Higher Education and the Workforce
Closing the Gaps by 2015
(its 2013 –what now?)

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Why worry?
Won't market forces take care of all problems?

Education is an odd 'market' defined by longer time horizons and very particular information problems.

Markets do not operate efficiently under these conditions.

We attempt to 'solve' the market problems with information, system alignment, and projections.

Closing the gaps
Why do we need more post secondary education?

The high school economy of our parents is gone.

This once vibrant economic engine has been replaced by a modern and modernizing post-secondary economy.

The High School Economy has broken down

Currently there are only 3 in 10 jobs, nationally and almost solely for men, that provide family sustaining earnings to high school graduates – those above $35,000. This will continue to diminish over time.

Access to a middle class lifestyle has plummeted for those without post-secondary education

In 1970, 65% of High School Graduate headed families were in the middle class, which declined to just above 40% by 2008.

Texas is no exception: Low educated households have lost traction while post-secondary ones have held tight to the middle with some upward movement

Income Deciles

CPS 92-5	all	Bottom 3	Middle 4	Top 3
1.) LE HS	100%	40%	45%	16%
2.) Some c	100%	23%	46%	31%
3.)AA	100%	15%	46%	39%
4.)BA	100%	11%	36%	53%
5.)grad	100%	6%	31%	62%

ACS 09-11	all	Bottom 3	Middle 4	Top 3
1.) LE HS	100%	57%	35%	8%
2.) Some c	100%	35%	45%	20%
3.)AA	100%	23%	48%	28%
4.)BA	100%	12%	40%	49%
5.)grad	100%	7%	29%	65%

We are in transition to a post-secondary economy

The post secondary economy is driven by increasing skill requirements brought on by an ever more complex workplace and global economy.

The need to keep up with the quickly moving world sets the pace

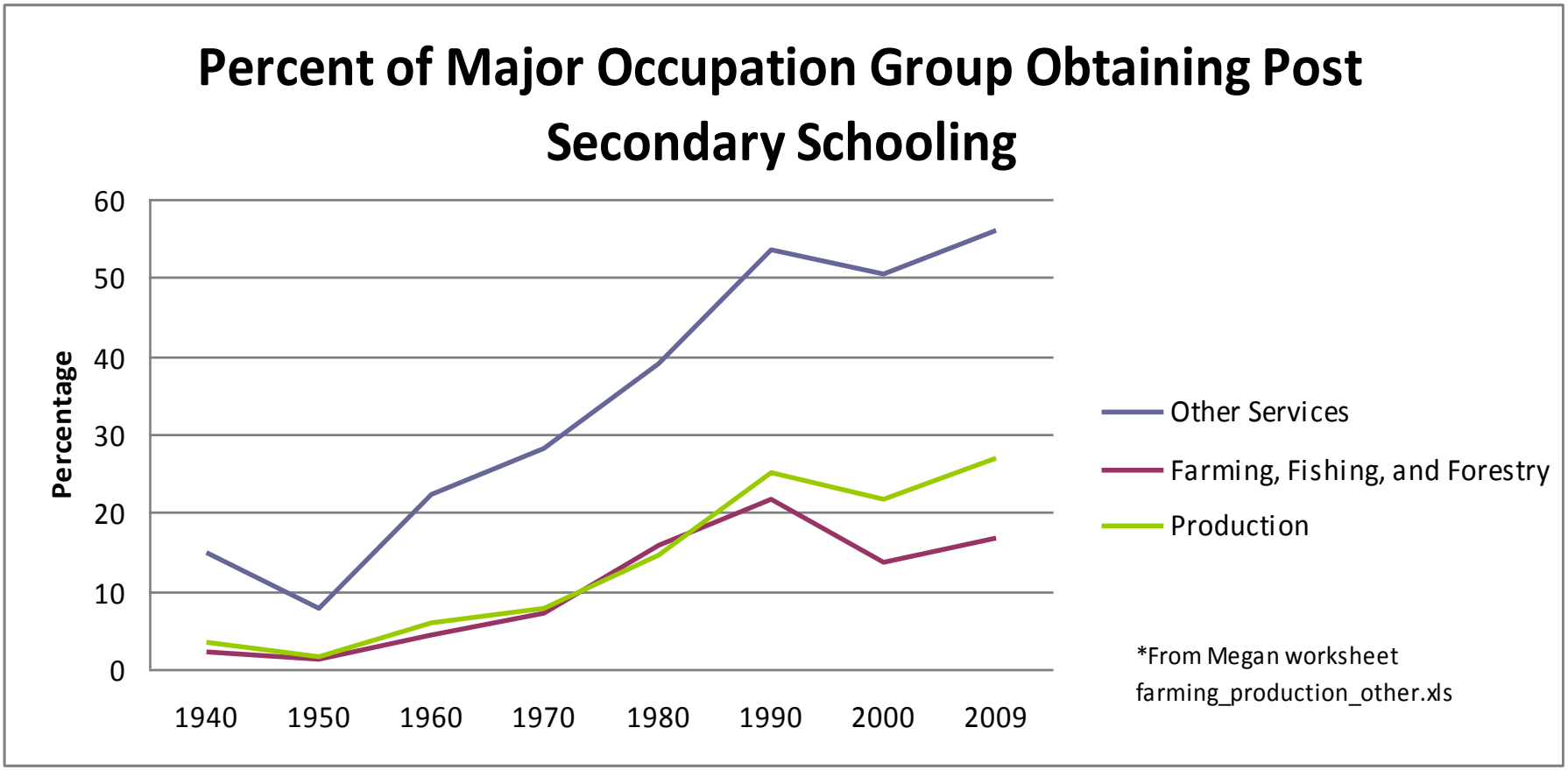
Skill biased technological change is driving the national economy and is key to our Global competitiveness. 2/3rds of increased education demand reflects skill-bias.

