

The Midwest Economy: The Impacts of Interdependence

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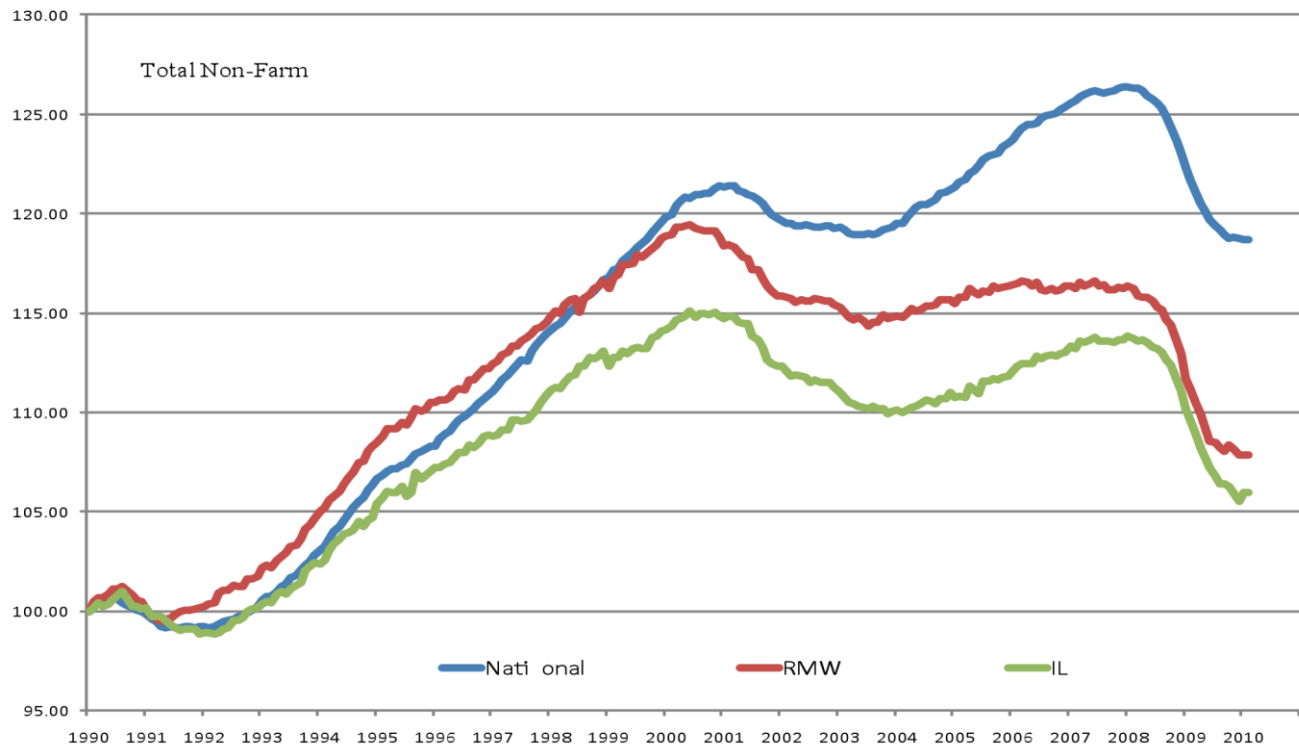
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The Challenge



