The Spread of Good Jobs for the Less Skilled: 'Modern Retail' as the New Manufacturing

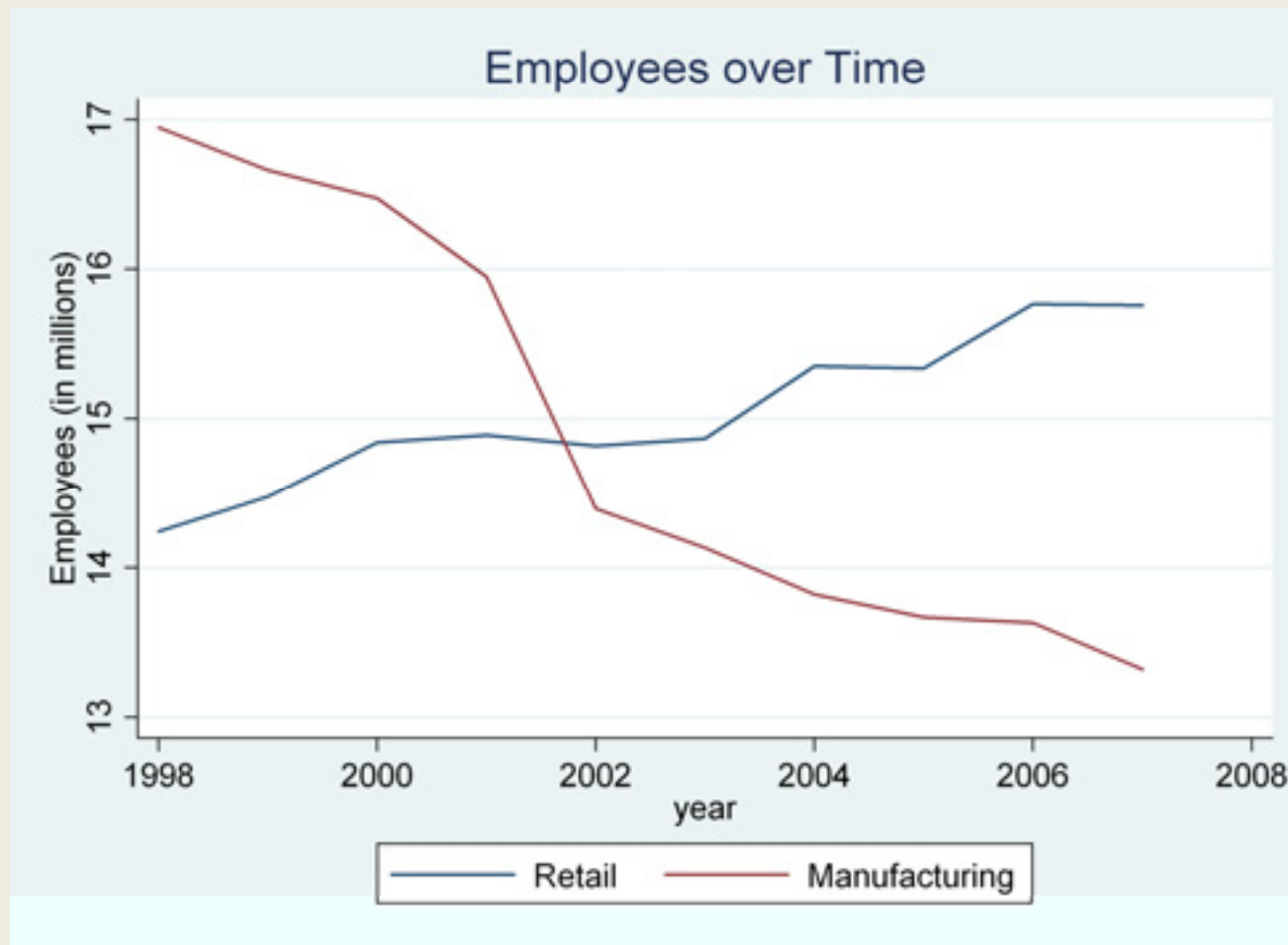Brianna Cardiff
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Kathryn Shaw

