Regional Analysis and the FRS

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Why Regional Analysis?

- One could make the **opposite case** for monetary policy writ large; That is, we have one economy (and one monetary policy tool).
- But…in **understanding underlying economic** fundamentals of the U.S. economy, especially in timely fashion (current analysis)
  - **Adjustment mechanisms** to be understood (housing market), perhaps in local laboratories
  - Important **phenoms to be discovered** as they emerge (spatial-related innovation/growth, emerging bubbles?)
  - Important **region-specific industries** to be understood at ground level (e.g. automotive and local government)

Are U.S. regional distinctions important for monetary policy and financial supervision?

- U.S. regions are highly integrated,
- Regional well-being has converged,
- So that worries about “one-size fits all” policy should have abated.

U.S. Regional Economic "Shocks" emanate from common sources

- Studies show that U.S. regions swing together from common sources such as oil price shocks, rather than from idiosyncratic sources.
- Unlike the EU perhaps, monetary policy responses will tend to be correct as "one size fits all"
- However, some regions are more sensitive to others (Carlino and DeFina, 1996).
- And there remain some regions that are sensitive to custom influences such as agriculture and mineral prices.

1. Variance decompositions for regional income

	Percentage of forecast error due to			
Region	Oil prices	U.S. income	Fed funds rate	Regional income
New England	2	67	0	31
Mideast	3	75	1	21
Great Lakes	1	80	1	18
Plains	2	51	0	47
Southeast	5	80	0	15
Southwest	1	66	0	33
Rocky Mountains	1	56	1	42
Far West	2	79	0	19

Source: Calculations from author's statistical model, using the following quarterly data series: IMF—world crude oil prices; BEA—personal income by state; and Federal Reserve Board of Governors—federal funds rate.

Source: M. Kouparitsas, Chicago FedLetter, no. 146, October 1999.

U.S. intra-regional trade much tighter than global linkages

1. Destinations of largest exports

From Illinois, 1995

Canada	$6 billion
Japan	$2 billion
Mexico	$2 billion
UK	$1 billion
Germany	$1 billion

From Illinois, 1993

Ohio	$20 billion
Wisconsin	$18 billion
Indiana	$18 billion
Michigan	$18 billion

Note: Values have been rounded to nearest billion.
Source: Regional Economics Applications Laboratory.

2. Midwest commodity flows

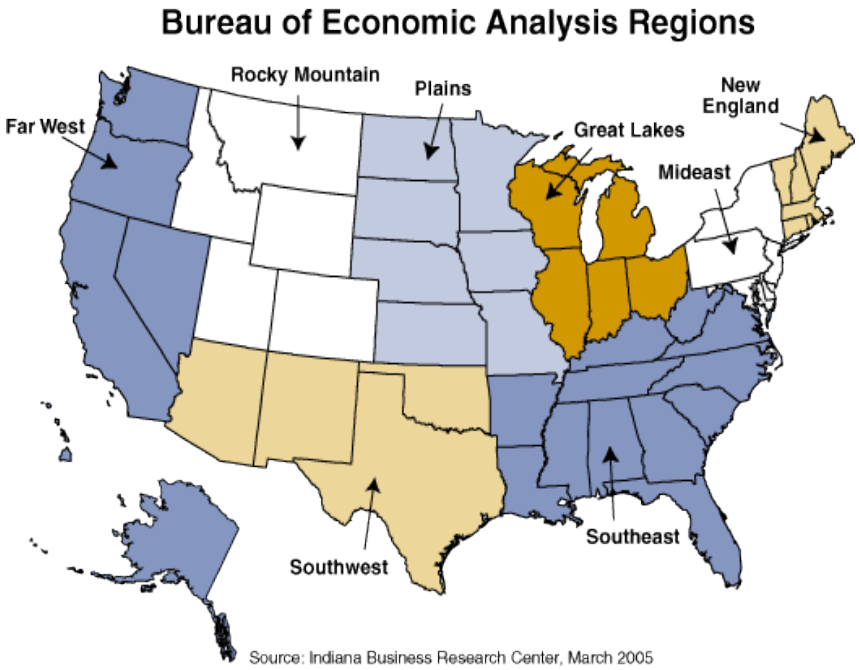
	Total value of commodity outflows	% outflows to other Midwest states
	($1993 bil.)	
Illinois	228	32.1
Indiana	128	40.7
Michigan	130	37.1
Ohio	196	29.2
Wisconsin	93	34.9
Total	**775**	**34.0**

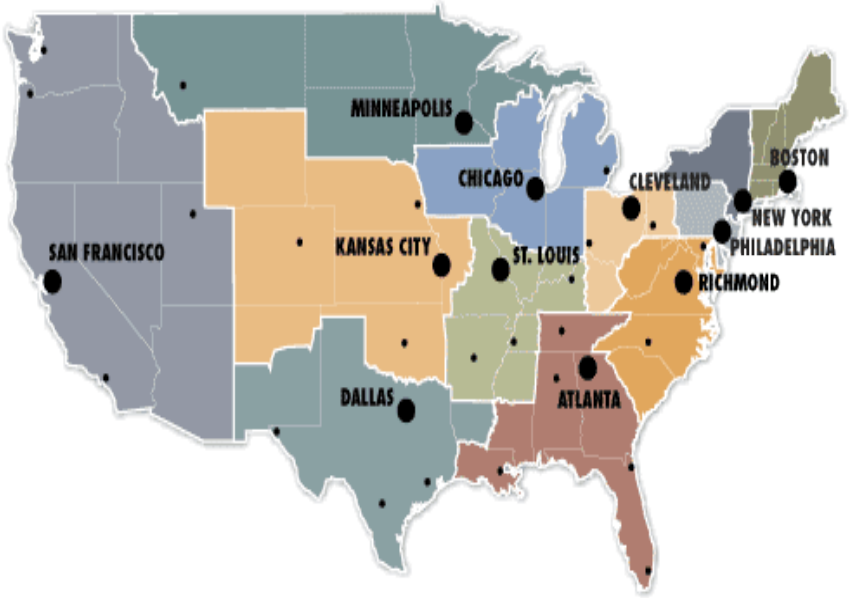
	Total value of commodity inflows	% inflows from other Midwest states
	($1993 bil.)	
Illinois	185	31.7
Indiana	99	46.8
Michigan	151	44.9
Ohio	171	35.1
Wisconsin	73	41.5
Total	**679**	**38.7**

Source: Regional Economics Applications Laboratory.

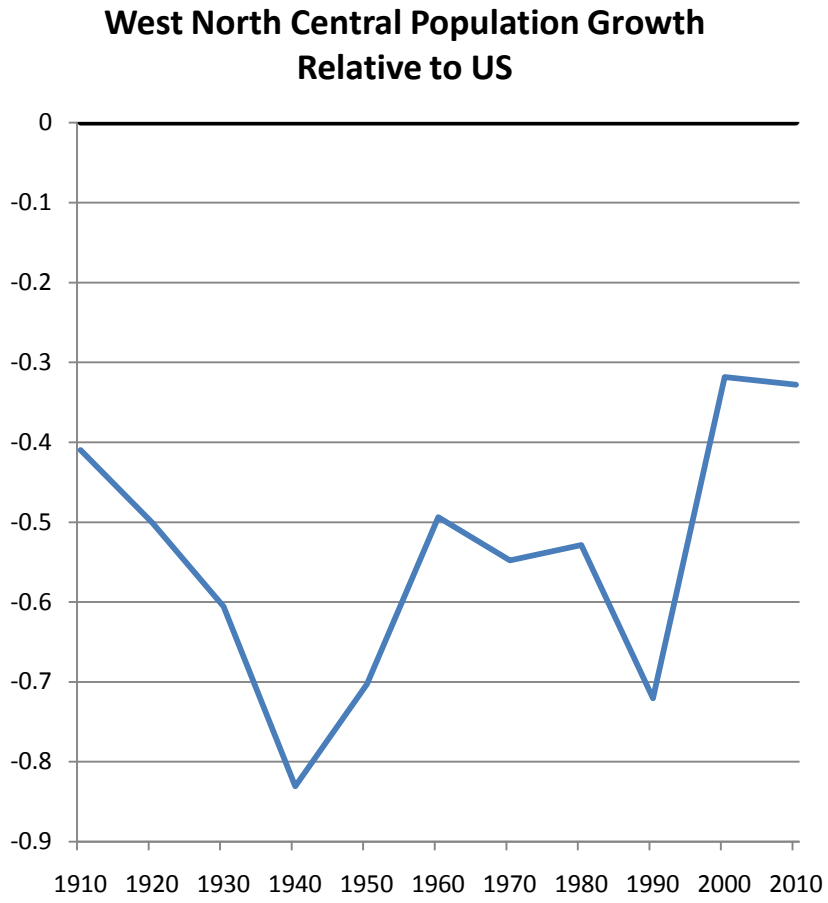
Source: G. Hewings and P. Israilevich, Chicago FedLetter, no. 129, May 1998.