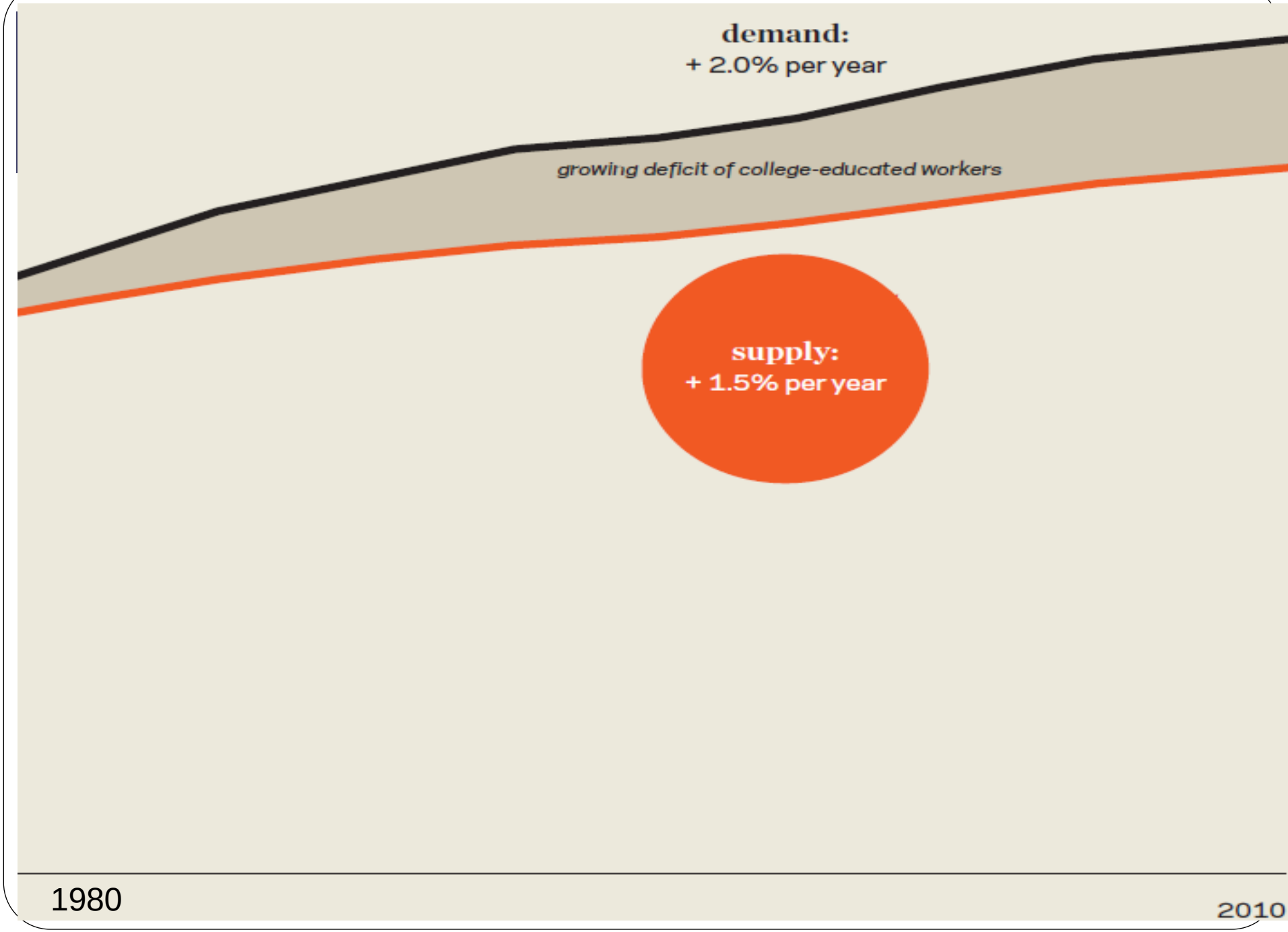
EXHIBIT A Distribution of education among auto mechanics in three eras.[2]