STANFORD
GRADUATE SCHOOL OF BUSINESS

Outline

I.   What do we know about manufacturing and retail?

II.   Define "modern retail."

III. Are there good jobs in modern retail?

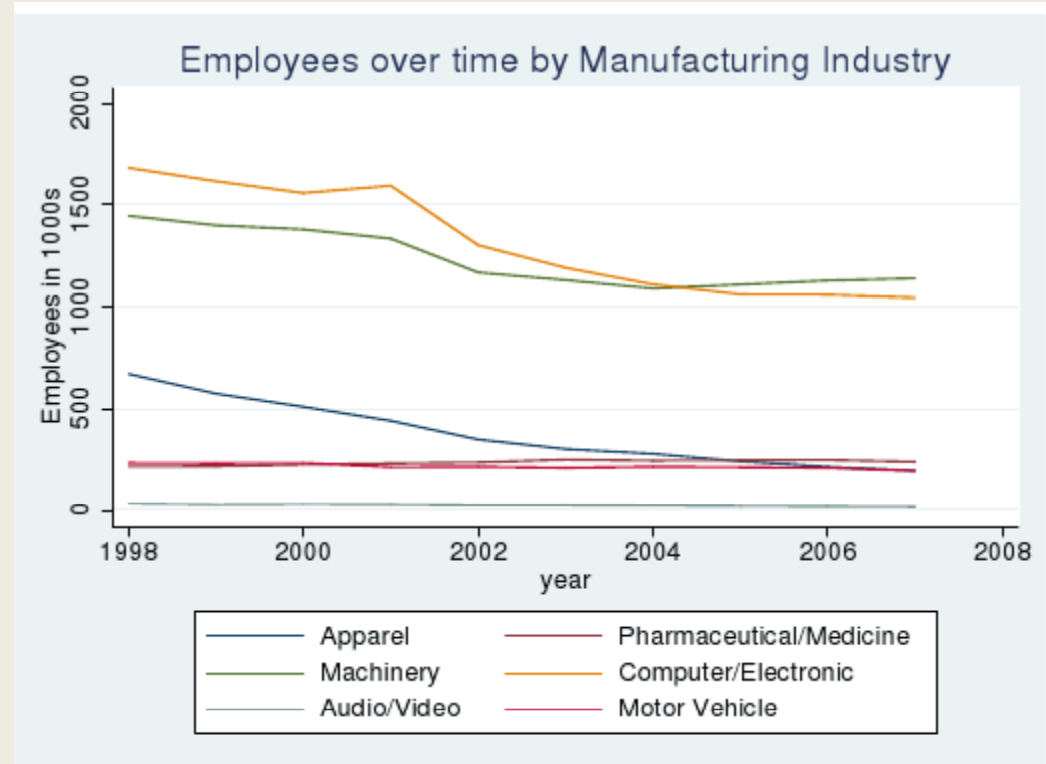IV.   Where is modern retail growing?

I. **What do we know about manufacturing? About retail?**

Employment Trends, Manufacturing and Retail

Source: County Business Patterns
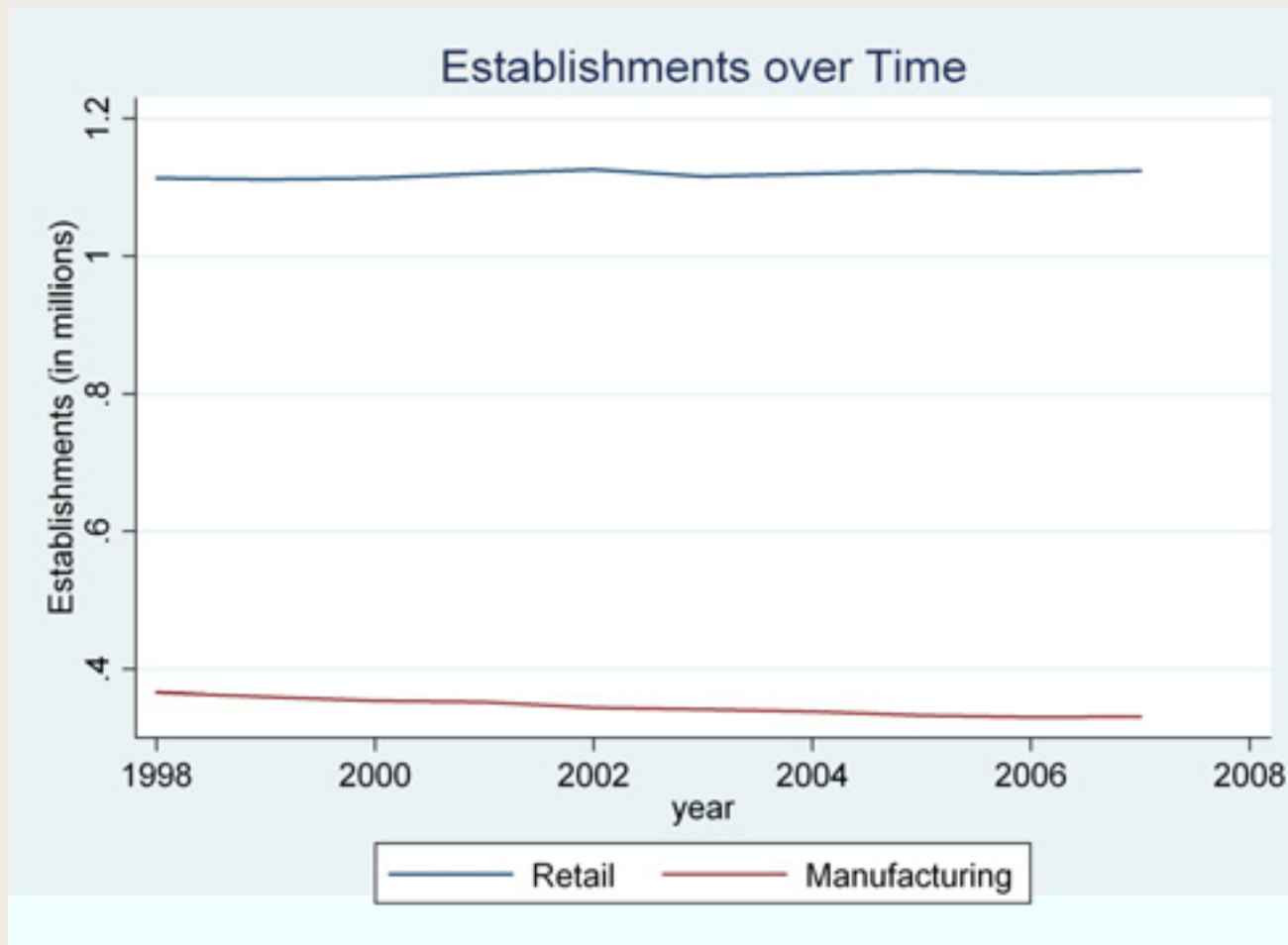
Employment Trends, Manufacturing Today

Advanced Modern Manufacturing – Pharma and Medicine – are growing, but very small numbers.

