Leveraging Economic Forecasts Through Qualitative Overlays

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1

R&S Economic Forecasts in CECL

CECL Estimation Forecasting Requirement

Lifetime loss estimate from origination – replacing “incurred loss” model”, where

“The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and ***reasonable and supportable forecasts*** *that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances.”*

Source: Page 3, Financial Instruments—Credit Losses (Topic 326), FASB, No. 2016-13, June 2016

Does CECL Require Quantitative Forecasting?

- CECL does NOT require a specific quantitative approach
  - **Qualitative overlays acceptable** for smaller institutions
- Auditors and shareholders will hold institutions to different standards
  - Large banks will be expected to use quantitative approaches
  - But no strict rules on scenario design, number or weighting
- Impact of future “reasonable and supportable” economic forecasts on loss estimates is required

How to Leverage R&S Economic Forecasts in CECL?

What are the options?

1. Qualitative overlay approach (Small Institution Solution)

- Use forecasts and current conditions narratives to adjust historically-driven CECL estimate
- Consider outlook of local economy – state/MSA
- Consider risks to local economy (trade war, immigration, financial market uncertainty) – captured in alternative scenarios

How to Leverage R&S Economic Forecasts in CECL?

What are the options?

2. Quantitative overlay approach

- » Select a single scenario to estimate CECL with a scenario-conditioned model
- » Run “shadow scenarios” to inform any qualitative adjustments

3. Probability weighted scenarios approach (Similar to IFRS 9)

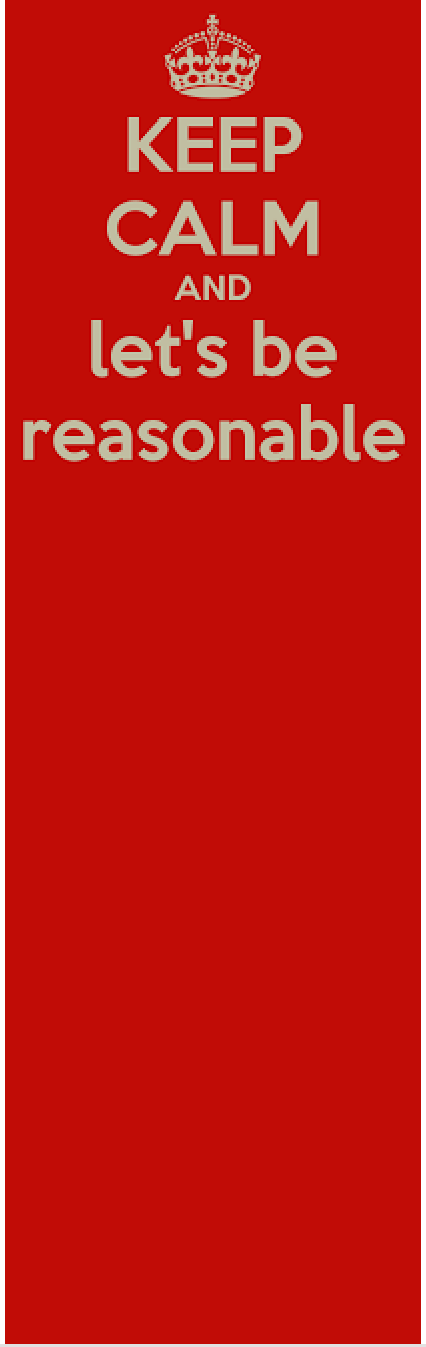
- » Estimate CECL under several alternative economic scenarios
- » Compute a probability weighted average as the CECL estimate

4. Simulated scenarios approach (Theoretically Pure)

- » Estimate CECL under thousands of simulated scenarios
- » Compute CECL as the average loss across all paths