	1968–1971	1988–1991	2004–2007
High school dropouts	58%	29%	19%
High school graduates	34%	52%	47%
Some college/Associate's degree	6%	16%	30%
Bachelor's degree or better	1%	3%	4%

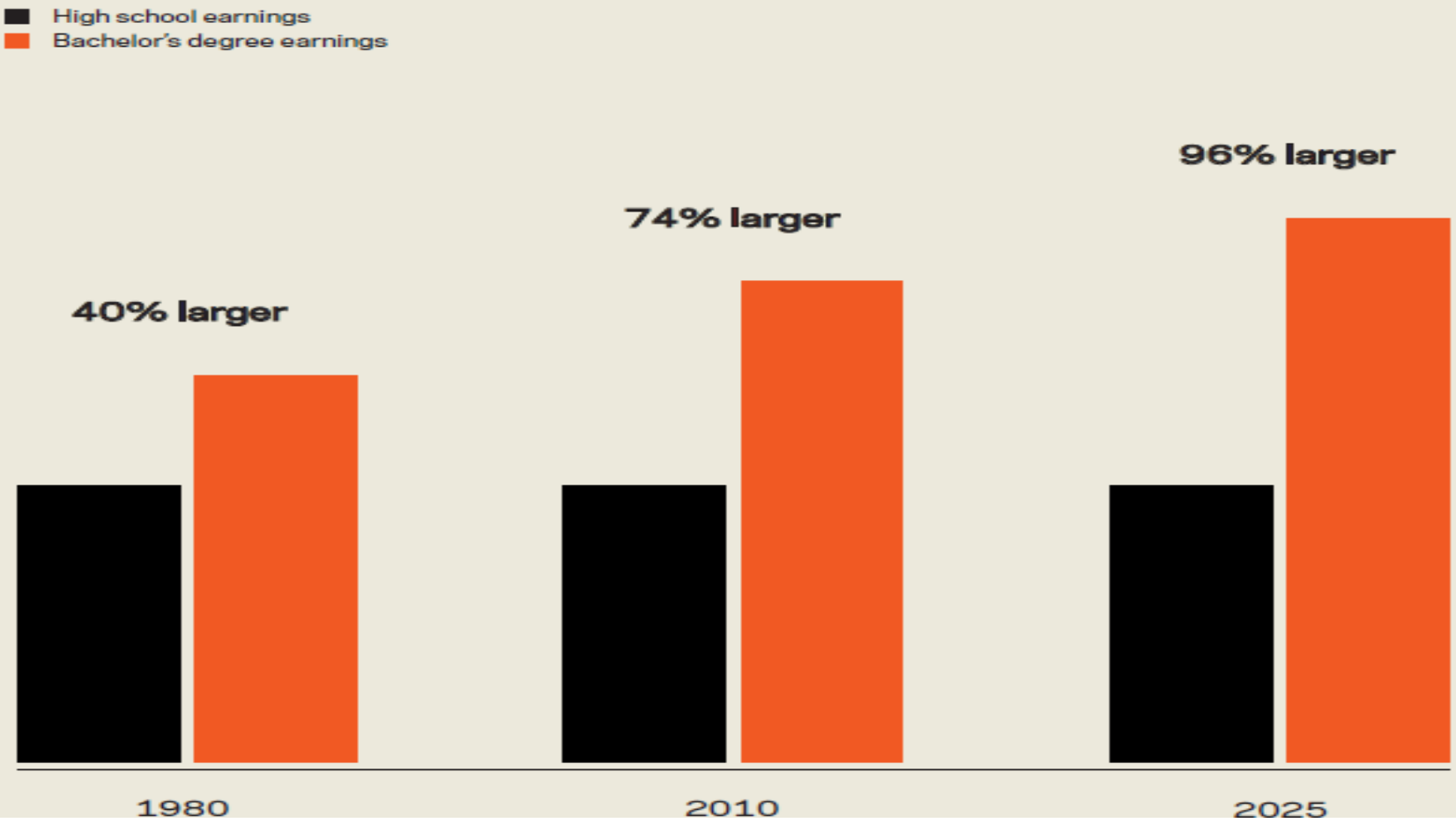
Author's analysis of March CPS data, various years