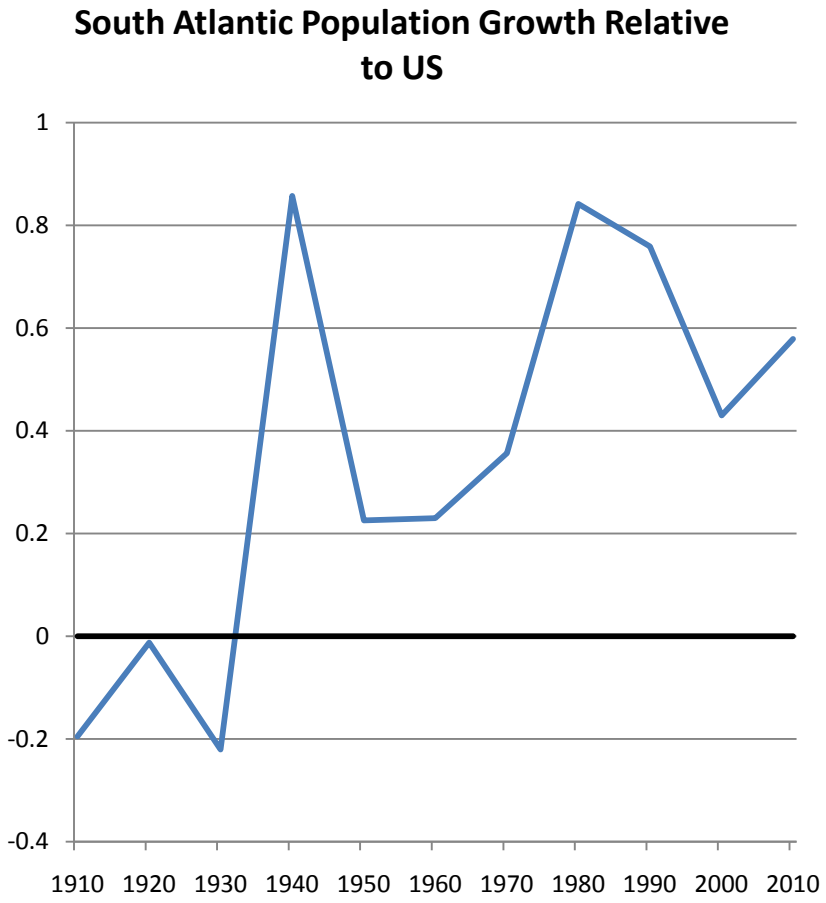
BEA Regions vs. Fed Districts

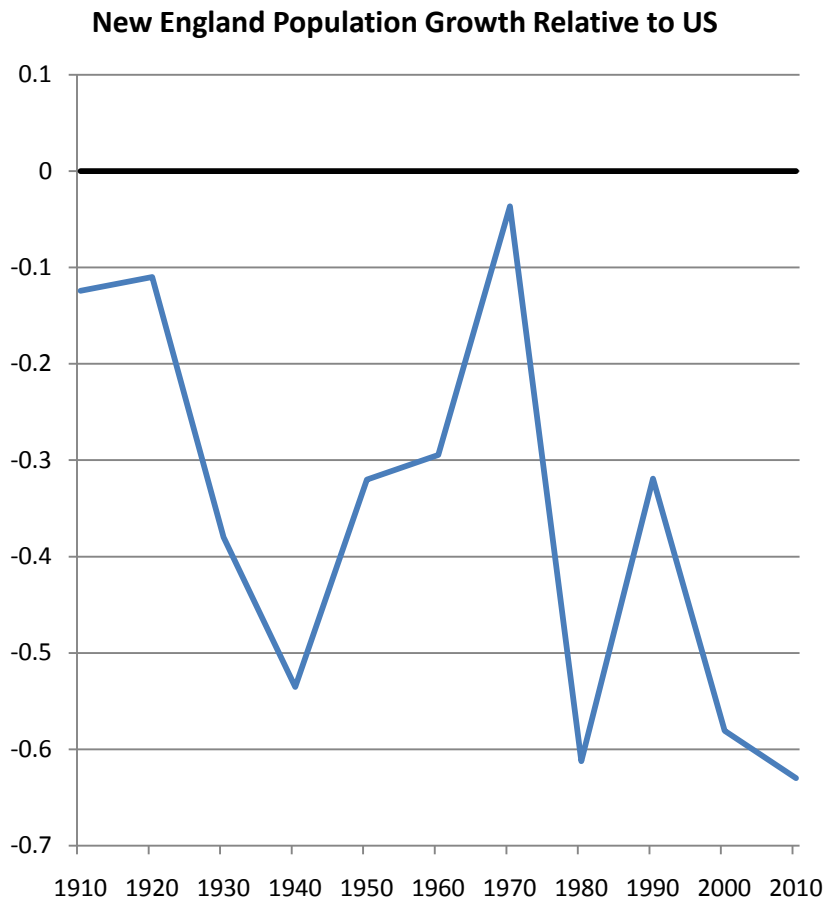


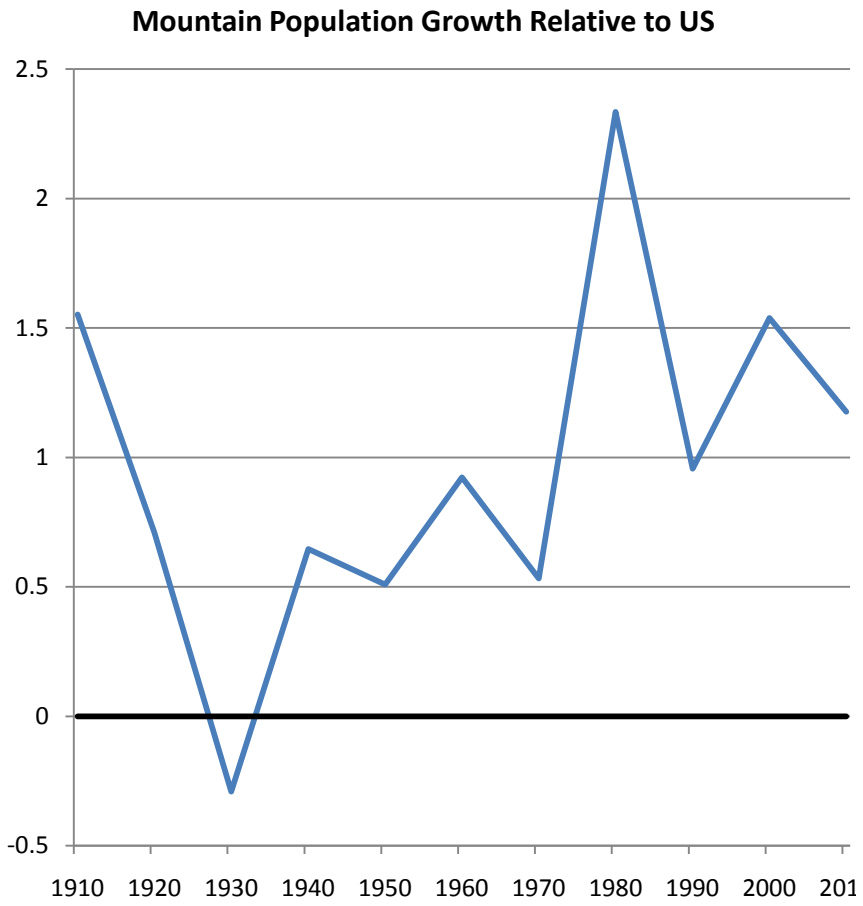


There *are* persistent growth differences across regions, but not persistent differences in income