Source: County Business Patterns

Trends in Number of Establishments

Source: County Business Patterns

Trends in Number of Establishments, normalized to 1998 values

Normalized Establishments over Time
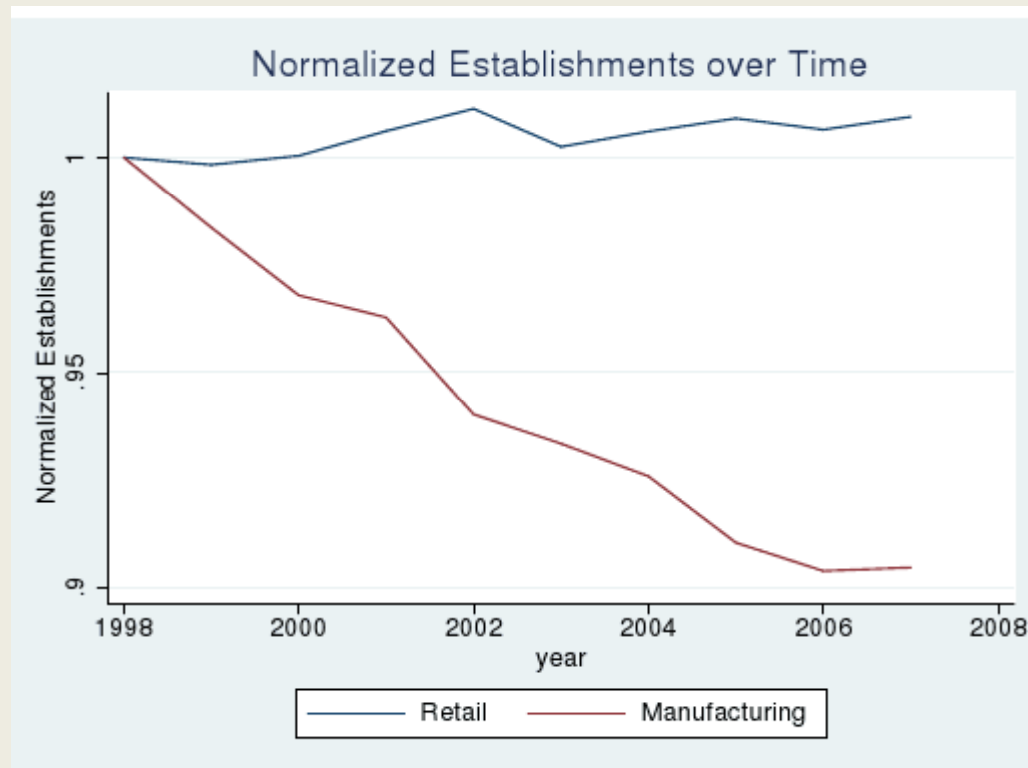
Source: County Business Patterns

Trends in Number of Establishments, Traditional Manufacturing Firms, normalized to 1998 values

Normalized Establishments over Time by Manufacturing Industry
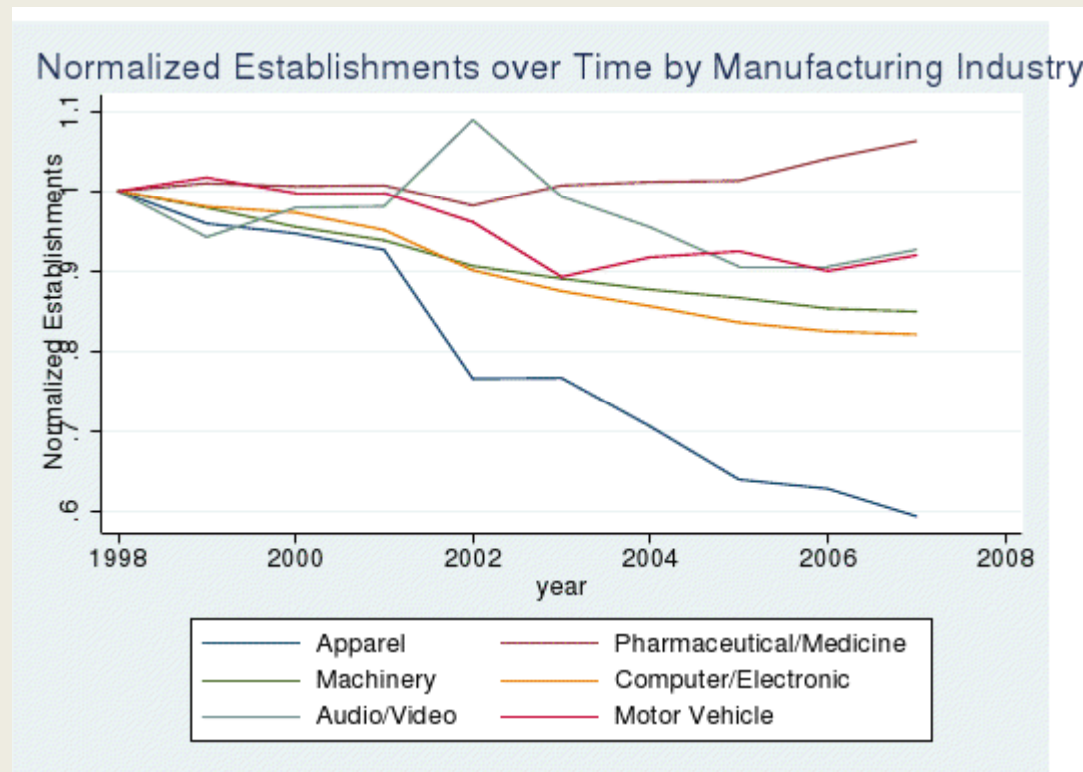
Source: County Business Patterns

