacts of the recession

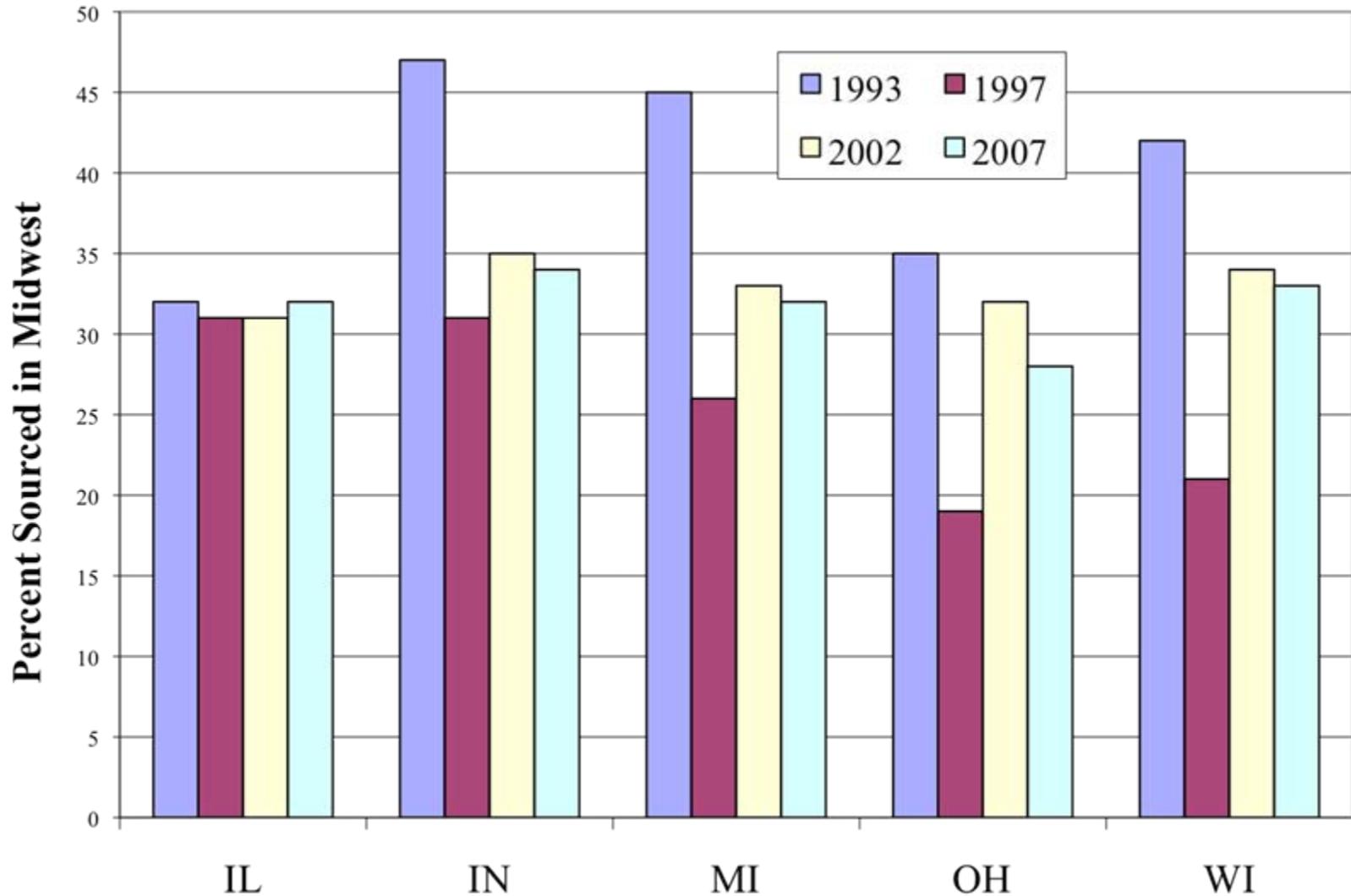
# The Volume of Midwest Trade

- Domestic trade still far more important than international trade for the Midwest states
- Dependency on the other Midwest states prominent
- Midwest export trade to other Midwest states in 2007 was \$450 billion – would rank 7<sup>th</sup> in World