Not even traditional hands-on occupations are immune

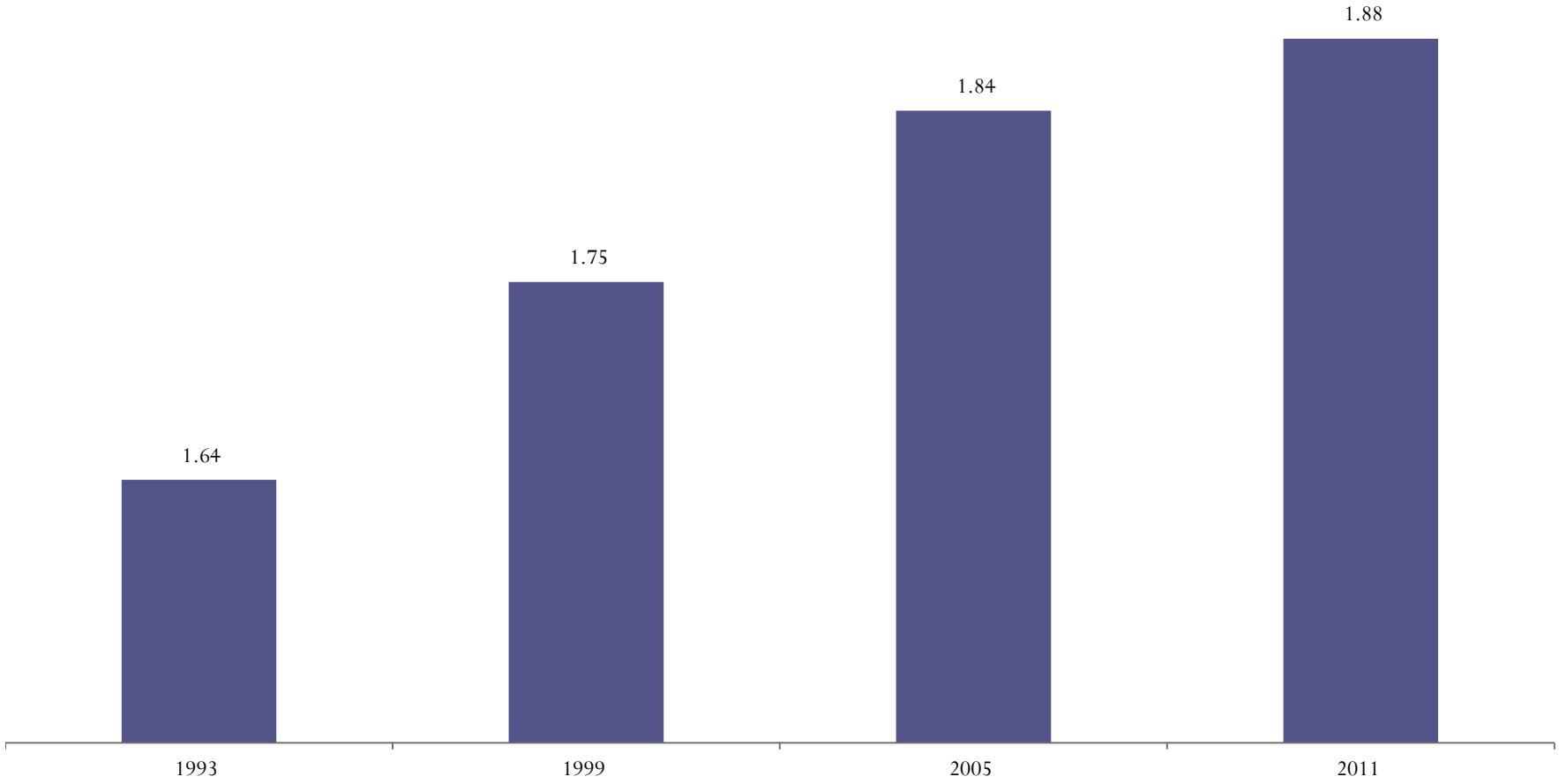



demand:
+ 2.0% per year
growing deficit of college-educated workers
supply:
+ 1.5% per year
1980
2010

If we continue to underproduce college-educated workers, the large and growing gap between the earnings of Americans of different educational attainment will grow even wider.



BA wage premium($BA/$HS) in Texas has been also steadily growing with a slight slow down through the recession



Employers know what they need

Wages and wage growth signal demand and increased demand for workers.

Employer demand for a skilled workforce is not being met – the wage premium afforded BAs relative to HS has grown from 40% in 1980 to 74% nationally; Higher in Texas.

