Minnesota's Labor Market Challenges

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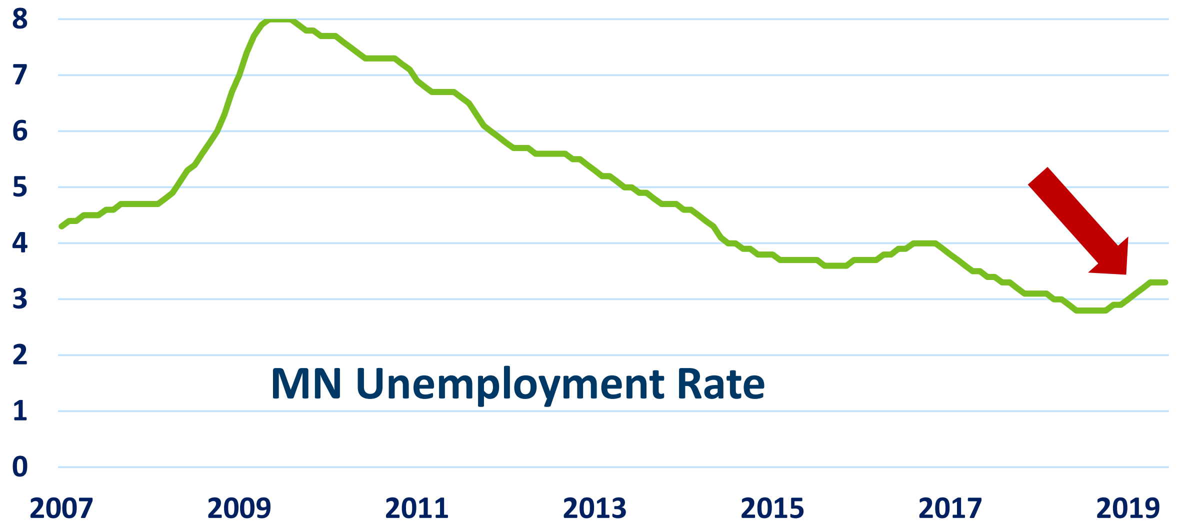