	(\$ million)			%		% Domestic Midwest
	Domestic	Foreign	Total	Foreign	Domestic	
IL	\$399,913	\$48,896	\$448,809	10.89%	89.11%	32.40%
IN	\$252,023	\$25,956	\$277,979	9.34%	90.66%	33.82%
MI	\$226,875	\$44,555	\$271,430	16.41%	83.59%	32.29%
OH	\$369,824	\$42,562	\$412,386	10.32%	89.68%	27.62%
WI	\$172,125	\$18,825	\$190,950	9.86%	90.14%	33.19%

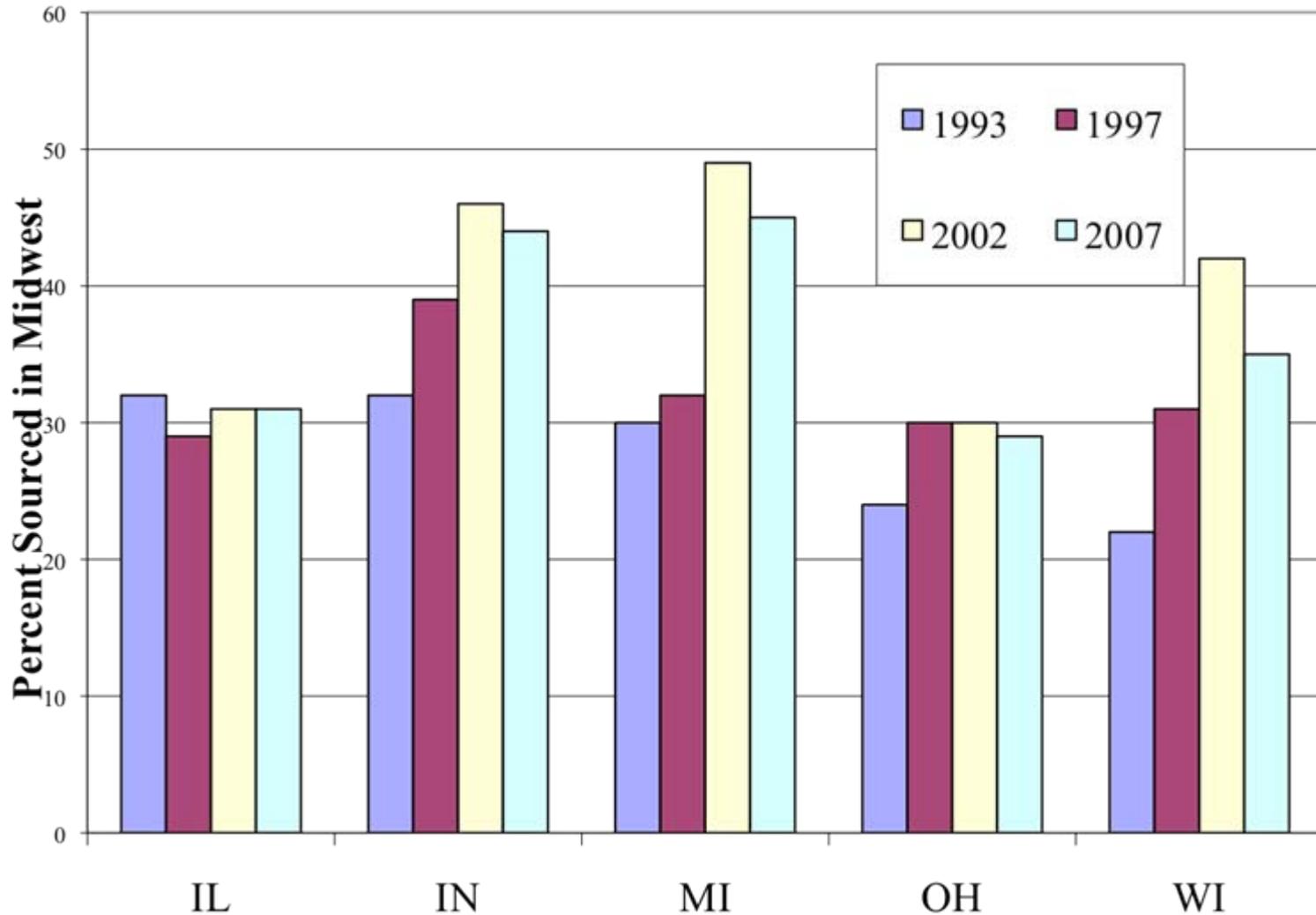
# Changes in Midwest Dependency

- Exports



# Changes in Midwest Dependency

- Imports



# Balance of Trade

- Illinois and Ohio enjoy positive balance of trade with all but one Midwest state and Rest of the US
- Michigan only has positive balance with Rest of the US