This is not a temporary phenomenon – employers might make mistakes on productivity one year to the next – but not for 30 years running

Education Matters, Texas Prime Age (25-54) population and workforce

edc	All	Full time	Part Time	% of Employed	% of unemployed	Not in Labor Force
	100%	100%	100%	100%	100%	100%
1.)dropout	18%	13%	23%	15%	25%	27%
2.)HS grad	27%	26%	26%	26%	31%	30%
3.) Some c	18%	18%	18%	17%	20%	18%
4.)AA	9%	9%	8%	9%	8%	8%
5.) BA	20%	24%	17%	23%	12%	14%
6.)Grad	8%	10%	7%	10%	4%	4%
Post secondary	37%	43%	32%	41%	23%	25%
edc	All	Full time	Part Time	Employment-pop ration	Unemployment rate	Not in Labor Force
	100%	59%	21%	75%	7.2%	20%
1.)dropout	100%	43%	27%	63%	12.1%	30%
2.)HS grad	100%	58%	20%	72%	8.5%	21%
3.) Some c	100%	59%	22%	74%	8.3%	20%
4.)AA	100%	64%	20%	77%	6.5%	18%
5.) BA	100%	69%	18%	84%	3.7%	13%
6.)Grad	100%	74%	18%	88%	2.7%	10%