Employees over time by Manufacturing Industry
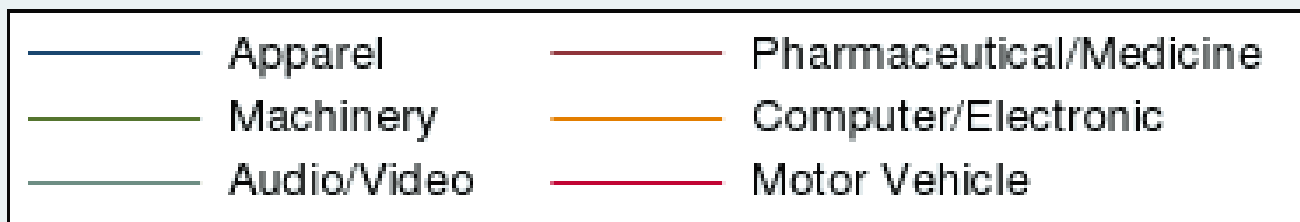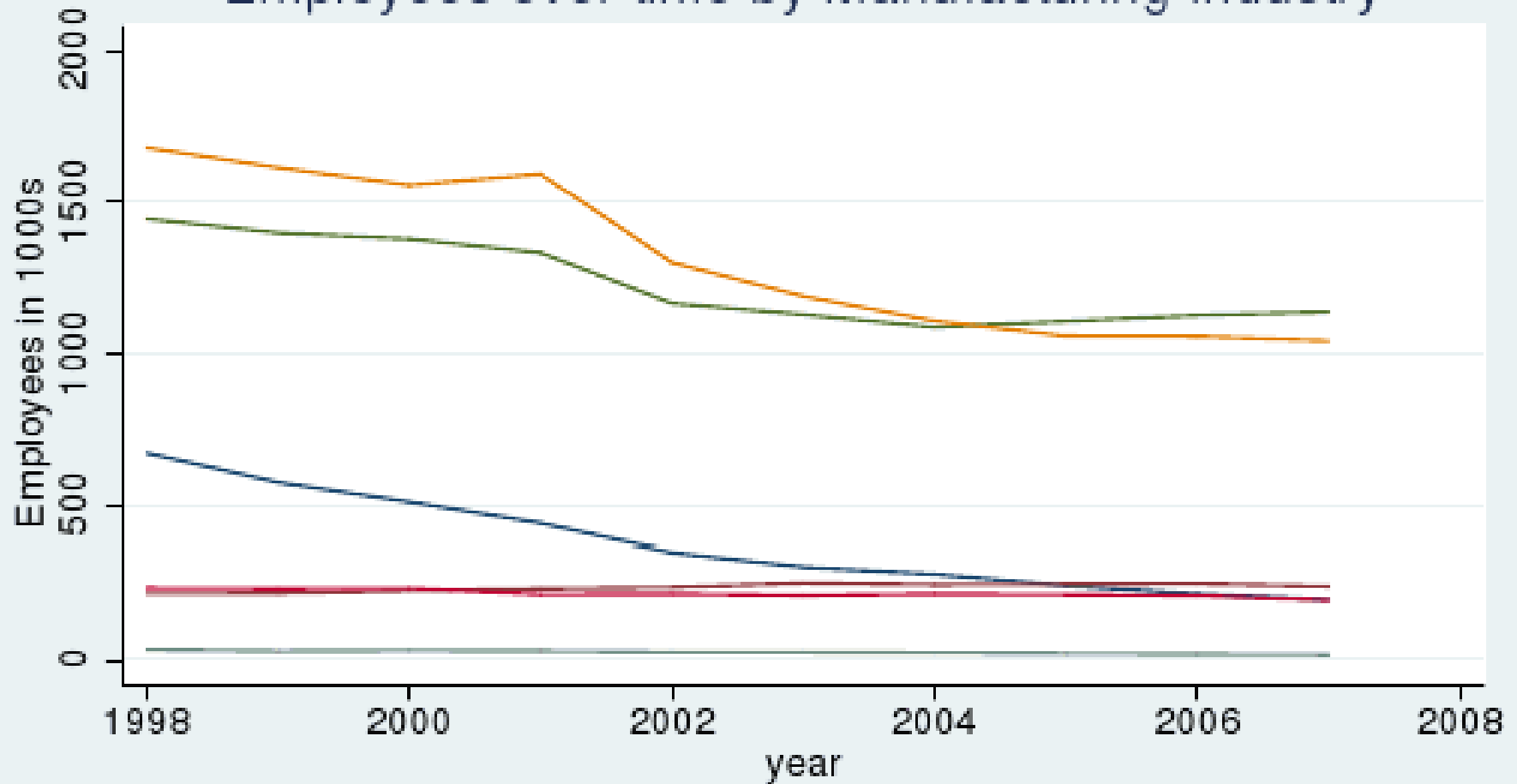
Trends in Number of Establishments, Traditional Retail Firms, normalized to 1998 values