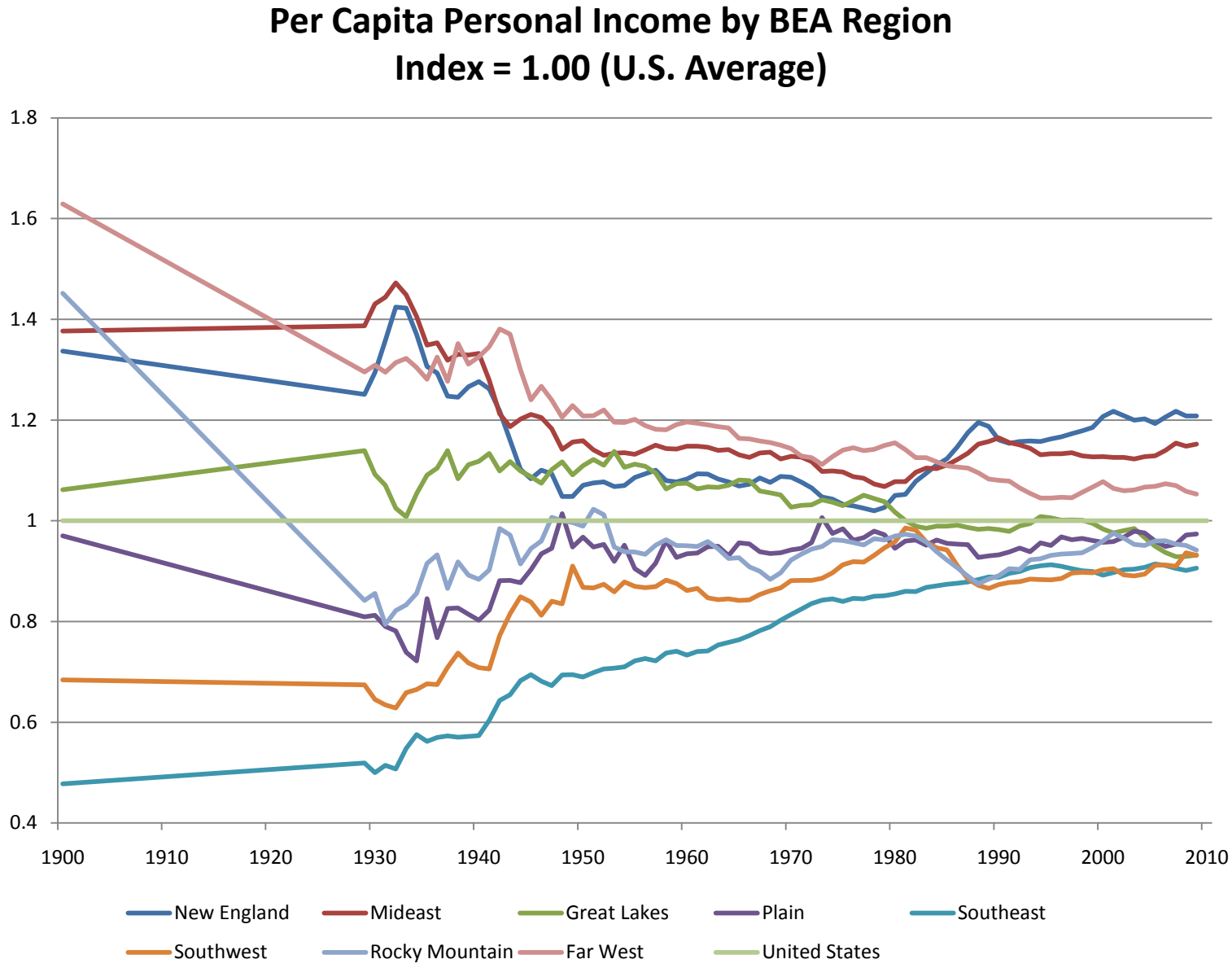




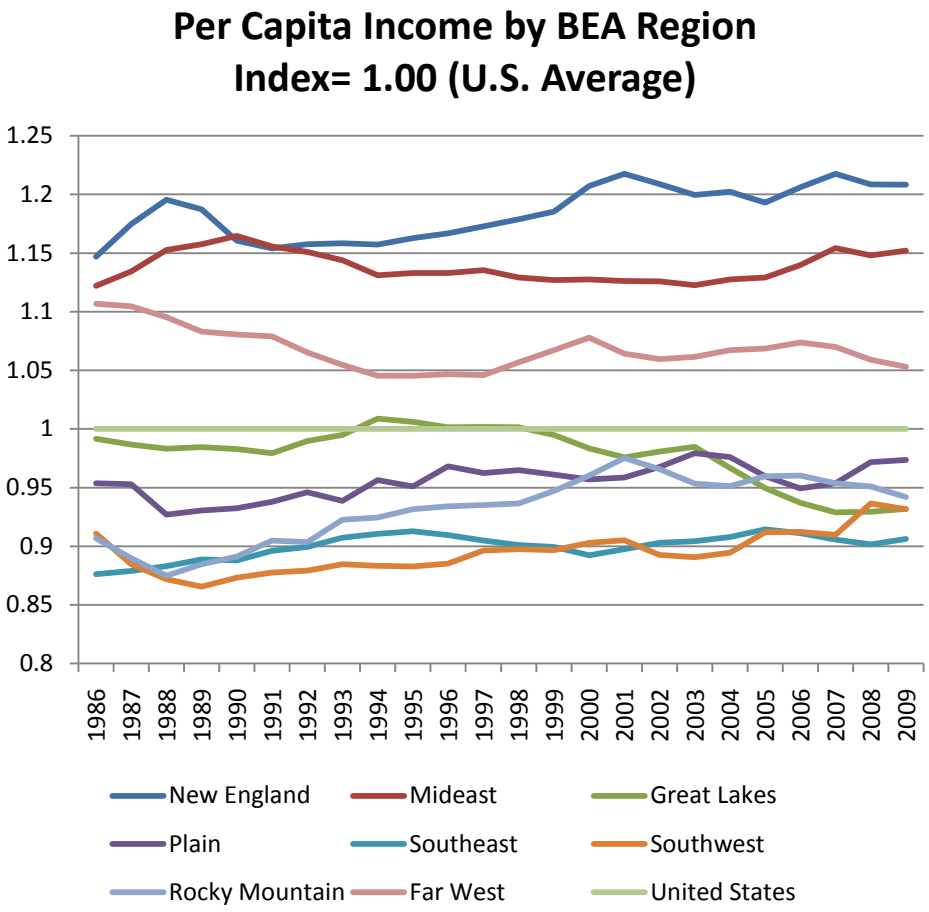

New England Population Growth Relative to US
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010

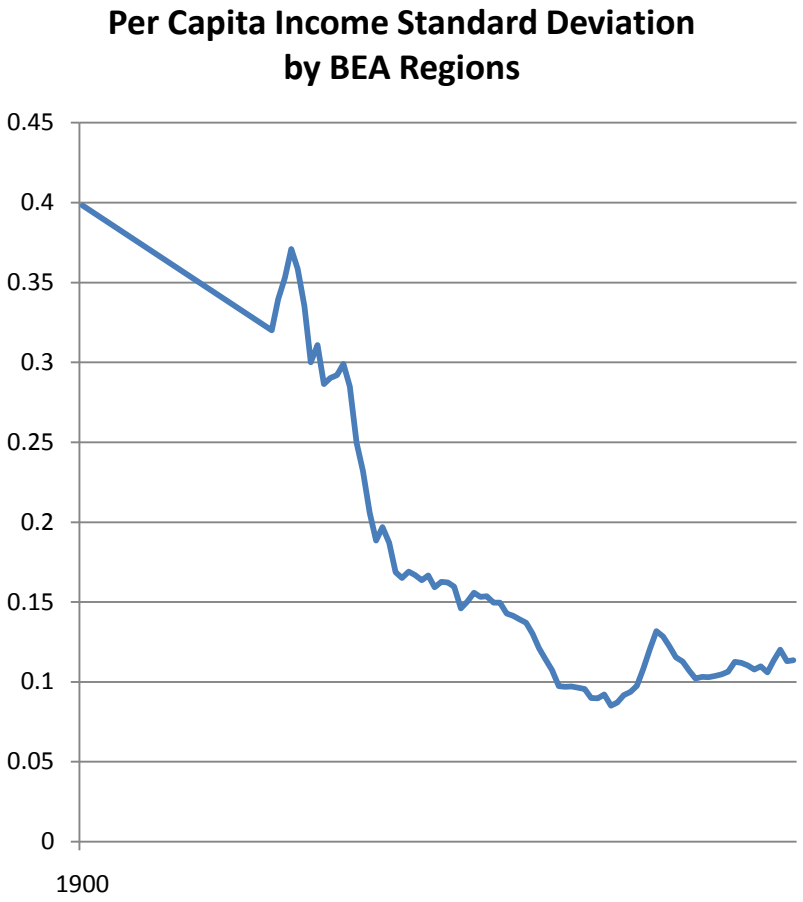

Mountain Population Growth Relative to US
2.5
2
1.5
1
0.5
0
-0.5
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
201