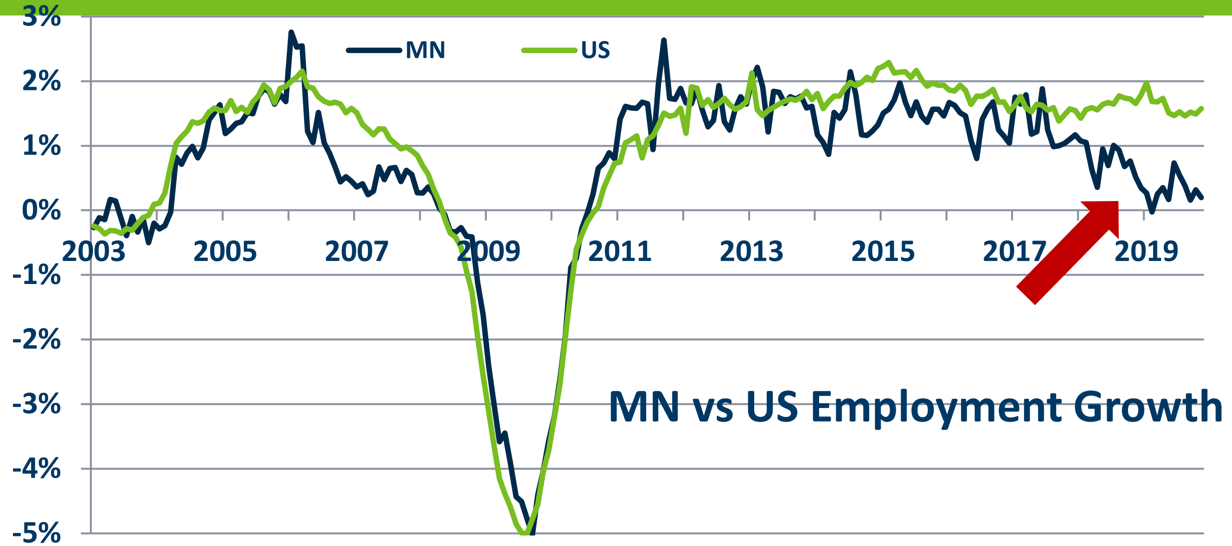
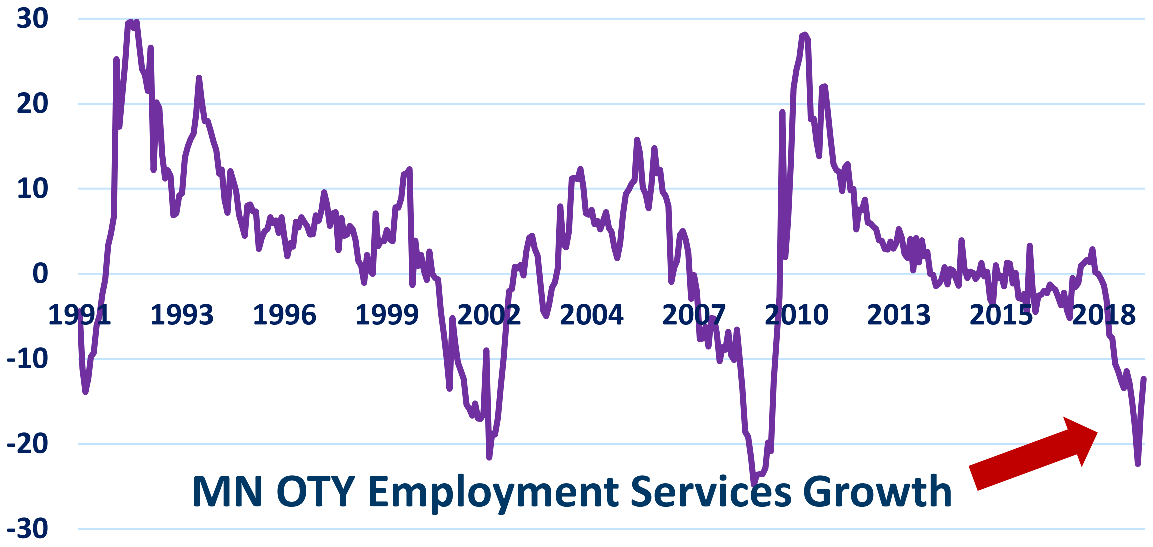
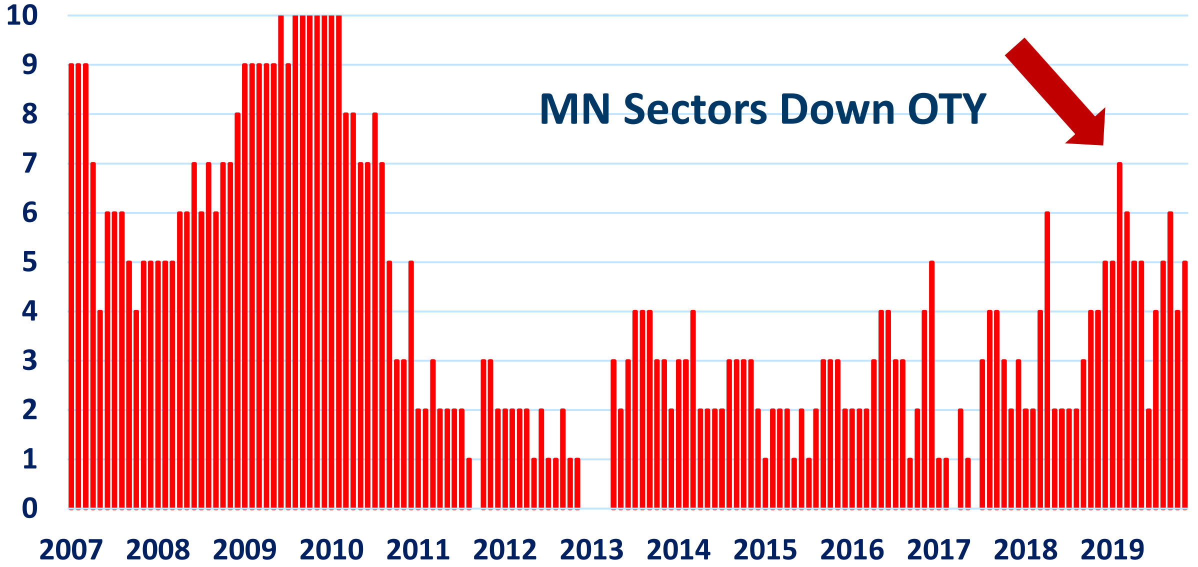
Signs of a Softening State Economy?