Normalized Establishments over Time by Retail Industry
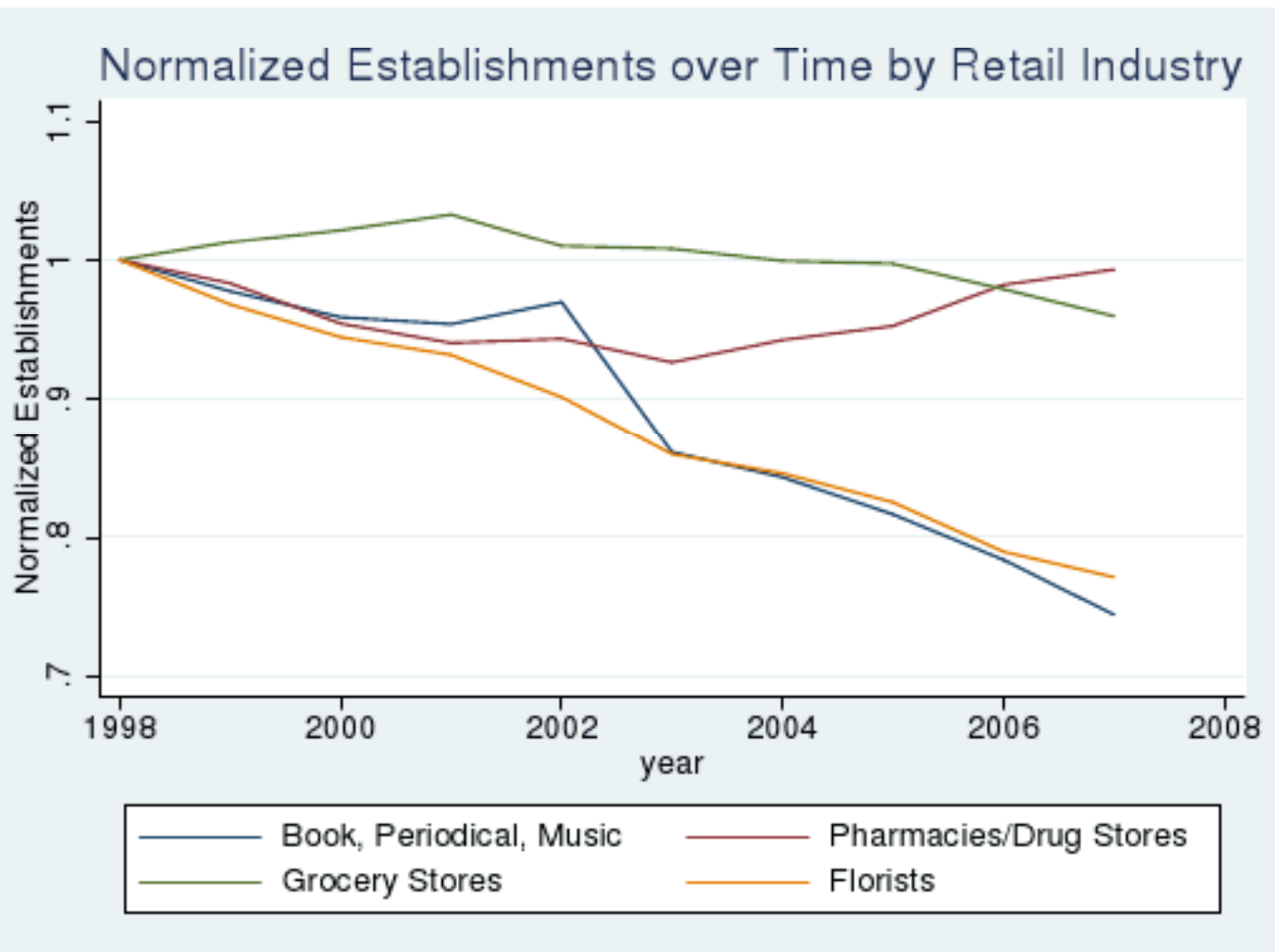
What is Manufacturing?

What is Manufacturing?

	Historical (100 years ago)	Today
Product Market		
1) New Product or process	yes	yes
2) International trade or brand development	yes	yes
Community		
1) Engine of growth	yes	no
2) Assimilation of immigrants	yes	no
Jobs		
1) Jobgrowth		
2) Entry-level job	yes	no
a) Low pay for less skilled	yes	no
b) high pay for less skilled	no	yes
3) Promotion within	no	?
4) High return to education	yes	yes
Summary	Good jobs for the less-skilled	Good jobs for the highly-skilled

What is Traditional Retail?

Modern Retail as the New Manufacturing			
	Manufacturing Historical	**Retail Small Firms**	**"Modern Retail"**
Product Market			
1) New Product or process	yes	no	
2) International trade or brand development	yes	no	
Community			
1) Engine of growth	yes	no	
2) Assimilation of immigrants	yes		
Jobs			
1) Jobgrowth			
2) Entry-level job	yes	yes	
a) Low pay for less skilled	yes	yes	
b) high pay for less skilled	no	no	
3) Promotion within	no	no	
4) High return to education	yes	no?	
Summary	Good Job for the highly skilled	Low-paid jobs; few oppurtunities	

Key Point 1: Manufacturing is declining; traditional retail is too.