Most importantly, per capita incomes don't differ much, with little change

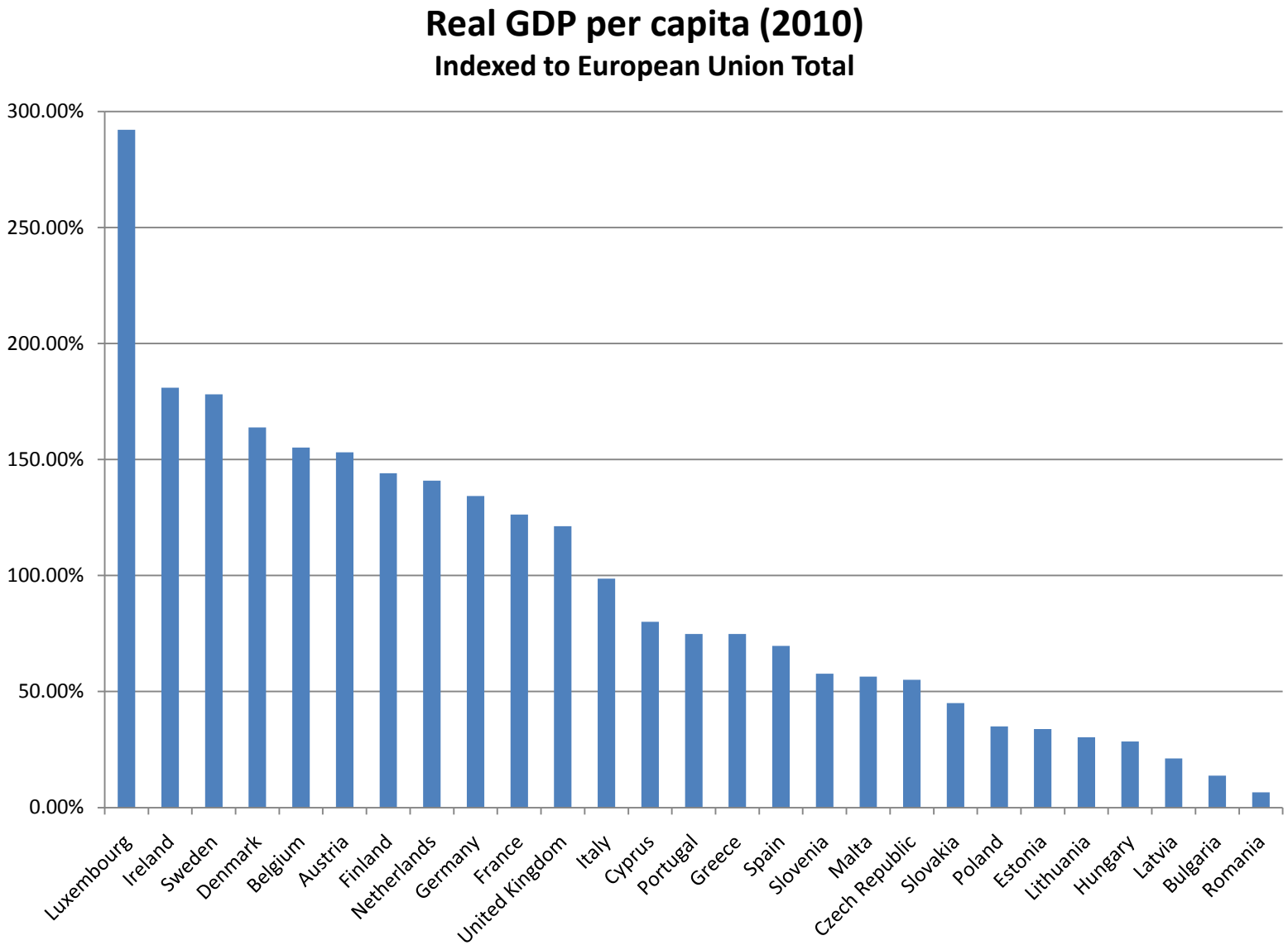


Differences have flattened away



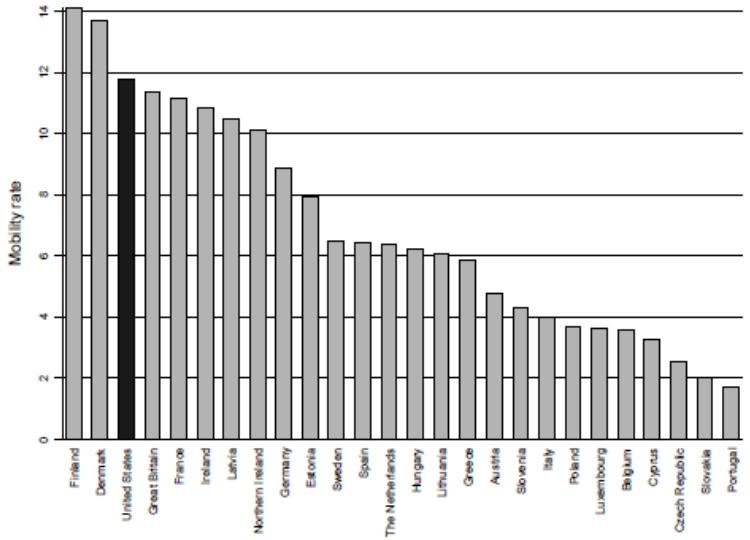


In contrast, European nations exhibit wide differences in incomes



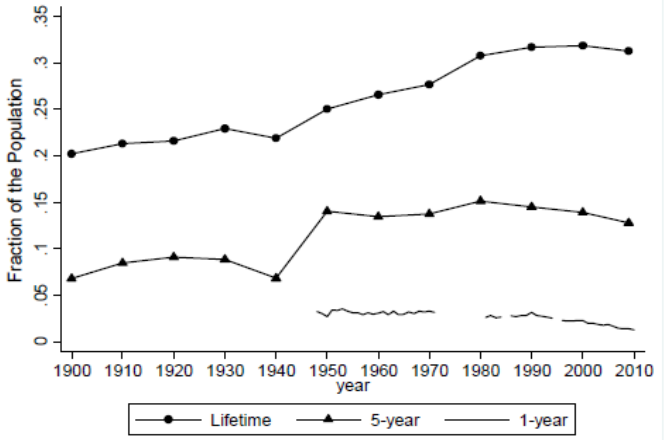
In the U.S., adjustments to cyclical and secular growth differences are less difficult due to inter-regional regional factor flows

Fraction of the Population in 2005 that Moved Residence in the Previous Year



Source: For European data, Eurobarometer 64.1, distributed as ICPSR #4641. For US data, March 2005 CPS. Eurobarometer data is derived from a survey administered in September and October of 2005, and the responses refer to mobility since the start of the year. To convert into an estimate of 12 month mobility, European rates in the table have been multiplied by 4/3. Rates are for individuals 16 years and older.

Figure 1
Inter-State Migration Rates Since 1900



Note. Lifetime and 5-year migration rates are from the denennial Census 1900-2000 and from the ACS for 2009. Five-year migration rates are estimated from microdata on the fraction of households with a 4- or 5-year old residing outside of their birth state (Rosenbloom and Sundstrom 2004). Annual migration rates are calculated from Current Population Survey microdata.

Source: Molloy, Smith and Wozniak, FRBoard, 2011.

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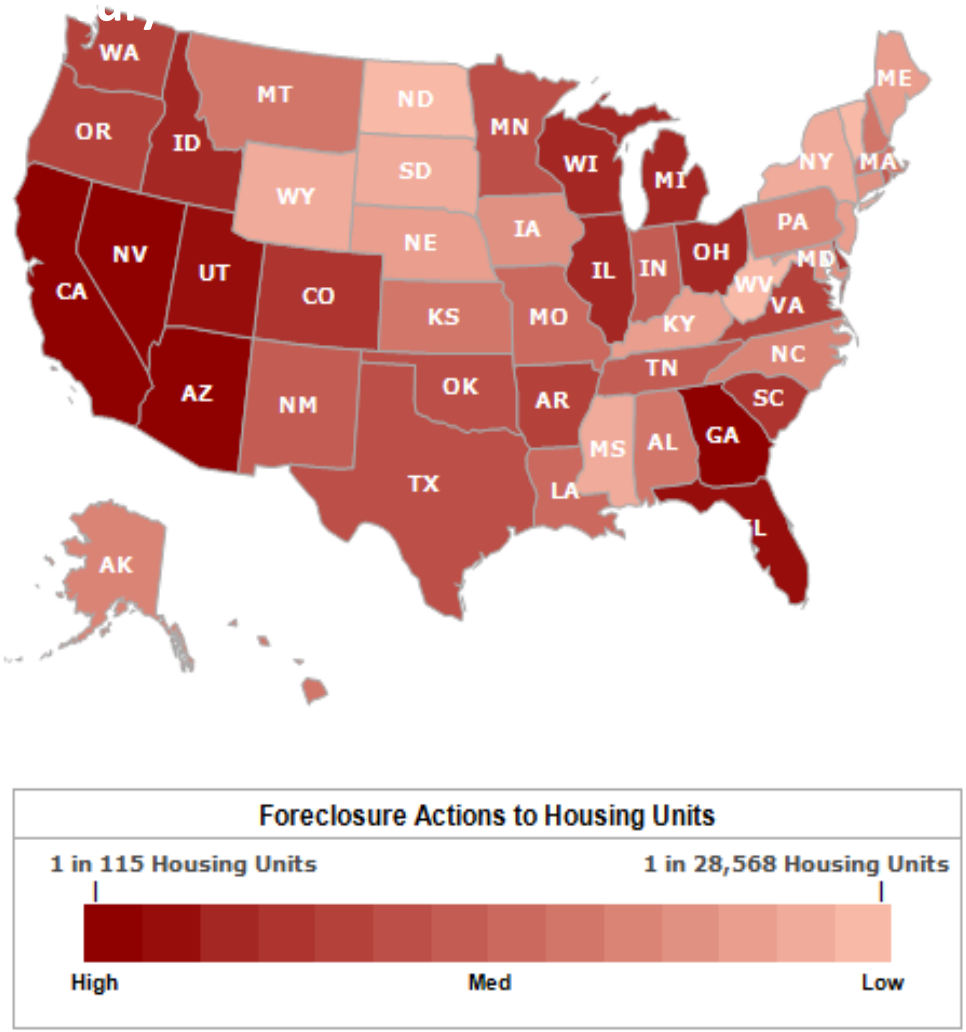
Many Midwest communities didn't experience home price run-ups, but felt the aftermath anyway

2011- Second Quarter			
Rank	State	Negative Equity Share	L/V Ratio
1	Nevada	60.4%	112.7%
2	Arizona	48.7%	93.1%
3	Florida	45.1%	87.8%
4	Michigan	35.6%	84.0%
5	California	30.2%	70.0%
6	Georgia	30.2%	80.9%
7	Maryland	23.6%	70.3%
8	Virginia	23.3%	71.7%
9	Idaho	23.0%	71.7%
11	Illinois	21.7%	72.4%
24	Wisconsin	14.6%	69.1%
31	Indiana	10.9%	69.4%
37	Iowa	9.0%	67.3%
	U.S.	**22.5%**	**69.8%**

Source: Corelogic

According to RealtyTrac, 1 in every 611 housing units in the country received a foreclosure filing in July 2011