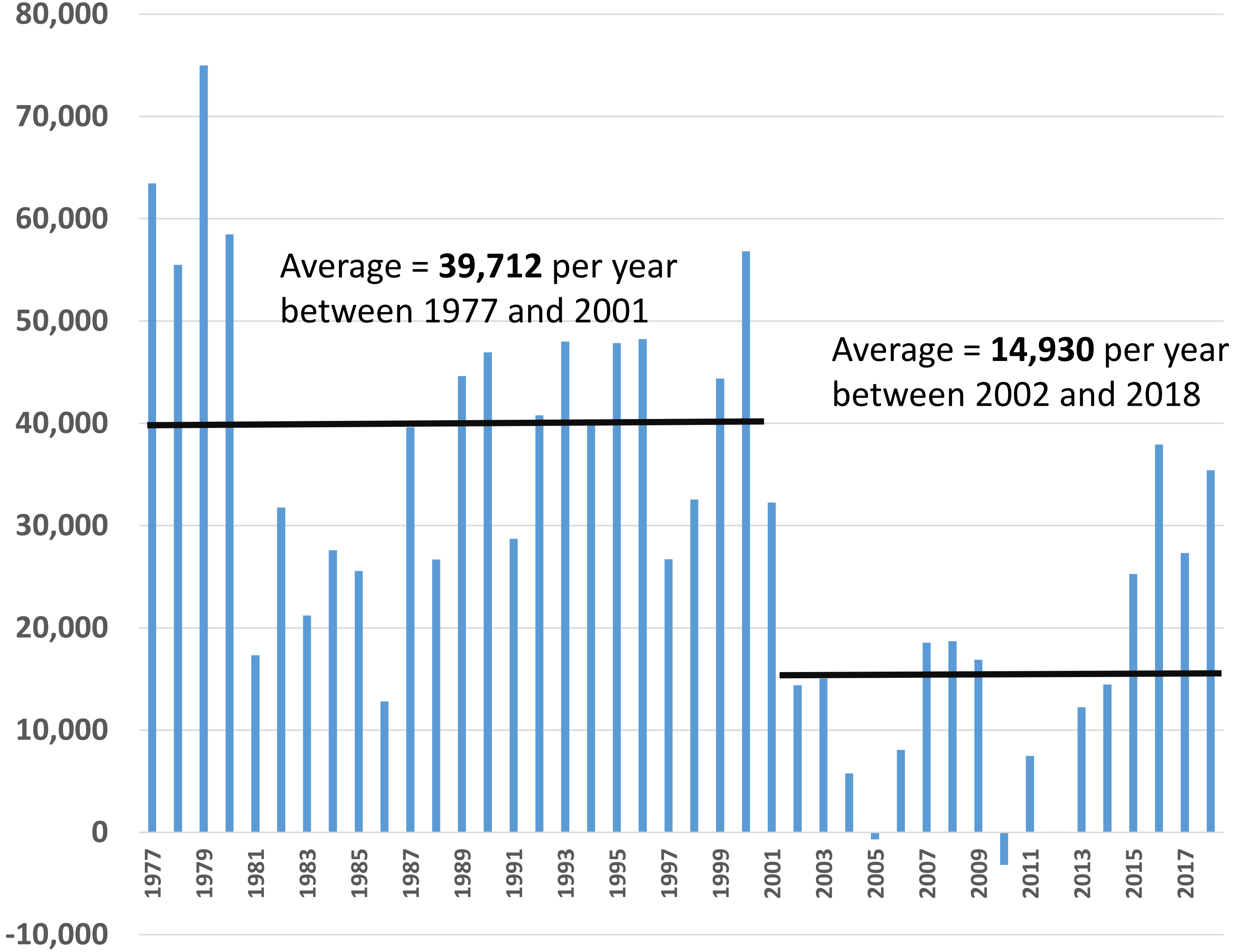




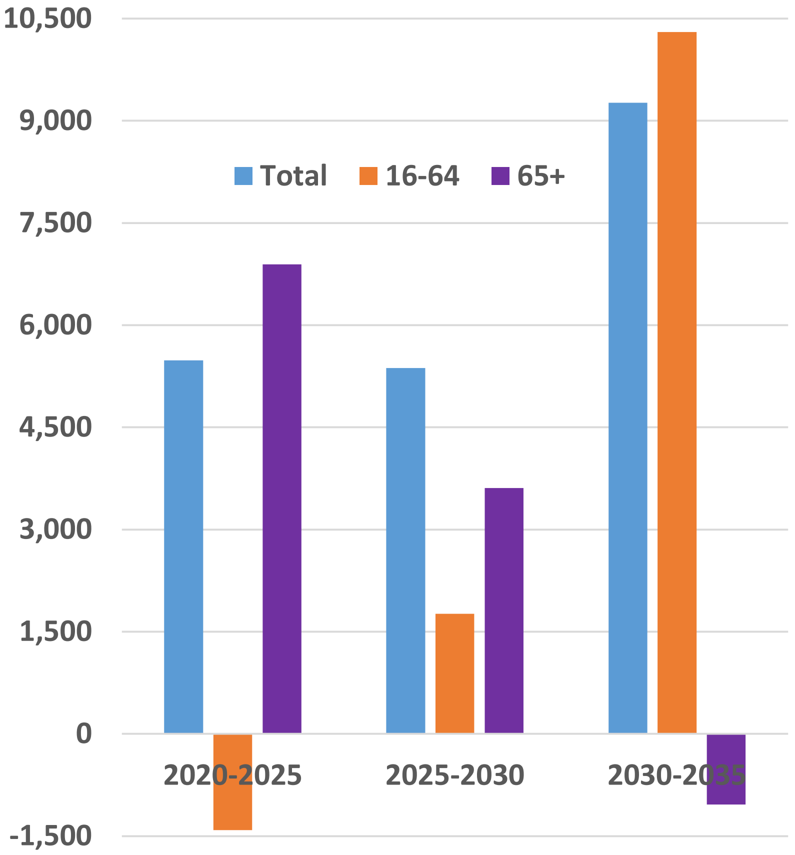
Two Significant Long-Term Challenges:

1. Demographic Shifts and Consequences for Labor Force Growth
2. Rapid and Pervasive Technological Change Impacting Work

Minnesota's Labor Force Growth has Slowed Significantly Since 2001



And is projected to slow further to <6,000 per year for the next decade



Native Born versus Foreign Born as Recent Source of Labor Force Growth (ACS 1-Year 2007 to 2018)

Labor Force Status (2007 to 2018)	Native Born		Foreign Born		Foreign Born as Share of Total Change
	Change	Growth	Change	Growth	
Employment	110,110	4.4%	120,893	55.45%	52.3%
Unemployment	-59,312	-40.0%	512	-3.1%	0.9%
Labor Force	59,798	1.9%	120,381	51.2%	70.3%
Not In labor Force	153,966	14.2%	40,928	44.4%	21.0%
Population (16+)	204,764	5.4%	161,309	49.3%	44.1%

Over the past ten years, over **two-thirds** of our labor force growth has been immigrants.
Labor force growth of foreign born has been **27 times** that of native born.
That ~15,000/year growth would have been ~5,000/year!