Balance of Trade						
	IL	IN	MI	OH	WI	RUS
IL	0	+	+	-	+	+
IN	-	0	+	+	0	+
MI	-	-	0	-	-	+
OH	+	-	+	0	+	+
WI	-	0	+	-	0	+
RUS	-	-	-	-	-	0

# Tracing the Value Chain

## Primary Metal and metal product manufacturing

- Table shows the percentage of indirect effects from a change in production in the state at the top of the column
  - Significant intra-Midwest linkages

	IL	IN	OH	WI	MI	RUS
IL	32.0%	7.3%	4.8%	3.9%	6.5%	4.5%
IN	5.9%	30.9%	5.3%	6.7%	3.5%	3.5%
OH	3.4%	4.5%	28.9%	6.2%	6.5%	2.9%
WI	4.2%	9.2%	9.6%	26.4%	3.7%	5.3%
MI	2.9%	1.8%	4.1%	1.5%	27.2%	2.1%
Total MW	16.5%	22.8%	23.8%	18.4%	20.2%	18.3%
RUS	51.5%	46.3%	47.3%	55.2%	52.7%	81.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Multiplier	2.192	2.288	2.184	2.215	2.165	2.074

# Tracing the Value Chain

## Transportation, Logistics and Warehousing

- Table shows the percentage of indirect effects from a change in production in the state at the top of the column
  - Intra-Midwest linkages not as strong as intra-state linkages

	IL	IN	OH	WI	MI	RUS
IL	32.0%	7.3%	4.8%	3.9%	6.5%	4.5%
IN	5.9%	30.9%	5.3%	6.7%	3.5%	3.5%
OH	3.4%	4.5%	28.9%	6.2%	6.5%	2.9%
WI	4.2%	9.2%	9.6%	26.4%	3.7%	5.3%
MI	2.9%	1.8%	4.1%	1.5%	27.2%	2.1%
Total MW	16.5%	22.8%	23.8%	18.4%	20.2%	18.3%
RUS	51.5%	46.3%	47.3%	55.2%	52.7%	81.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Multiplier	2.192	2.288	2.184	2.215	2.165	2.074

# The Costs of Interdependence

- While the existence of strongly-linked value chains can create positive benefits to the Midwest economy, during downturns, the reverse will be the case.
- During current recession, five Midwest states have lost 1.78 million jobs – 20% of the US total of lost jobs
- Some preliminary estimates have been made of the interstate impacts of jobs losses in one state on the other states
- In the example for Illinois, assumption is that Illinois is the generating state and no attempt has been made – at this stage – to estimate job losses in Illinois as a result of declines in the other Midwest states

# The Costs of Interdependence

## Spillover Effects of Jobs Losses in Illinois

	Job Losses	Percentage of Indirect Impacts
Illinois	-419,000	
Indiana	-14,000	5.98%
Michigan	-11,000	4.70%
Ohio	-12,000	5.13%
Wisconsin	-9,000	3.85%
Rest Midwest Total	-46,000	19.66%
Rest of US	-188,000	80.34%
Total	-653,000	100.00%

# The Costs of Interdependence

## Spillover Effects of Jobs Losses in Midwest Percentage Distribution on other states

Change in  
state

Impacts in

	IL	IN	MI	OH	WI	Rest of Midwest Total	RUS
IL	-	5.98%	4.70%	5.13%	3.85%	19.66%	80.34%
IN	9.36%	-	6.19%	12.00%	2.33%	29.88%	70.12%
MI	5.78%	5.73%	-	13.10%	5.06%	29.66%	70.34%
OH	4.54%	6.47%	8.24%	-	1.98%	21.24%	78.76%
WI	7.91%	3.64%	8.35%	5.00%	-	24.91%	75.09%

# Summary Evaluation

- Midwest states continue to be highly connected
- Recovery or lack of recovery in one Midwest state will have important implications for recovery of the region
- Regional perspective important
  - Competitiveness of value chains depends on competitiveness of all the links
  - Need to view the region as an economic market – enhancing the competitiveness of one state will have important implications for the region's growth and development
  - Need to recognize that the Midwest's international markets concentrated (Canada and Mexico)

# On-going Research

- Adding additional states (11 in total)
- Focusing on nature of employment
  - Not only by sector but by occupation
  - Exploring role of investment in human capital and the spillover effects on the rest of the region
- Initial results suggest that significant aftermath of the recession likely to linger over the next decade with job numbers in 2020 lower than baseline forecasts made prior to the recession