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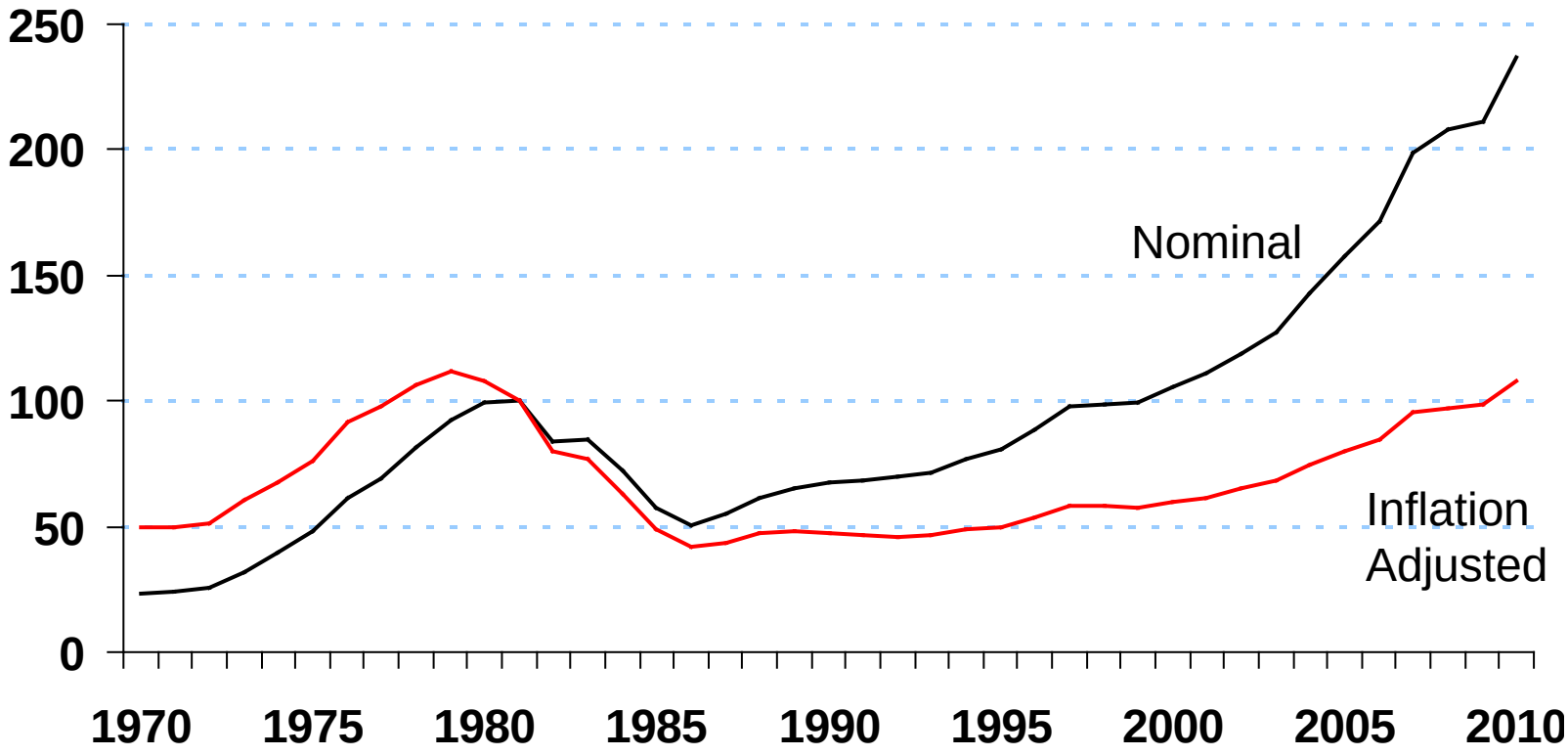
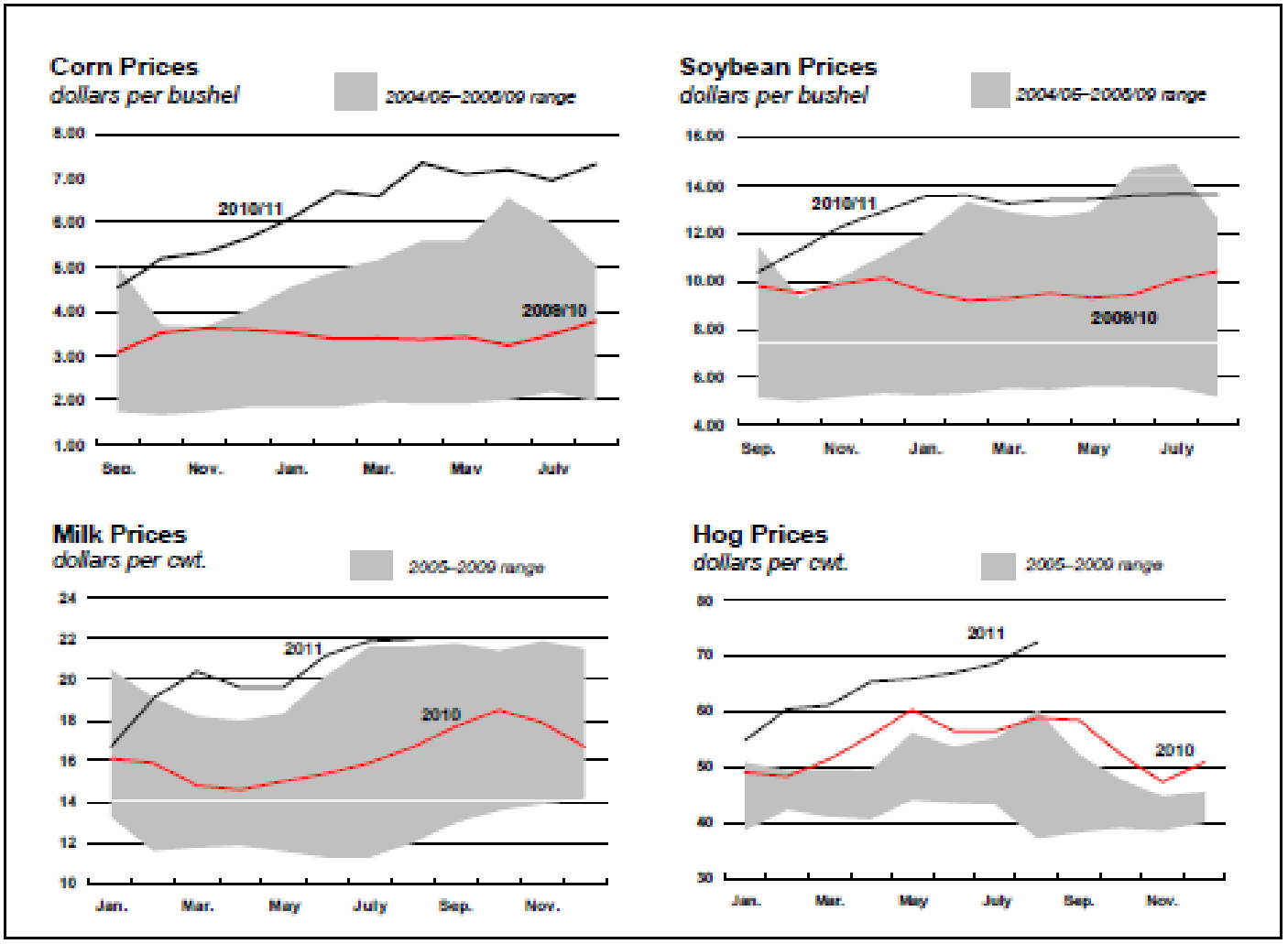
Index of Seventh District farmland values (1981=100)



The farm economy recovery – the basis of rising asset prices?