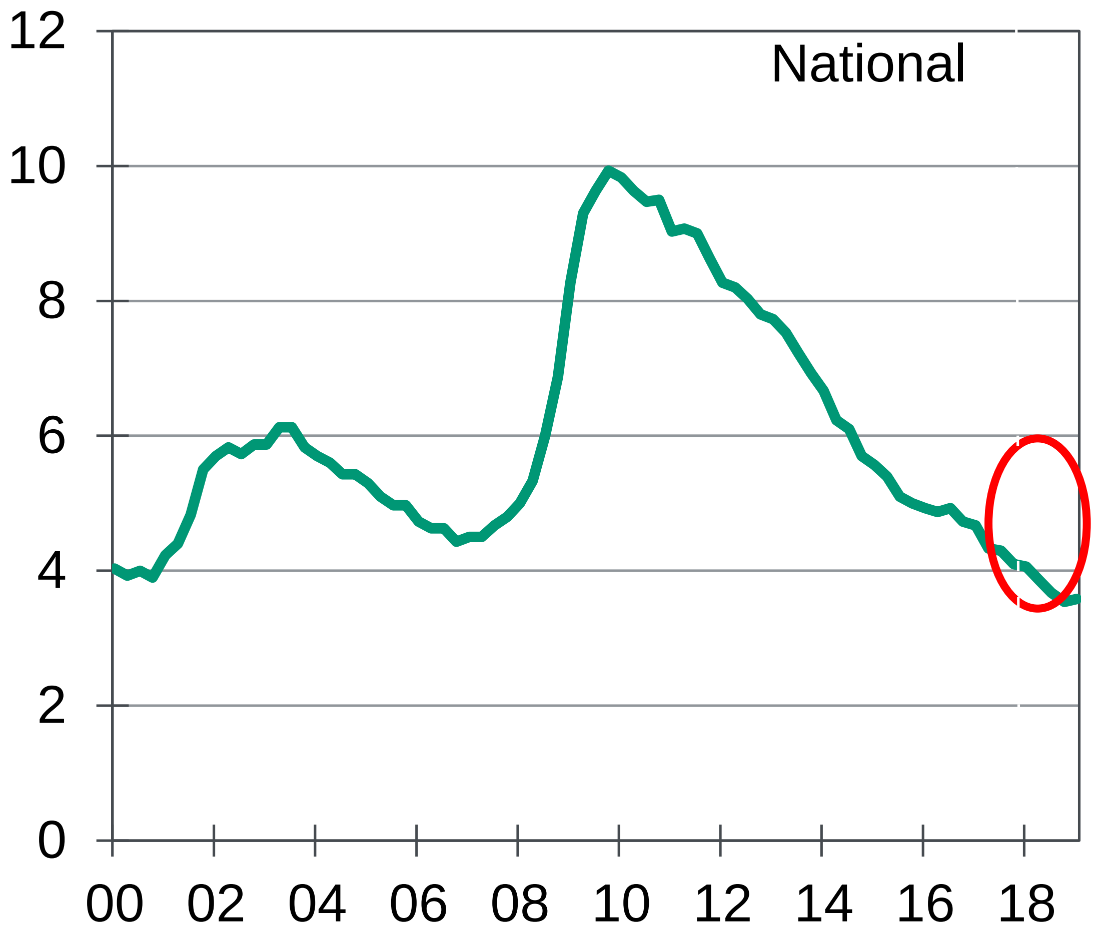
What Makes an Economic Forecast R&S?

- ☑ Based on **sound, generally accepted economic theory**
- ☑ Incorporates **inter-relationships and feedback effects**
  - A shock to one factor impacts all other factors over time
- ☑ Considers a **range of possible outcomes**
  - **Includes upside and downside risks**
- ☑ Provides information at varying **levels of geography**
  - **Captures local economic conditions**
- ☑ Utilizes a **rigorous, auditable process** for data and forecasting