II. Define "Modern Retail"

Facts: Retail Provides Job Growth; Manufacturing Declines

Employment Growth Rate 1998-2008				
	National		**Texas**	
Firm Size	**Retail**	**Manufacturing**	**Retail**	**Manufacturing**
Small	-.025	-.057	0.001	-0.074
Medium	.101	-.134	0.202	-0.046
Large	-.154	-.322	0.000	-0.283
All	.009	-.095	0.053	-0.062

Small is less than 10 employees in the firm; Medium is 10-999; Large is 1000+.
National employment levels: small, 2.975 million; medium, 5.53 million; large, 7.43 million.
Source: County Business Patterns

Summary: Growth By Firm Size (1998-2010)

National data:

- Manufacturing is declining: It is declining fastest for large firms
- Retail is modest growth
    - Mid-size firms are growing
    - Small and large are declining.

Texas data:

- Manufacturing patterns of growth are the same as those nationally.
- Retail in Texas is growing in all size categories

The Evidence from Texas

- We have data on the entry of every retail firm in Texas, from 1990 to 2006.
- This data is reported to the state for retail taxes.

Define Top Retail Stores

Stores that are the Top 100 Retail Stores, as defined by Stores Magazine.

Of these, 66 are located in Texas in our data. These are:

7 Eleven	Costco	Kroger	Racetrac Petroleum
Abercrombie and Fitch	CVS	Loves	Radioshack
Advance Auto Parts	Darden Restaurants	Lowes	Ross
Albertsons	Delhaize America	Macy's	Sears
Apple	Dell	McDonalds	Sherwin Williams
AT&T	Dillards	Michaels	Staples
Autozone	Dollar General	Neiman Marcus	Starbucks
Barnes & Noble	Dollar Tree	Nordstrom	Susser
Bass Pro Shops	Family Dollar	Office Max	Target
Bed, Bath, and Beyond	Foot Locker	Office Depot	Toys R Us
BELK	Gamestop	OSI Restaurant	Travel Centers of America
Best Buy	Gap	O'Reilly Automotives	Verizon
Big Lots	Home Depot	Petsmart	Walgreen
Blockbuster	HEB	Pilot Travel Centers	Walmart
Brinker	JC Penney	Quick Trip	Whole Foods
			Williams Sonoma
Burlington Coat Factory	Kohl	QVC	Winn Dixie Stores

Define "Modern Retail" Stores

Stores that are the Modern Retail Stores are the 24 stores that have the highest growth or the most recent entry into the market.

These are:

Abercrombie and Fitch	Kohl
Apple	Lowes
AT&T	Office Max
Barnes & Noble	Office Depot
Bed, Bath, and Beyond	Petsmart
Best Buy	Radioshack
Costco	Staples
Dell	Starbucks
Gamestop	Target
Gap	Verison
Home Depot	Walmart
HEB	Whole Foods

High Growth of "Top" Retail Stores

The Top Retail as a percent of all retail outlets in Texas.

Top Retail shares of All Outlets

High Growth of "Modern" Retail Stores

The Top Retail as a percent of all retail outlets in Texas.

Modern/Top Retail shares of All Outlets

High Growth of "Modern" Retail Stores

Walmart as a percent of all supermarkets in Texas.
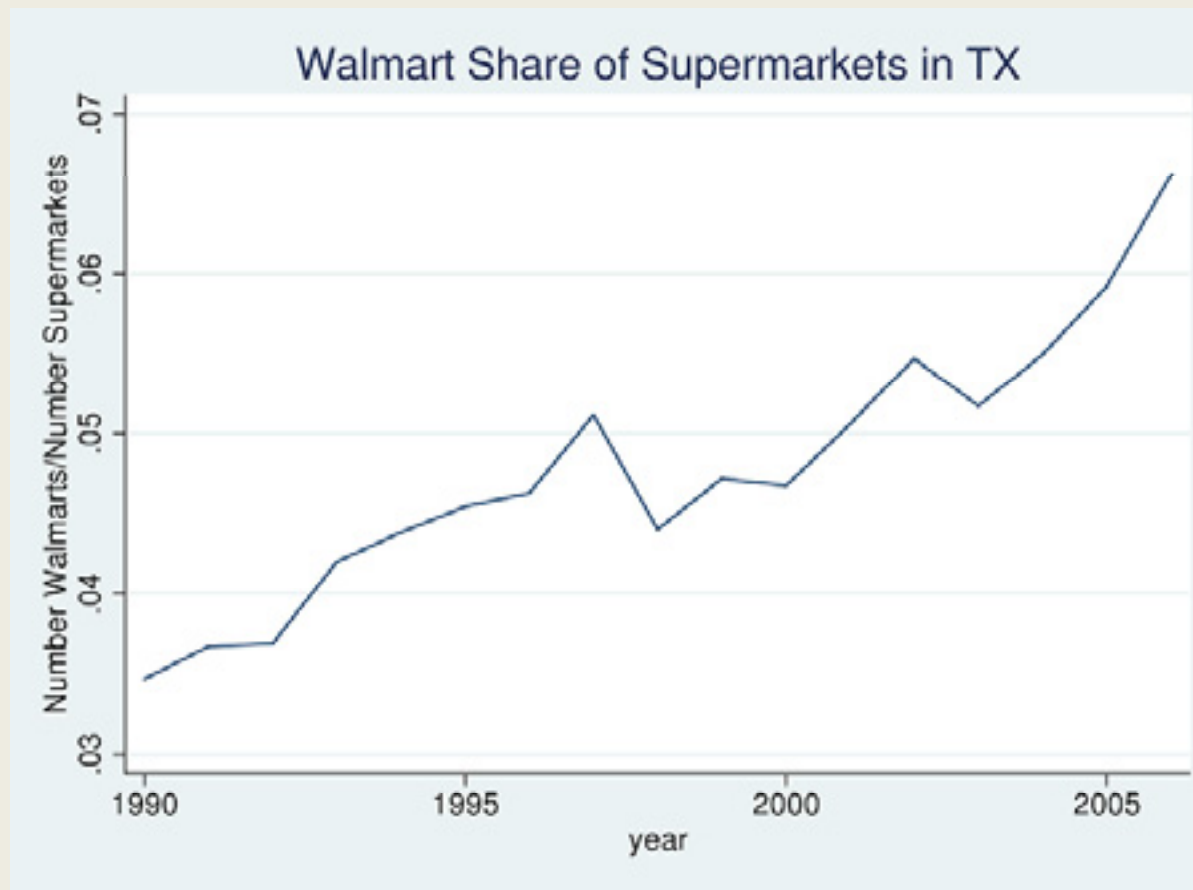
High Growth of "Modern" Retail Stores