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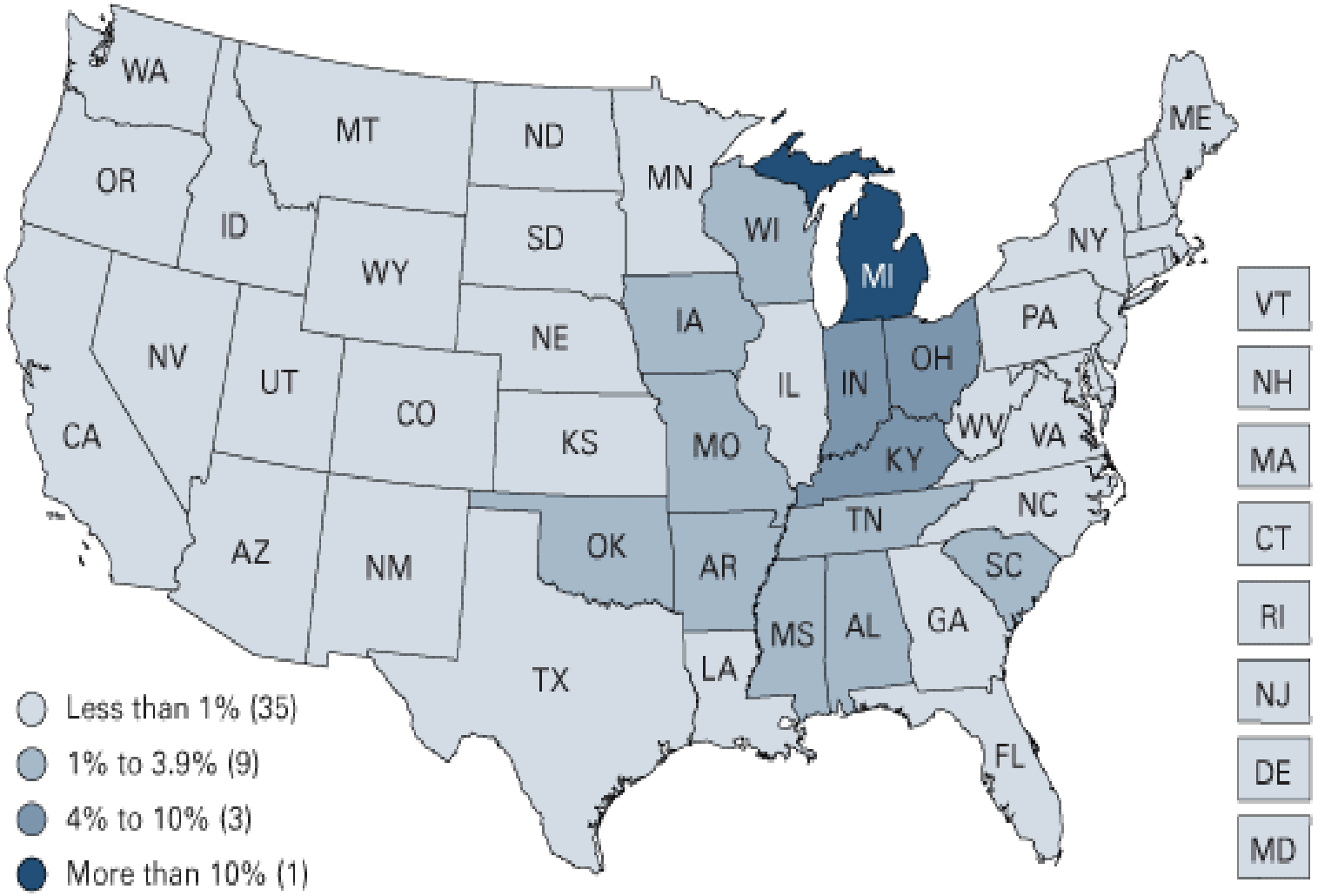
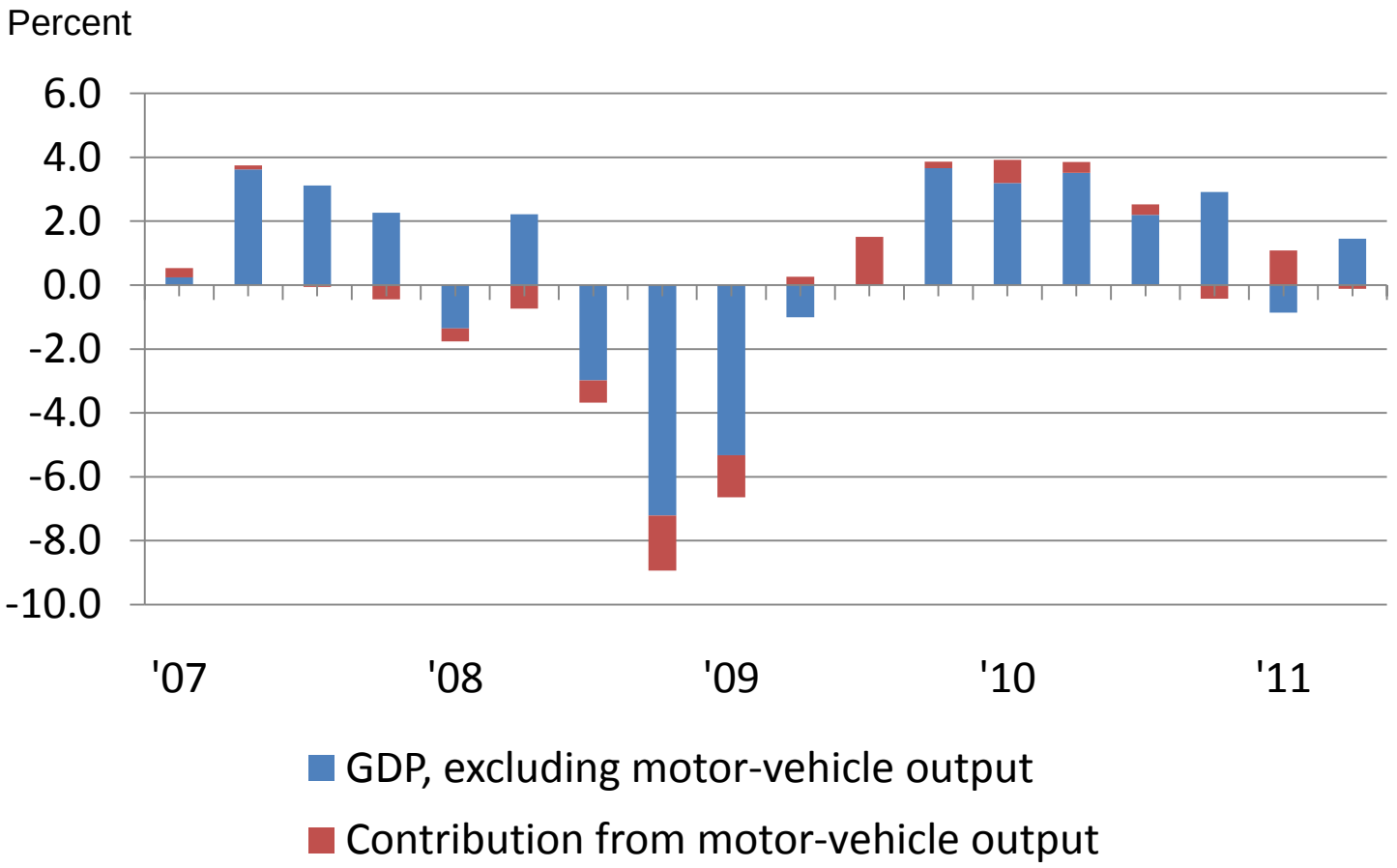
Key industries regionally concentrated (automotive as share of total)