As post-secondary share of prime-age employment shifted from 37% to 41% the contribution to total prime age earning in Texas grew to 58%

edc	% of Texas Total Wages 1993	% of Texas Total Wages 2011
	100%	100%
1.)dropout	7%	8%
2.)HS grad	24%	19%
3.) Some c	22%	15%
4.)AA	7%	9%
5.) BA	26%	30%
6.)Grad	14%	18%
Total PSE share	46%	58%

More education leads to more productive workforce which provides better earnings to the workforce and improves the state economy

IMPROVING

STATE ECONOMY

↑

BETTER WAGES

↑

PRODUCTIVE WORKFORCE

↑

EDUCATION

Setting Education Goals

The logic is clear but we need be wary of a “build it and they will come” mentality.

Education and training without alignment with the labor market can easily led to unemployment.

Projections models give us one view but careful coordination with state economic development policy as well as national/regional and global trends is very important.

Alignment Between Workforce and Education

Cautions and Promise

Caution - Measurement

TABLE 1 Comparison of BLS education and training requirements and education among employed workers in 1996 and 2008.

Sources: Silvestri, G. (1997), "Occupational employment projections to 2006," Monthly Labor Review, *Table 6, p. 82, Nov. 1997. BLS; CPS March Supplement, various years; Lacey, A. and B. Wright (2009),"Occupational employment projections to 2018,"* Monthly Labor Review, *Table 3, p. 88, Nov. 2009*

	BLS 1996		Labor Market 1996		BLS 2008		Labor Market 2008	
	%	#	%	#	%	#	%	#
Postsecondary degrees	25%	33,008	34.3%	45,397	25.1%	37,884	40.1%	60,524
1st professional degree	1.3%	1,707	1.6%	2,118	1.3%	2,001	1.7%	2,566
Doctoral degree	0.8%	1,016	1.1%	1,456	1.4%	2,085	1.4%	2,113
Master's degree	1%	1,371	5.9%	7,809	1.7%	2,531	7.3%	11,018
Bachelor's degree or better, with work experience	6.8%	8,971	NA	NA	4.3%	6,516	NA	NA
Bachelor's degree	12%	15,821	17.6%	23,294	12.3%	18,584	20.4%	30,790
Associate's degree	3.1%	4,122	8.1%	10,721	4.1%	6,129	9.3%	14,037
Post 2nd vocational training	6.1%	8,091	NA		5.8%	8,787		
Work experience in a related occupation	7.5%	9,966			9.6%	14,517		
Long-term on-the-job-training	9.3%	12,373			7.2%	10,815		
Moderate-term on-the-job-training	12.7%	16,792			16.3%	24,569		
Short-term on-the-job-training	39.4%	52,125			36%	54,396		

Note: BLS has 132.4 million jobs listed in 1996. A 9.3 percentage point difference between the BLS estimate and the actual labor force equates to 12.3 million workers. In 2008, employment is given as 150,932 and the 15 percentage point difference between the BLS estimate and the actual labor force equates to a 22.6 million difference. All calculations have used BLS employment numbers multiplied by shares calculated in the labor market.

First, a discussion need be had in Texas: Employment vs. BLS Education and Training Requirements has a one million, or 8.5% of the labor force, difference – Bigger than a breadbox

2008	ACS	BLS	
PhD	1.0%	2.1%	
Prof	1.5%	1.0%	
MA	5.8%	1.5%	
BA	18.2%	16.4%	
AA	6.7%	3.7%	
Total PSE	33.2%	24.7%	8.5%
Recent changes in BLS method do not affect the general conclusion. Nationally, BLS method leads, erroneously, to the conclusion 70% of jobs only need HS or LESS			1,004,837

Education Targeting need be coordinated with Economic Development

Build it and will they come?

1.) Historic increases in wages for with post-secondary degrees is one indication that more workers with more education are in demand.

2.) Policy intervention –Bring the house together –if the state aligns economic development with the education goal then, and only then, are the risks of educating into unemployment low.

(LED greenfield example)

Alignment is key

Coordination with workforce is essential, without this, increased education can just mean increased unemployment and higher levels of mismatch.