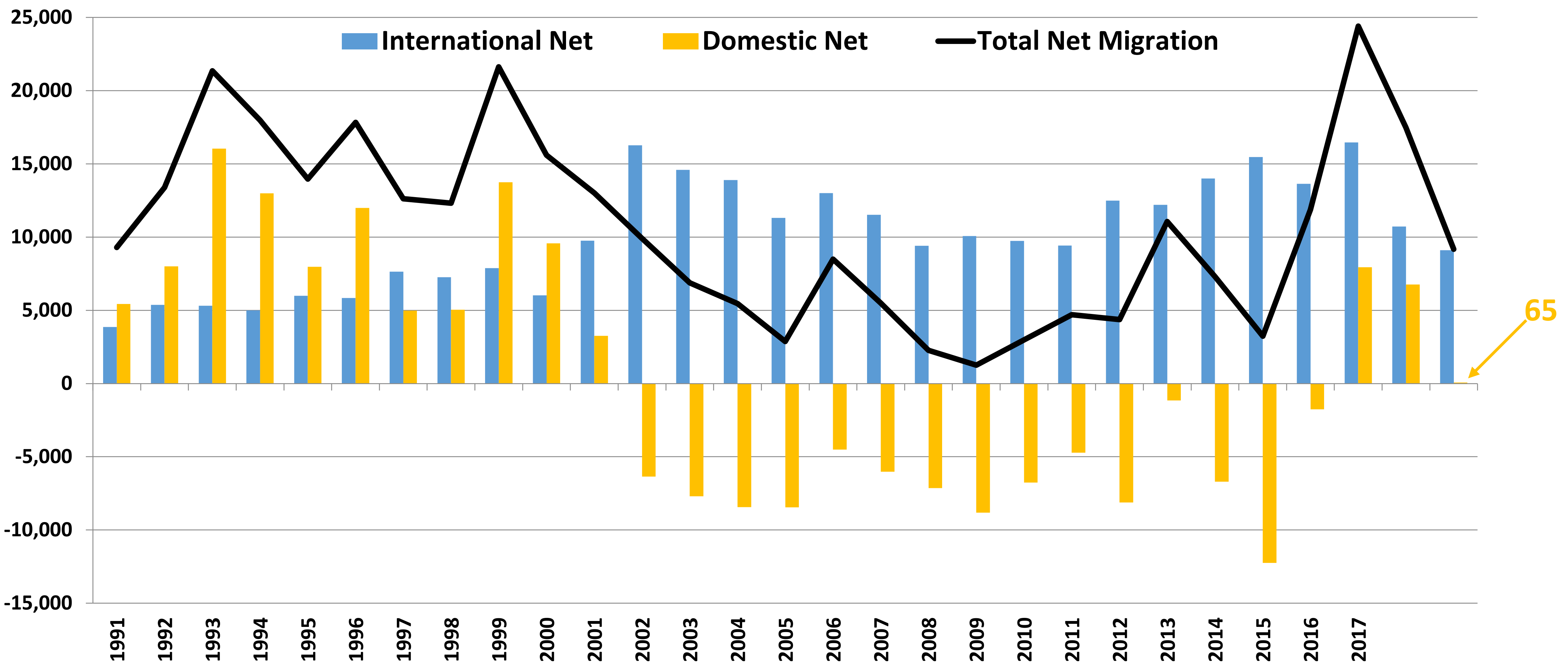
BUT, in 2018, foreign born labor force rose by 3,050
after averaging ~12,000 over the previous ten years! This should be worrying!

White Non-Hispanic versus Minorities as Recent Source of Labor Force Growth
ACS 1-Year 2007 to 2018

Labor Force Status (2007 to 2018)	White Non-Hispanic		Minority		Minorities as Share of Total
	Change	Growth	Change	Growth	
Employment	**4,570**	**0.2%**	**226,433**	**72.0%**	**98.0%**
Unemployment	**-55,921**	**-45.4%**	**-3,903**	**-9.3%**	**6.5%**
Labor Force	**-51,351**	**-2.0%**	**222,530**	**62.4%**	**130.0%**
Not In labor Force	**125,515**	**12.2%**	**69,379**	**47.7%**	**35.6%**
Population (16+)	**74,164**	**2.1%**	**291,909**	**58.2%**	**79.7%**

Over the past ten years, essentially all of our employment growth and **ALL** of our labor force growth **and then some** were people of color.