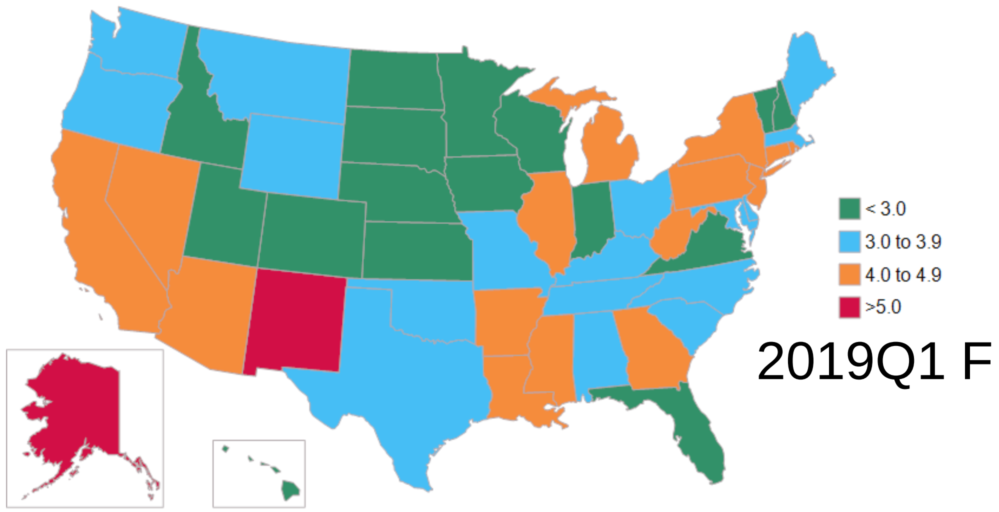


Integrated National, State and Metro-level Forecasts

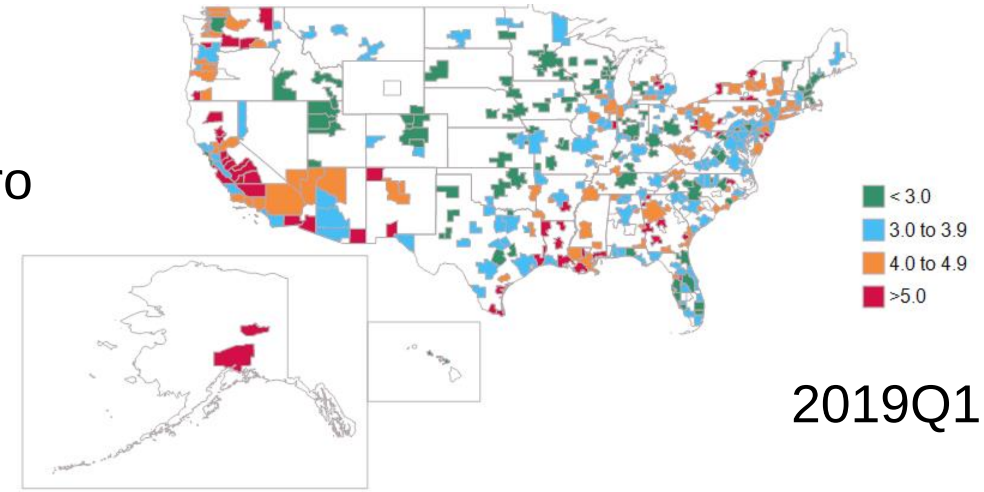
Unemployment rate, %



State



Metro



Qualitative Overlay Approach

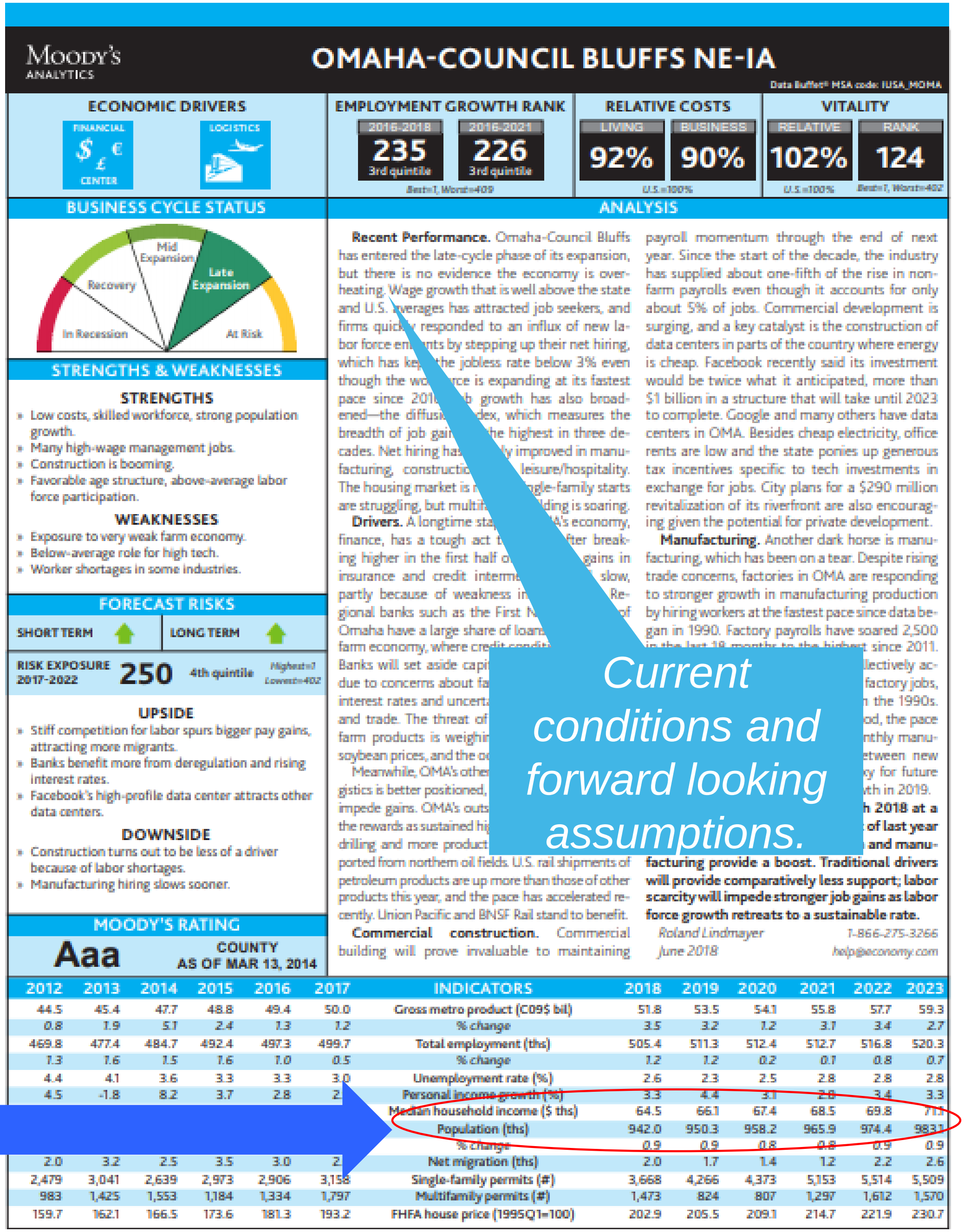
Historical estimate adjusted for current & future conditions