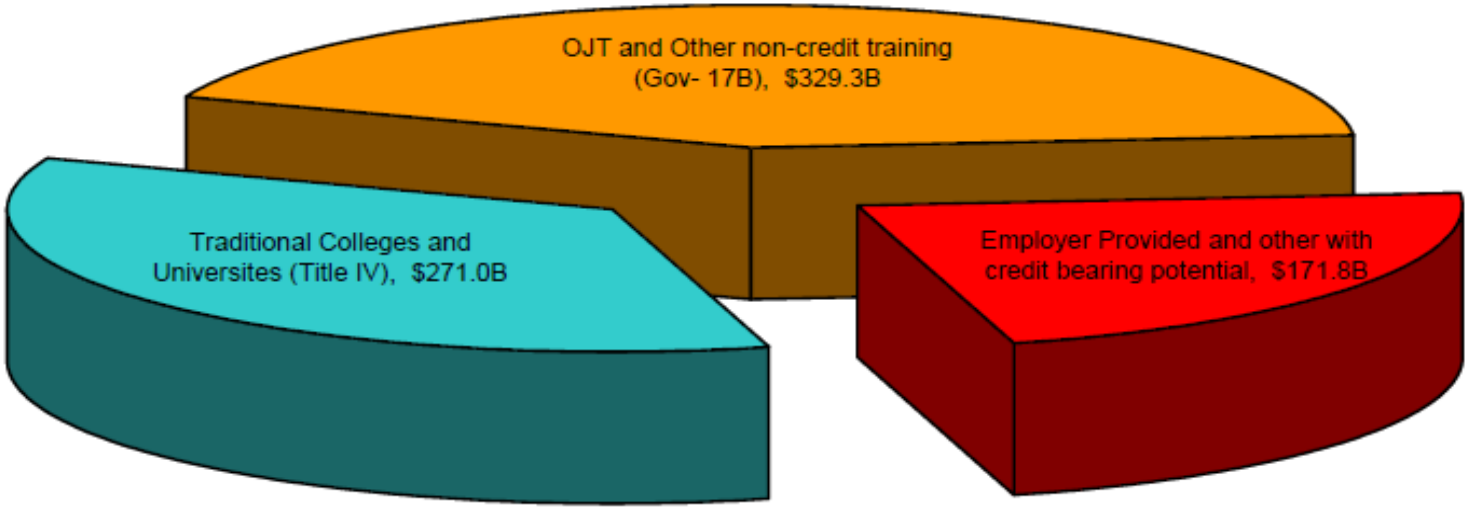
Point of fact:

Workers with certificates earn 37% more when working in field

Consider a good program that considers enrollment caps based on projected demand vs. an unrestricted program

Better alignment between education will better prepare workers and reduce costs of workplace training

Figure 4: The Three Legs of the Stool - Education and Training Costs are roughly Equal between the Formal Post-Secondary System and Employer Provided OJT, with formal Employer Provided Education and Training Trailing Slightly



Education is not an end in itself but a means to an end

Coordination between education and workforce development can help increase alignment between Schooling and foundation skills and occupational/professional preparation.

Honing the linkages between transcript data and workforce data can help build better stackable certificates based on empirical evidence of career pathways, ladders, and lattices. Research can expose actionable levers to increase completions

Using projections data, potentially enhanced by emerging data like internet job postings data, can help adjust student expectations and enrollment targeting to expected demand rather than data on yesterday's workplace. (lagged enrollment signals)

Education and Workforce should work together to see if occupation can be brought onto the data to enhance the ability to eek out skill requirements
(Industry is where you work Occupation is what you do).

Significant evidence exist that linking student expectation and curriculum development To the workplace can improve completion and enhance career readiness.