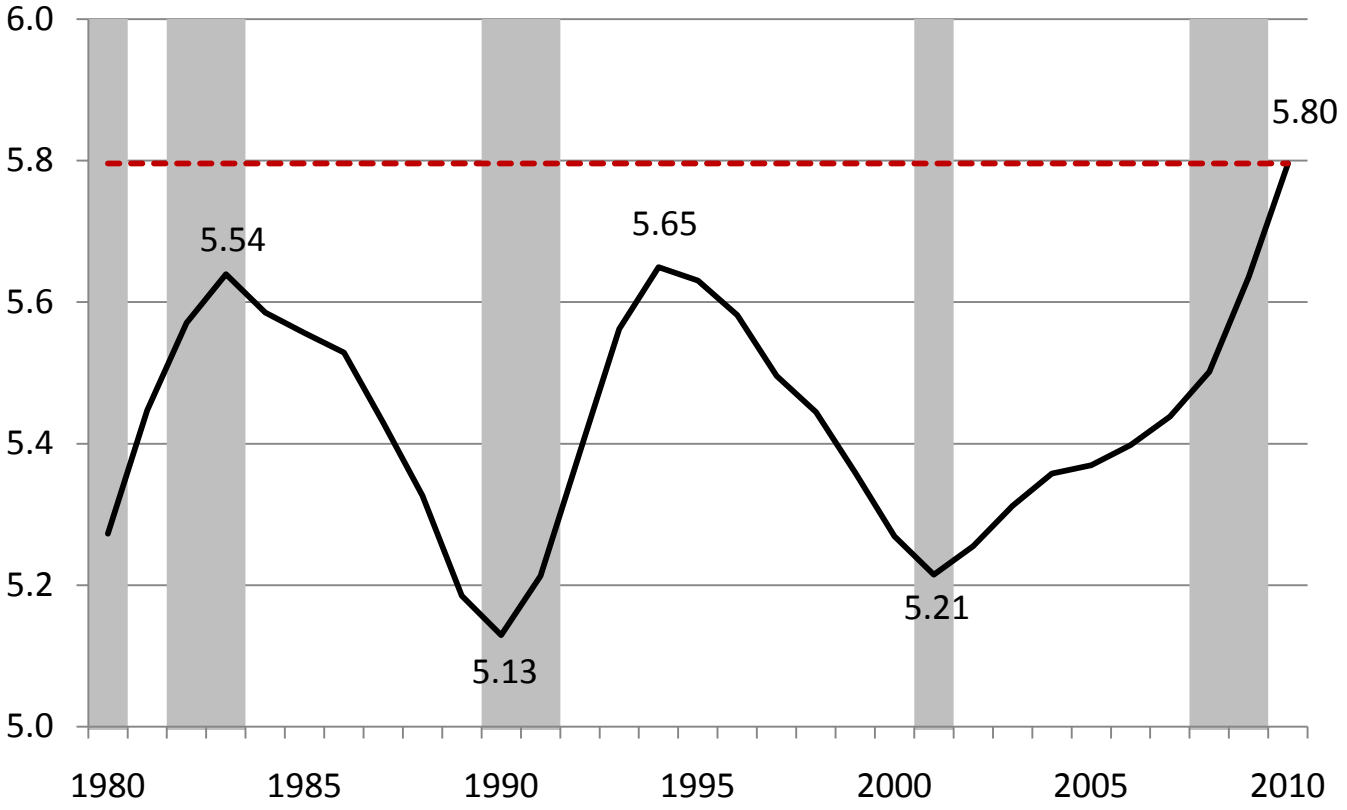
Contribution from Motor-vehicle Output

Percent Change Q/Q, Annualized



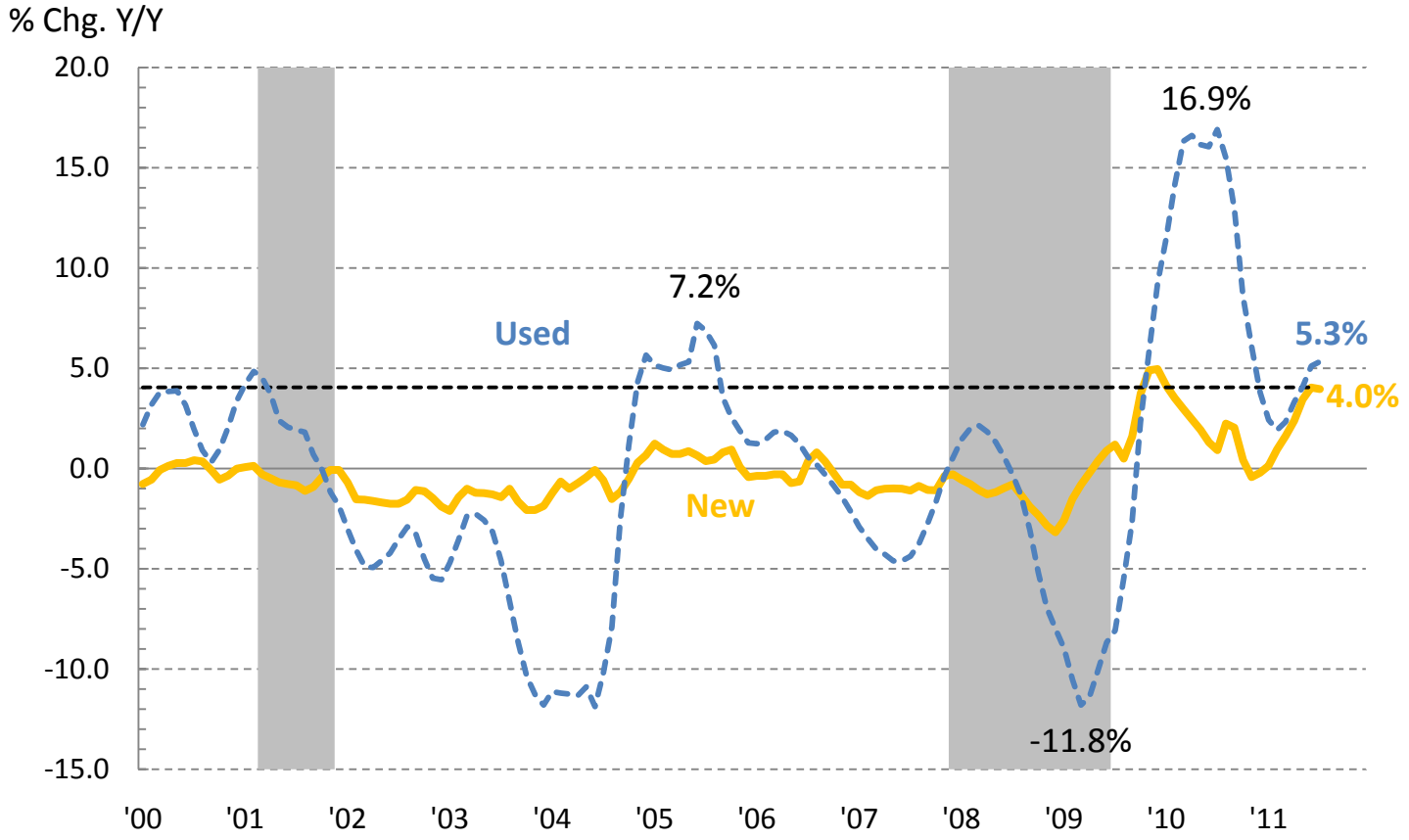
Vehicle fleet is now older than it has been since the 1940's

Sales Weighted Age Distribution

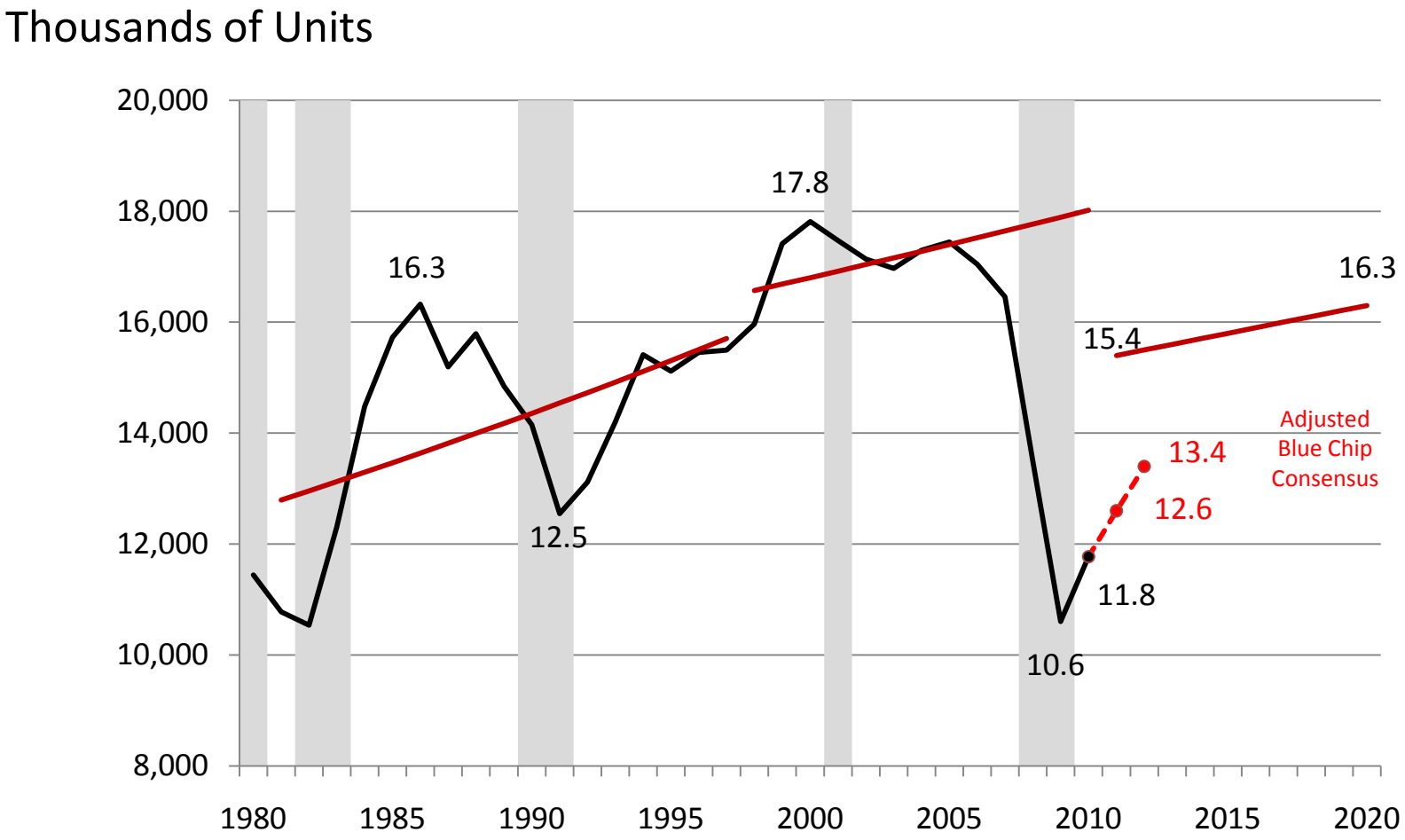


New cars are cheaper: Since January 2009, used vehicle prices have increased at over twice the rate of new vehicles

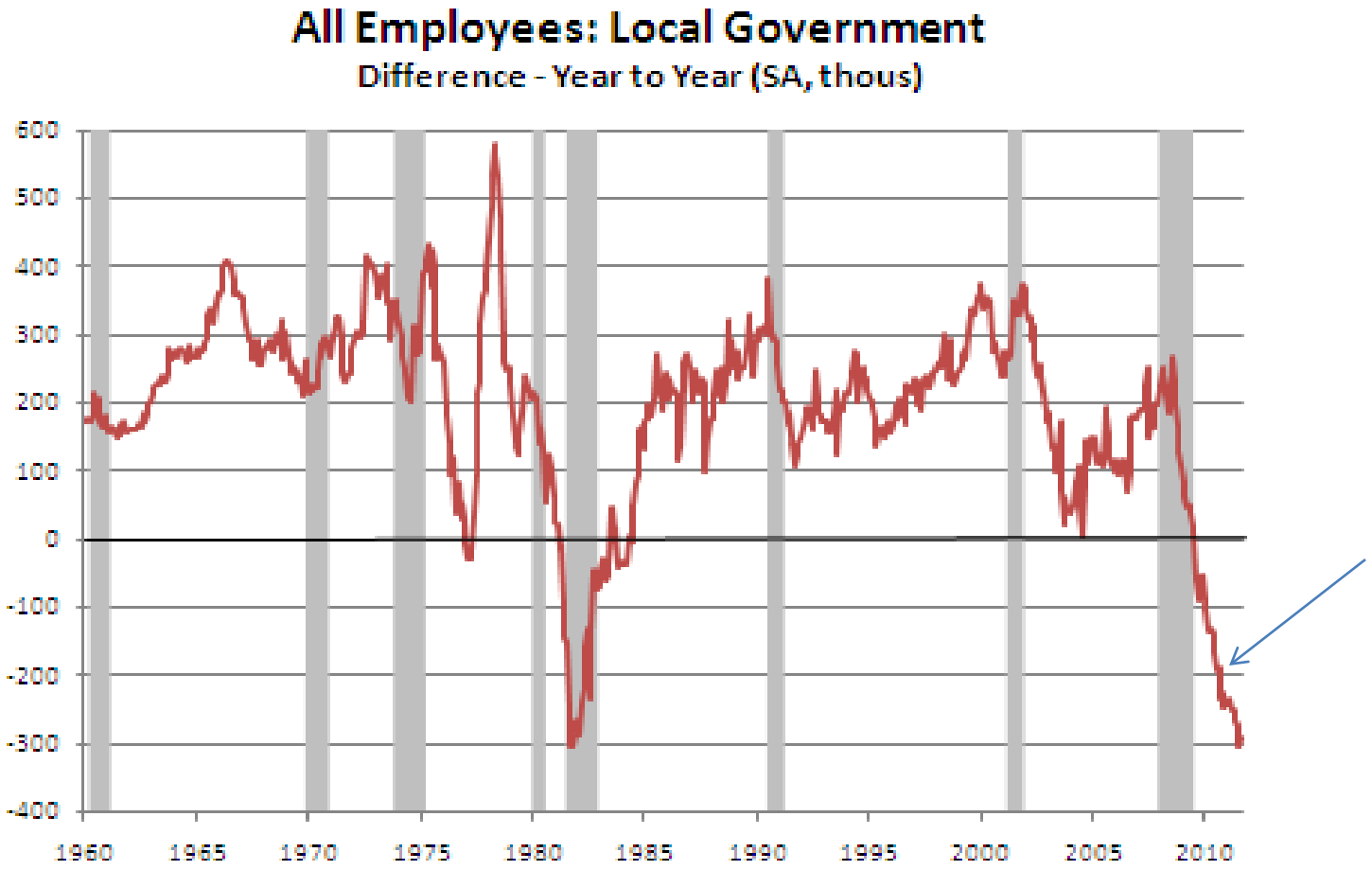
CPI New and Used Cars and Trucks – 2000 = 100