- Institution may use a vintage-loss rate approach to estimate losses based on historical experience

	Chargeoffs by Year					ALLL		Vintage Data		
Origination Year	1	2	3	4	5	$ Remaining Expected Losses	$ Unpaid Balances at EOP 20X5	Expected & Actual Losses	$ Originated	Lifetime Loss Rate
20X-3	$ 6	$24	$16	$ 8	$ 2	n/a	$ -	$ 56	$ 5,000	1.12%
20X-2	2	26	21	8	2	n/a	-	59	5,000	1.18%
20X-1	1	20	14	8	2	n/a	-	45	5,000	0.90%
20X0	1	20	14	8	2	n/a	-	45	5,000	0.90%
20X1	1	22	16	8	4	$ 4	500	51	5,000	1.02%
20X2	2	23	18	10	4	14	1,500	57	5,000	1.14%
20X3	2	24	22	12	2	36	2,500	62	5,000	1.24%
20X4	2	26	21	8	2	57	3,500	59	5,000	1.18%
20X5	6	24	16	8	2	56	4,500	56	5,000	1.12%
20X6	5					$ 167	$ 12,500	$ 490	$ 45,000	1.09%

Shading represents realization

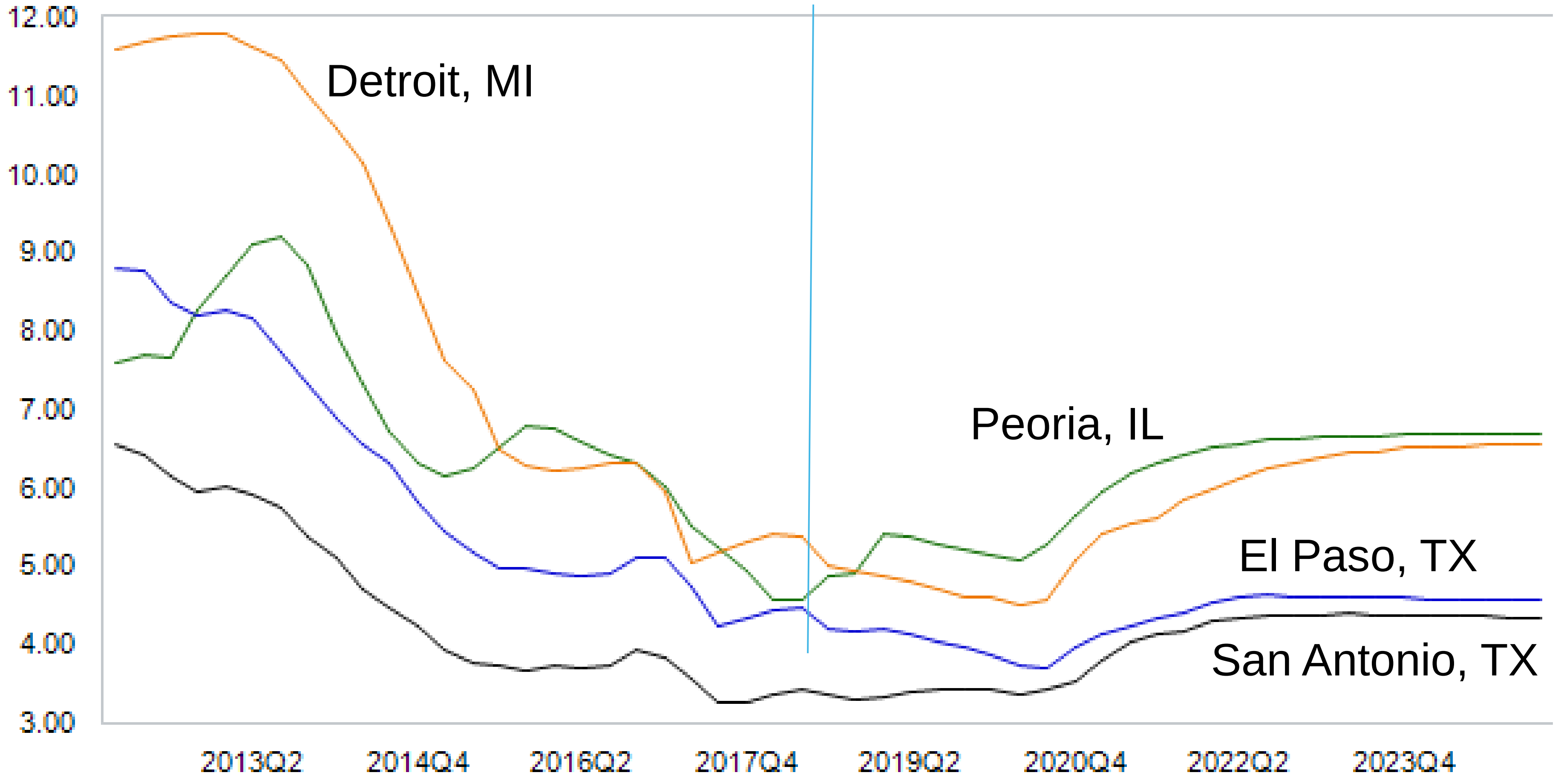
- Adjust this calculated loss estimate based on an expected increase in unemployment within the geographic footprint