Starbucks as a percent of all restaurants in Texas.
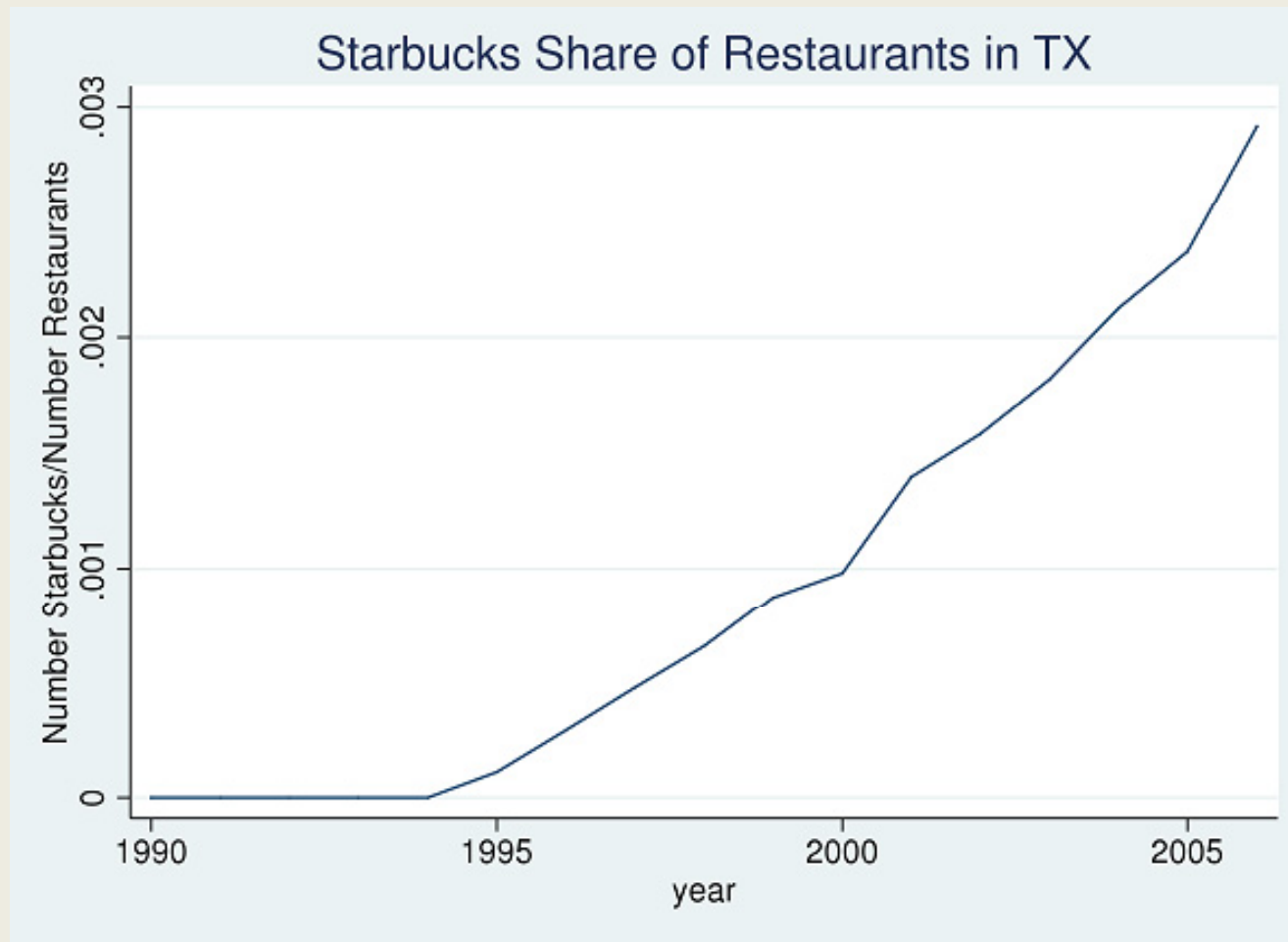
Key Point 2: There are many innovative firms in the retail sector. Modern Retail are those firms that are innovating, on products or on processes.

These are often the mid-size to larger firms.