That ~15,000/year growth would have disappeared all together and fallen ~5,000/year!



One Reason for Cautious Optimism – Recent Census Estimates Show a Turn-around in Domestic Net Migration since ’17

Will that continue? Doesn’t Look Good!

Impact of Technology

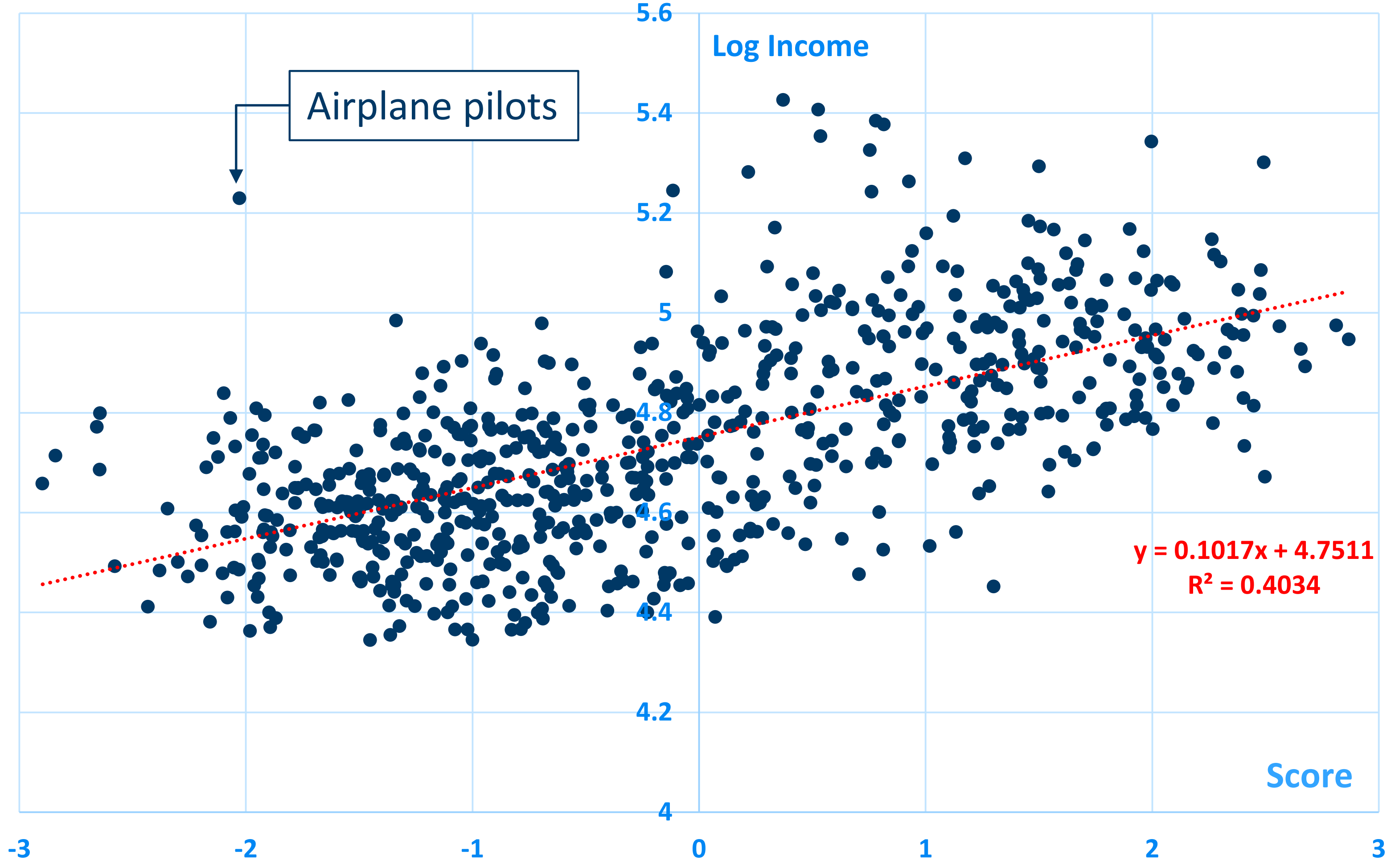
- Much attention and concern around artificial intelligence and its impact on employment
- Numerous efforts to measure this impact, with widely disparate results
- For better or worse, I have added to that mix, with promising results!
- Based on task-based decomposition of occupations as presented by Autor and others
- Result is an occupational score based on cognitive versus manual and routine versus nonroutine task composition