2 Local Economy Forecasts

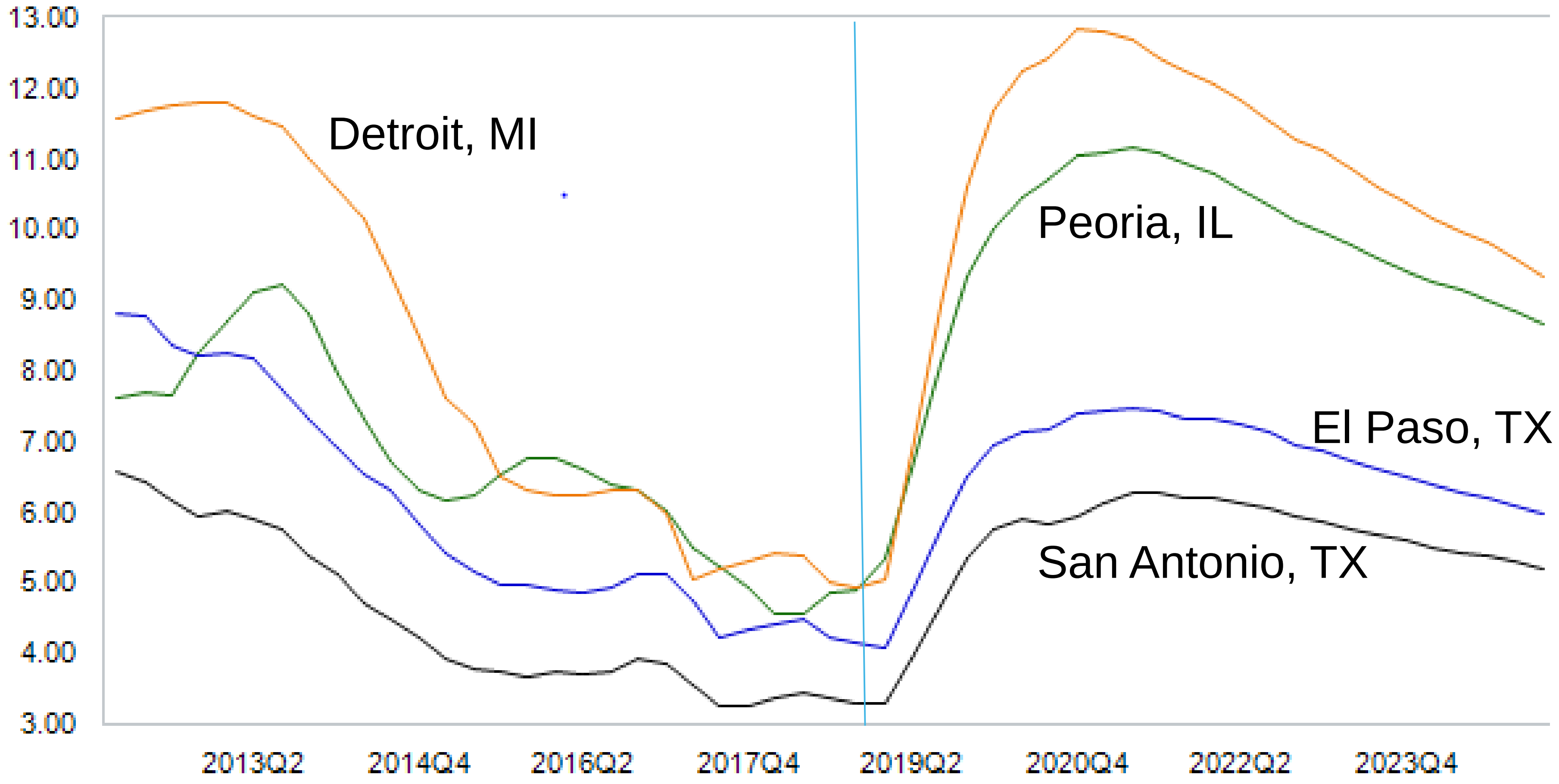
Capture Local Conditions…

Unemployment rate, %, under the most likely outcome



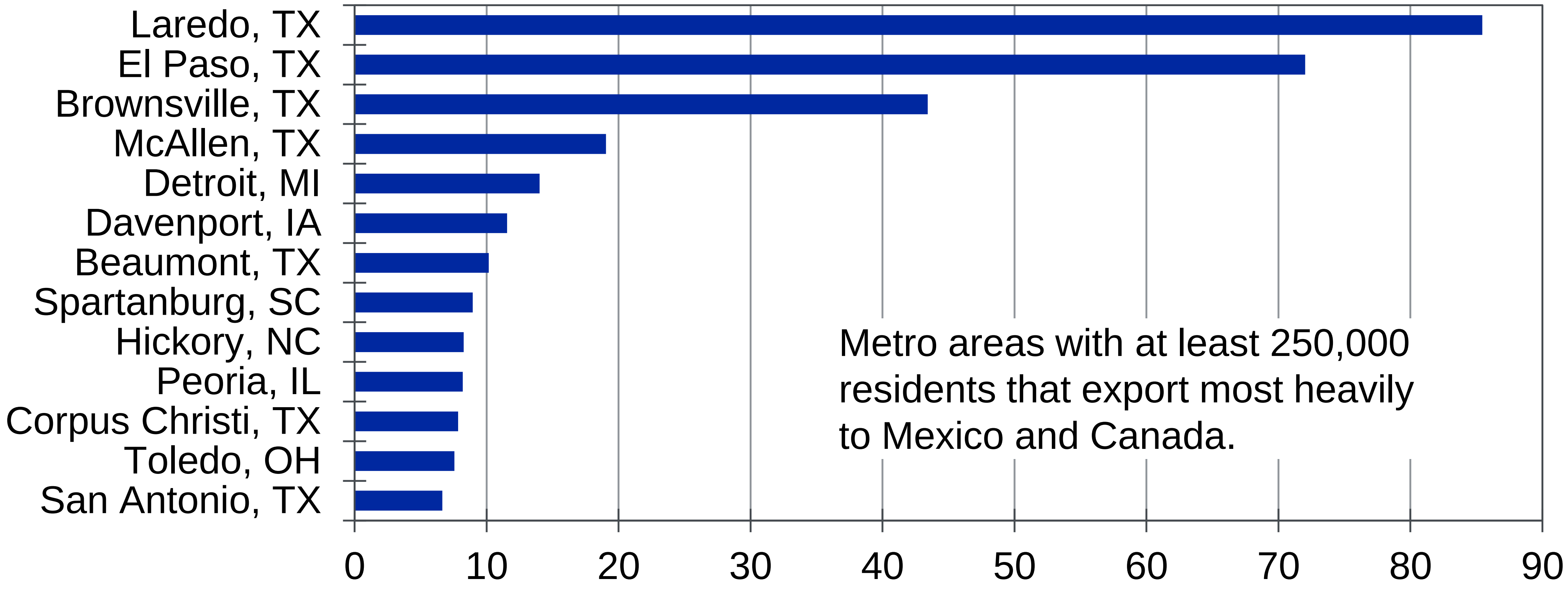
…And Exposure to Downside Risks