- 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

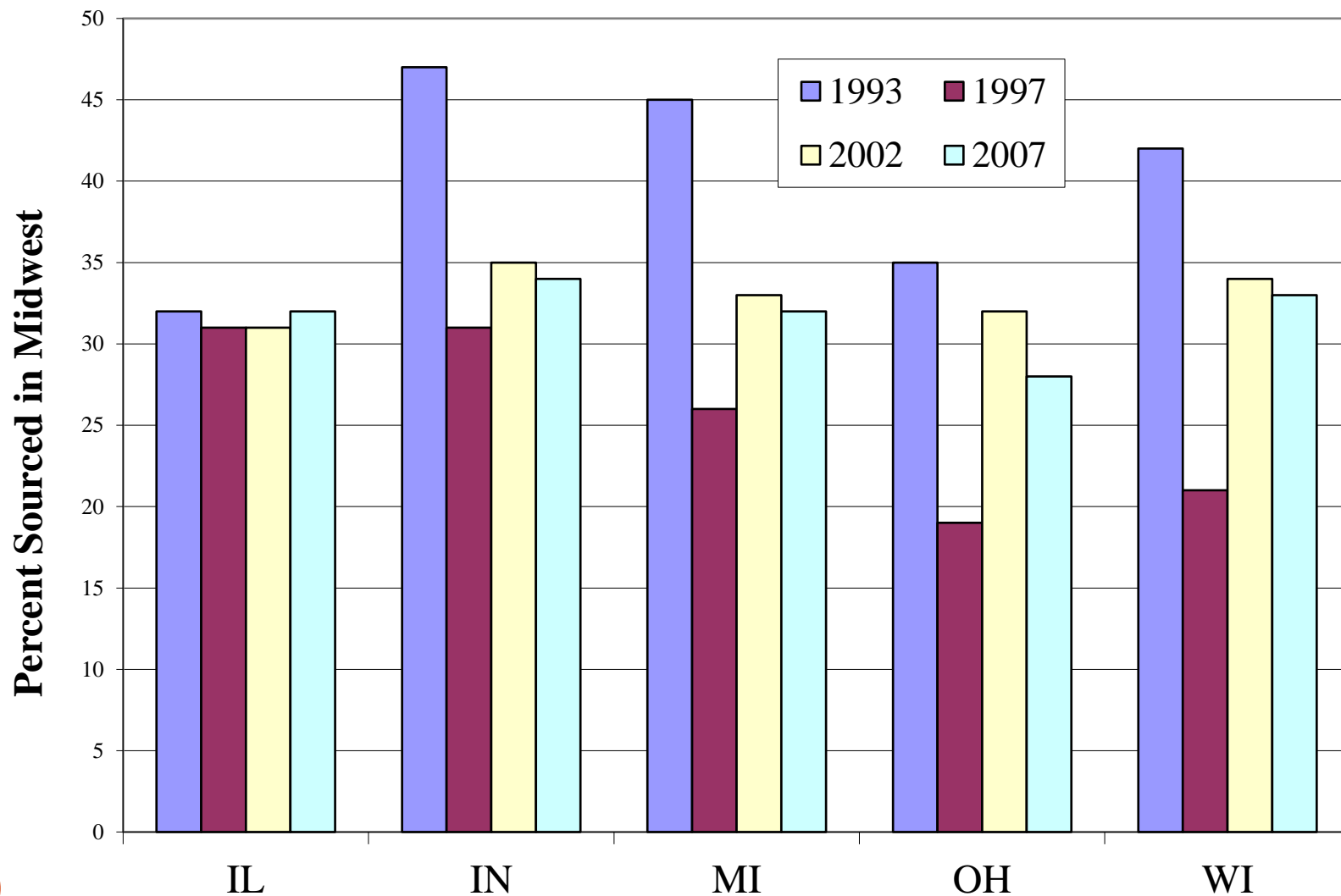
The Volume of Midwest Trade

- 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 7th in World

	(\$ million)			%	%	% Domestic
	Domestic	Foreign	Total	Foreign	Domestic	Midwest
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%

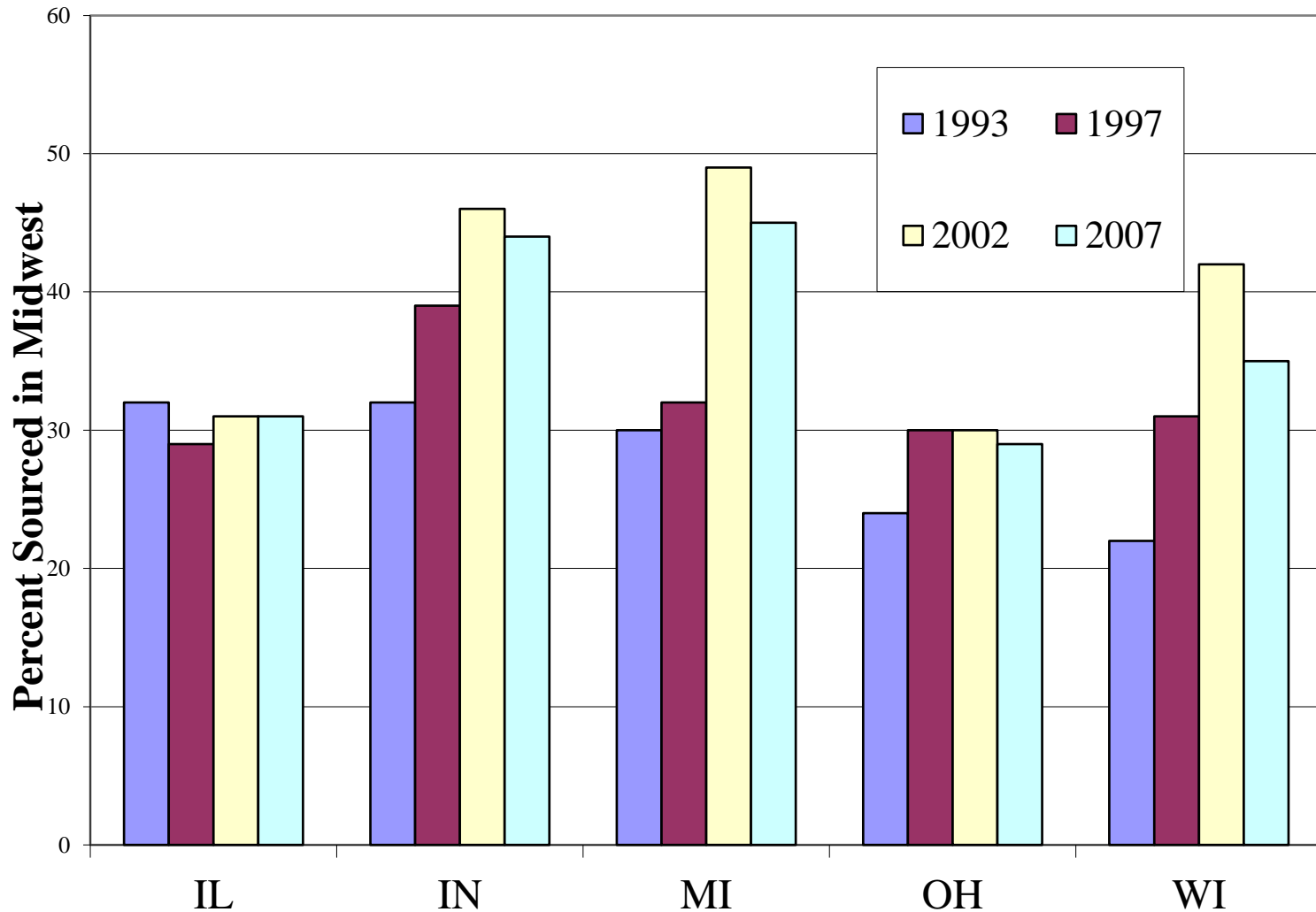
Changes in Midwest Dependency

● 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