Employment-weighted average of occupational scores based on US occ/industry staffing patterns

High scores indicate predominant occupations are relatively more cognitive/abstract, interpersonal and/or nonroutine = technology is complimentary, enhances employment

Low scores suggest more routine and/or manual tasks comprise predominant occupations = technology tends to substitute for labor

US Major Industry Sector Scores and Rank		
Industry	US Sector Scores	US Sector Rank
Educational services	70.8	1
Professional, scientific, and technical services	27.4	2
Finance and insurance	15.4	3
Management of companies and enterprises	8.2	4
Information	3.6	5
Healthcare and social assistance	0.1	6
Utilities	-0.5	7
Agriculture, forestry, fishing and hunting	-1.2	8
Mining, quarrying, and oil and gas extraction	-2.8	9
Real estate and rental and leasing	-4.4	10
Arts, entertainment, and recreation	-7.6	11
Government	-7.7	12
Other services	-9.4	13
Wholesale trade	-10.4	14
Construction	-34.7	15
Transportation and warehousing	-36.7	16
Administrative support/waste management	-39.7	17
Retail trade	-64.0	18
Manufacturing	-68.6	19



Occupations with higher wages tend to have higher scores, but not always.

See airplane pilots – this illustrates an important point – low scores don't necessarily mean the job will be eliminated, but rather that many of their tasks will be eliminated, leaving them to focus on other non-automatable tasks.

Many health care professionals fall into this category.

Employment-weighted average of occupational scores based on state occupational employment

States with high concentrations of ed services, pro. services, finance, corporate hq’s, etc, score high while those with concentrations in manufacturing, leisure & hospitality, etc. score lower.

Rural areas tend to have industry mixes that also yield lower scores

Substate Area	Region Score
Twin Cities Metro (7 County)	-115.1
Northwest Minnesota	-252.7
Northeast Minnesota	-287.9
Southeast Minnesota	-311.0
Central Minnesota	-319.4
Southwest Minnesota	-391.7

States Ranked by Automation Scores

Rank	State	State Score
1	District of Columbia	388.6
2	Massachusetts	-45.0
3	Maryland	-111.4
⋮		
13	Minnesota	-208.3
⋮		
36	Michigan	-300.1
⋮		
38	Montana	-310.4
⋮		
41	Wisconsin	-331.6
42	North Dakota	-332.7
⋮		
46	South Dakota	-347.7
⋮		
52	Mississippi	-388.4
53	Wyoming	-398.6
54	Nevada	-434.1

Summary:

- Demographic shifts have slowed labor force growth and led to foreign-born and people of color being the source of most if not all our labor force growth.
- This will continue into the foreseeable future (at least ten years).
- They often face obstacles to employment such as lack of education, language barriers, lack of social/professional networks, low paying employment (which can lead to issues around affordable child care, transportation, housing and others).
- If we are to grow our economy, allow businesses to expand, attract new businesses, grow our tax base, etc., we must lower these barriers and integrate foreign born and people of color into our workforce more effectively than we have.
- Recent trends and policy actions have been running counter to these needs.

Summary (continued):

- **Technological advances in machine learning, big data, cloud computing and computational capacity are exposing a growing share of jobs to disruption.**
- **And the rate at which these advances are occurring and being applied is rapid!**
- **Essentially all occupations will be impacted, some positively and some negatively in terms of employment, but tasks involved and hence skills required will change rapidly in the years ahead.**
- **Effective reskilling/retraining is paramount, especially for the immigrants and minorities that are workforce of the future.**
- **Success in the future requires:**
    1. **Promoting immigration**
    2. **Lowering barriers to workforce entry, especially for disadvantaged populations**
    3. **Ongoing retraining of workers as technology changes job requirements**

Thank You!