Unemployment rate, %, under a deep recession



Border Towns and Auto Hubs at Risk From Trade War…

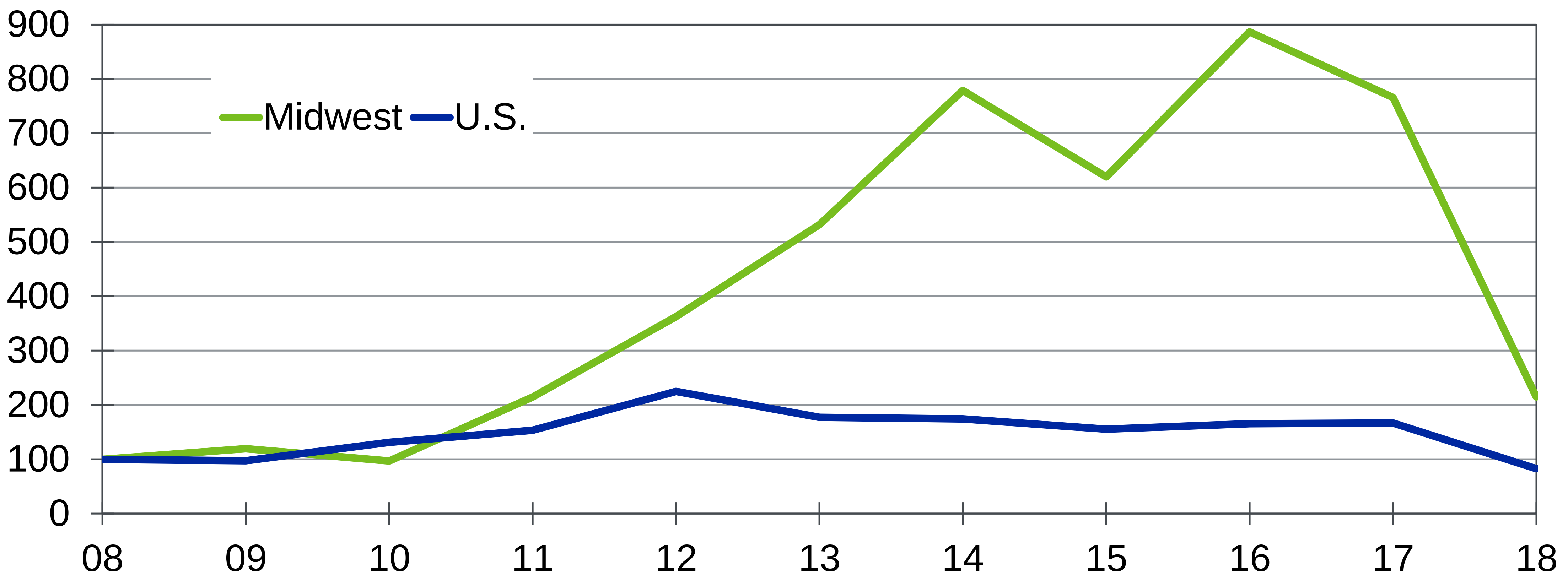
North American exports as share of GDP, 5-yr avg, 2013-2017, %