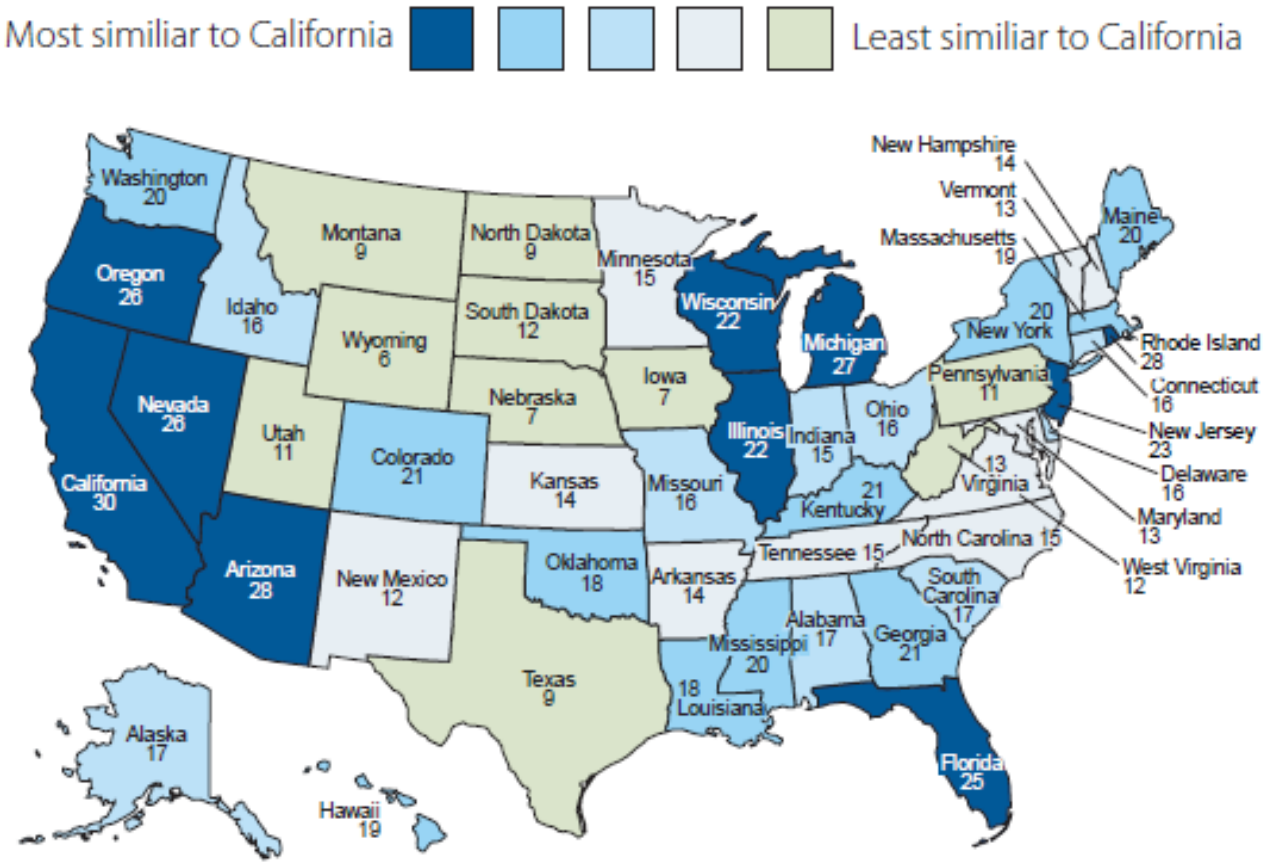
Even under conservative assumptions, a large recovery may be foretold



Local government behaving differently than ever before during the cycle

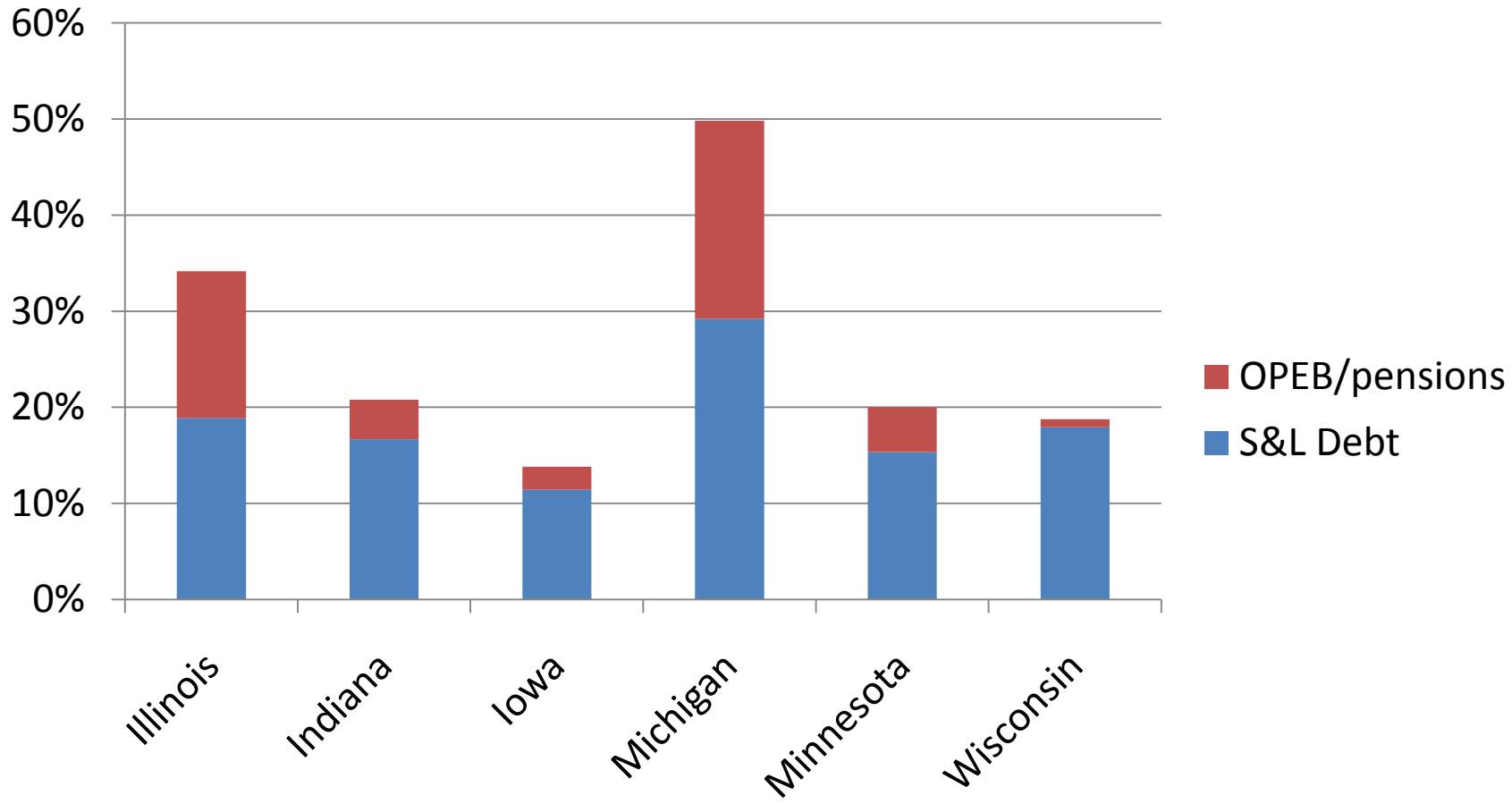


Differences are great across regions



SOURCE: Pew Center on the States 2010, based on analysis of data from the Nelson A. Rockefeller Institute of Government, the Center on Budget and Policy Priorities, the U.S. Department of Labor's Bureau of Labor Statistics, the Mortgage Bankers Association, the Public Policy Institute of California and the Pew Center on the States' Government Performance Project; best available data as of July 31, 2009

Pension and OPEB liabilities as a Percent of GSP (2007)



Summary: Is on-the-ground helpful?

- One monetary policy has served us well as a nation, but regional sensitivity may help in communication. Regional may be an "of the people" function, helpful for both current analysis and public understanding of "who we are."
- Industry concentration differs; Can on-the-ground help current analysis?
  - Automotive
  - State-local government
- Regional variation can be laboratories of understanding?
  - Housing bubble
  - Space matters at less-than-national scale to growth and productivity