Educators are being tasked to be deliver workplace skills. Occupational utilization by key industries in Texas

		Const	Manuf non-durable	Manuf-durable	Retail Trade	Transport	Financial Activities	Professional Services	Admini Services	EducServices	Health Services	Food Services	Public Admin
Occupation	all												
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Management	**10%**	**11%**	**11%**	**13%**	**4%**	**8%**	**19%**	**15%**	**7%**	**7%**	**7%**	**17%**	**8%**
Business and Finance	5%	2%	5%	5%	3%	2%	23%	14%	5%	2%	2%	1%	9%
Education, training and library	7%	0%	0%	0%	0%	0%	0%	0%	0%	61%	3%	0%	1%
Health Practice	5%	0%	1%	0%	3%	0%	0%	2%	1%	2%	35%	0%	2%
Sales	10%	1%	4%	4%	51%	2%	17%	3%	4%	0%	0%	6%	0%
Office	13%	5%	10%	9%	16%	25%	32%	15%	17%	8%	13%	4%	18%
Construction and Extraction	8%	70%	2%	3%	1%	1%	0%	0%	2%	0%	0%	0%	1%
Production	6%	3%	39%	36%	4%	2%	0%	2%	3%	0%	1%	1%	1%
Transportation	6%	3%	9%	7%	7%	51%	0%	1%	7%	2%	1%	2%	1%

Education supply alignment with the labor market. Occupational Distribution across key industries

	Const	Manuf non-durable	Manuf-durable	Retail Trade	Transport	Financial Activities	Professional Services	Admini Services	EducServices	Health Services	Food Services	Public Admin
Occupation												
all	9%	4%	6%	10%	5%	5%	6%	5%	10%	12%	6%	5%
Management	9%	4%	8%	4%	4%	9%	9%	3%	6%	8%	10%	4%
Business and Finance	3%	4%	6%	6%	2%	23%	19%	5%	3%	5%	1%	8%
Education, training and library	0%	0%	0%	0%	0%	0%	0%	0%	90%	6%	0%	1%
Health Practice	0%	1%	0%	5%	0%	0%	3%	1%	4%	82%	0%	2%
Sales	1%	2%	3%	53%	1%	9%	2%	2%	0%	0%	3%	0%
Office	3%	3%	4%	12%	9%	12%	7%	6%	6%	12%	2%	7%
Construction and Extraction	82%	1%	2%	1%	1%	0%	0%	1%	1%	0%	0%	1%
Production	4%	25%	38%	6%	2%	0%	2%	3%	1%	1%	1%	1%
Transportation	4%	6%	7%	11%	40%	0%	1%	5%	3%	1%	2%	1%

Informational targeting to impacts student decision making

	Industry	FTFY Median Earnings		25-54									
Occupation	Construction	Manufacturing-nondurable	Manufacturing-durable	Retail Trade	Transportation	Financial Activities	Real Estate	Professional Services	Administrative Services	Educational Services	Health Services	Food Services	Public Administration
Management	67,965	91,641	90,686	61,094	66,185	64,966	49,974	84,956	58,442	60,457	56,427	38,693	63,131
Business and Finance	59,969	66,185	61,094	44,577	59,969	52,396	61,094	64,149	49,974	40,729	49,974	47,857	50,912
Education, training and library	56,003	50,381	64,149	42,766	65,496	49,894	56,970	64,149	25,887	44,977	19,856	19,548	50,381
Health Practice	49,974	74,961	65,167	40,729	.	54,412	42,766	34,982	49,974	48,975	58,442	29,631	52,948
Sales	56,003	61,094	67,965	32,244	42,766	48,975	42,766	64,966	40,729	30,547	58,040	18,328	31,565
Office	35,638	35,638	36,274	25,191	40,305	32,584	33,982	35,981	27,985	27,985	29,984	22,988	34,259
Construction and Extraction	29,485	49,974	35,638	30,229	50,912	24,183	33,602	41,978	30,184	33,982	28,985	37,987	41,035
Production	34,982	32,983	32,584	25,187	45,821	55,419	42,868	36,981	25,986	45,976	25,456	18,328	40,729
Transportation	33,252	30,229	30,229	25,456	39,979	30,547	34,213	30,547	27,985	23,419	22,988	20,365	39,297

Concluding slide to be added