Sources: International Trade Administration, BEA, Moody's Analytics

… As Is Farm Output in Midwest

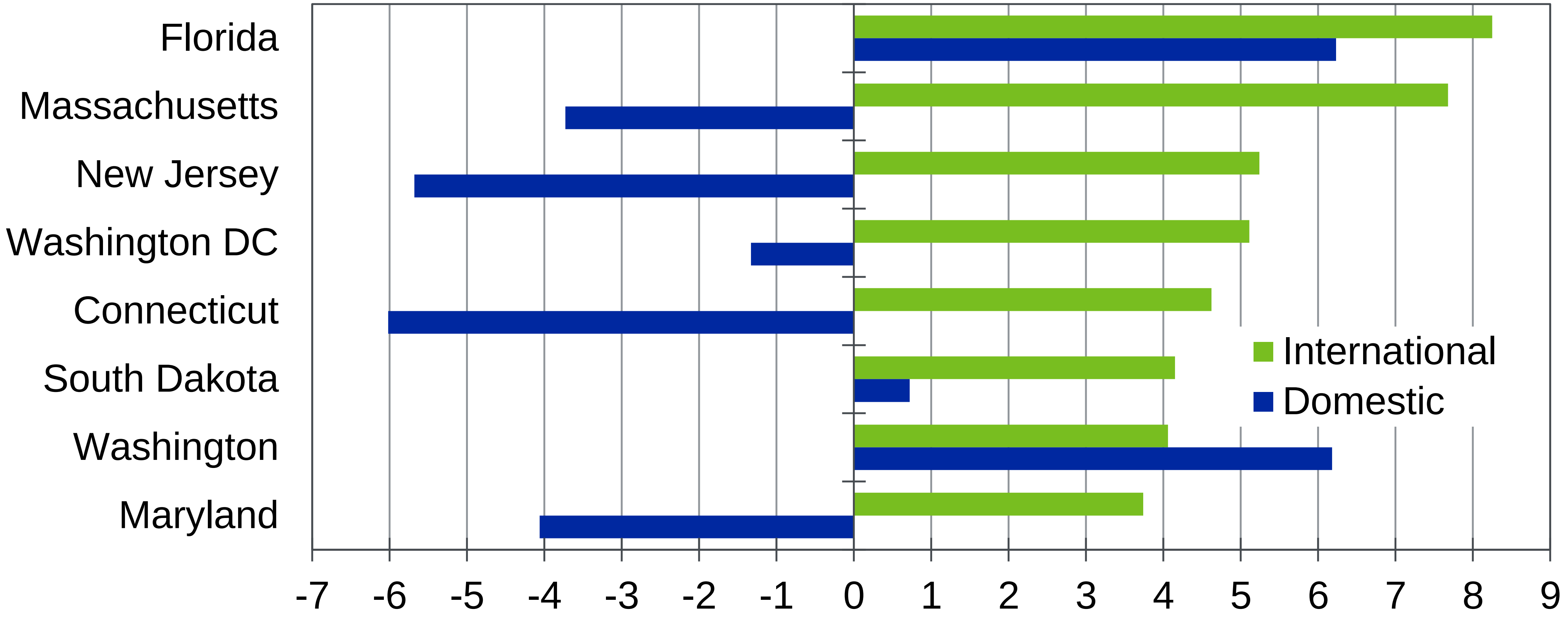
Crop exports to China, YTD through Oct, 2008=100



Sources: Census Bureau, Moody's Analytics

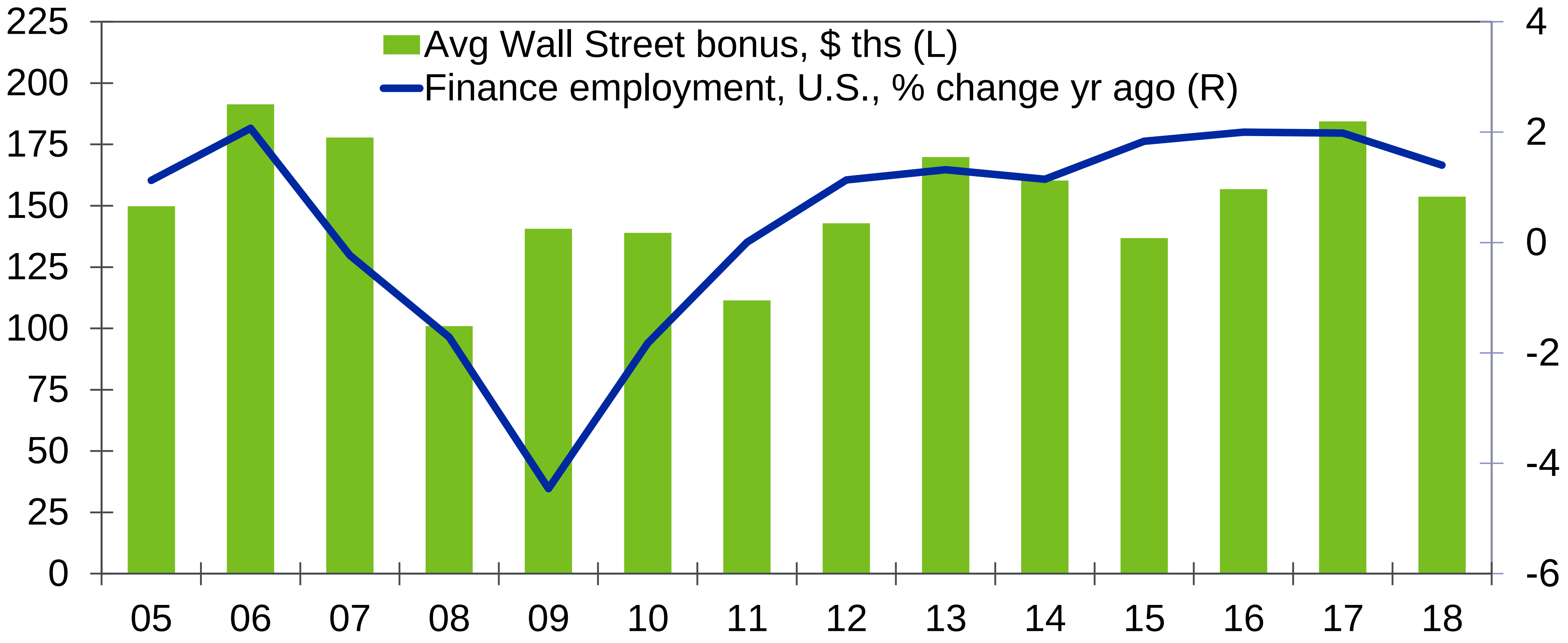
Florida, Northeast Exposed to Immigration Clamp Down

Net migration per 1,000 residents, 2018, #



Sources: Census Bureau, Moody's Analytics

Northeast Incomes Rely on Financial Services Health



Sources: New York State Comptroller, BLS, Moody's Analytics

Qualitative Overlays to Account for Regional Diff.

Assume that the starting historical portfolio loss rate is 1.20%
Apply qualitative adjustments to the regional sub-segments

Region	Adjustment for Current Conditions	Adjustment for Future Conditions	Adjusted Loss Rate
San Antonio, TX	-0.55%	-0.10%	0.55%
El Paso, TX	-0.25%	0.35%	1.30%
Detroit, MI	-0.10%	0.35%	1.45%
Peoria, IL	0.25%	0.50%	1.95%

For More Information

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