III. Are there good jobs in modern retail?

Consider some assertions
about Modern Retail as the New Manufacturing

- Modern retail is innovative
- Modern retail provides good jobs for many
- Modern retail is part of thriving communities (growth and human capital externalities)

Modern Retail as the New Manufacturing

	Manufacturing Historical	Retail Small Firms	"Modern Retail"	
			Mid-Size Firms	Large Firms
Product Market				
1) New Product or process	yes	no	yes	yes
2) International trade or brand development	yes	no	no	yes
Community				
1) Engine of growth	yes	no	yes	yes
2) Assimilation of immigrants	yes			
Jobs				
1) Jobgrowth				
2) Entry-level job	yes	yes	yes	yes
a) Low pay for less skilled	yes	yes	yes	yes
b) high pay for less skilled	no	no	no	no
3) Promotion within	no	no	yes	yes
4) High return to education	yes	no?	yes	yes
Summary	Good Job for the highly skilled	Low-paid jobs; few oppurtunities	Low pay initially; Income growth with promotion or education	

Modern Retail as the New Manufacturing: Focus on Jobs

Jobs				
1) Job growth				
2) Entry-level job			yes	yes
a) Low pay for less skilled			yes	yes
b) high pay for less skilled			no	no
3) Promotion within			yes	yes
4) High return to education			yes	yes
Summary			**Low pay initially; Income growth with promotion or education**	

Retail Employment by Occupation

Source: BLS OES Data

- The following slides compare the employment of retail first-line supervisors to various types of cashiers.

- There is national data, and data for Texas.

Mean Annual Wage Retail Subsectors
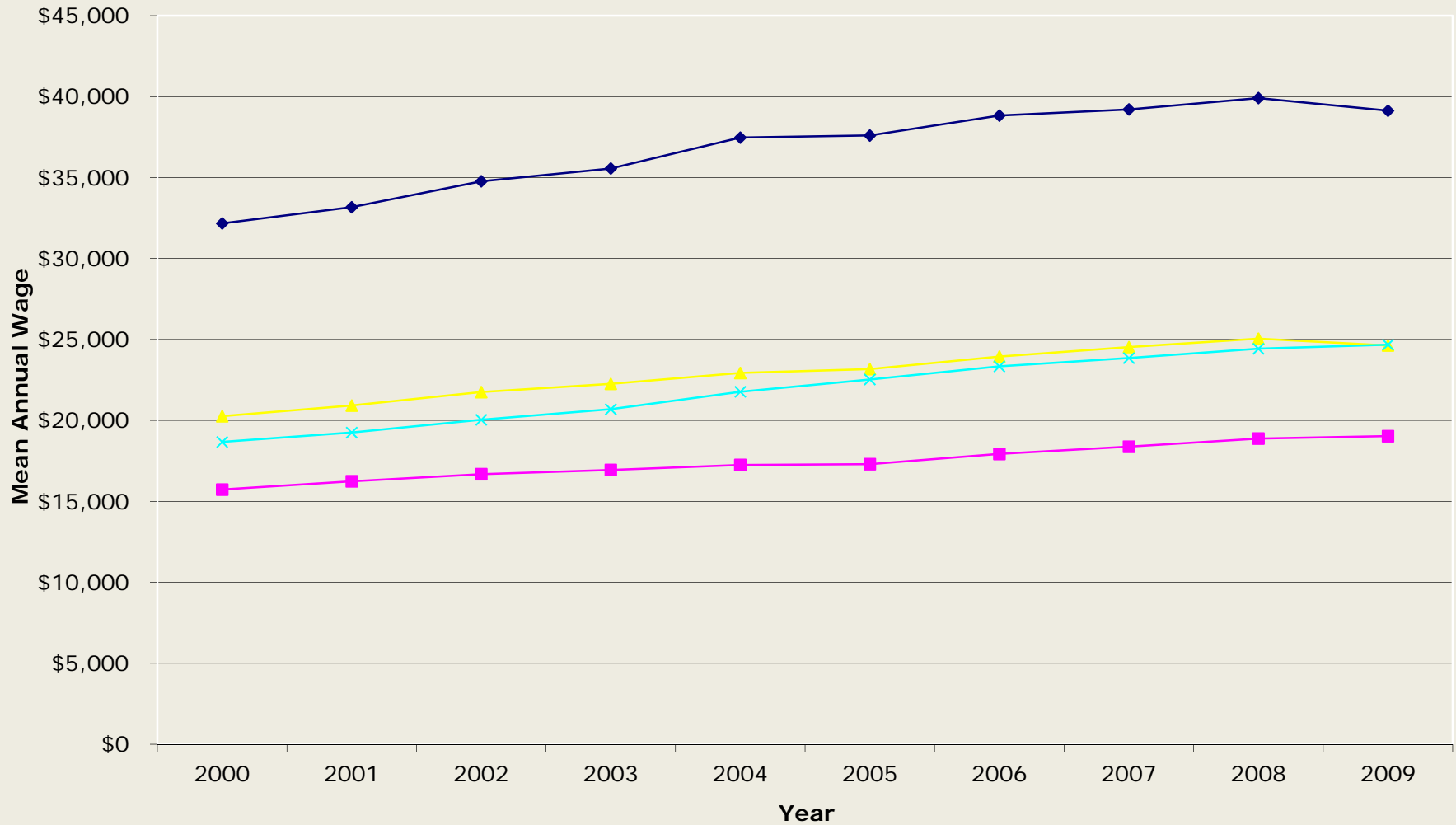
Legend: First-Line Supervisors/Managers of Retail Sales Workers ◆ Cashiers ■ Retail Salespersons ▲ Counter and Rental Clerks ✳

Employment Retail Sub Sectors

Number employed (y-axis): 0 to 5,000,000

Year (x-axis): 2000 to 2009
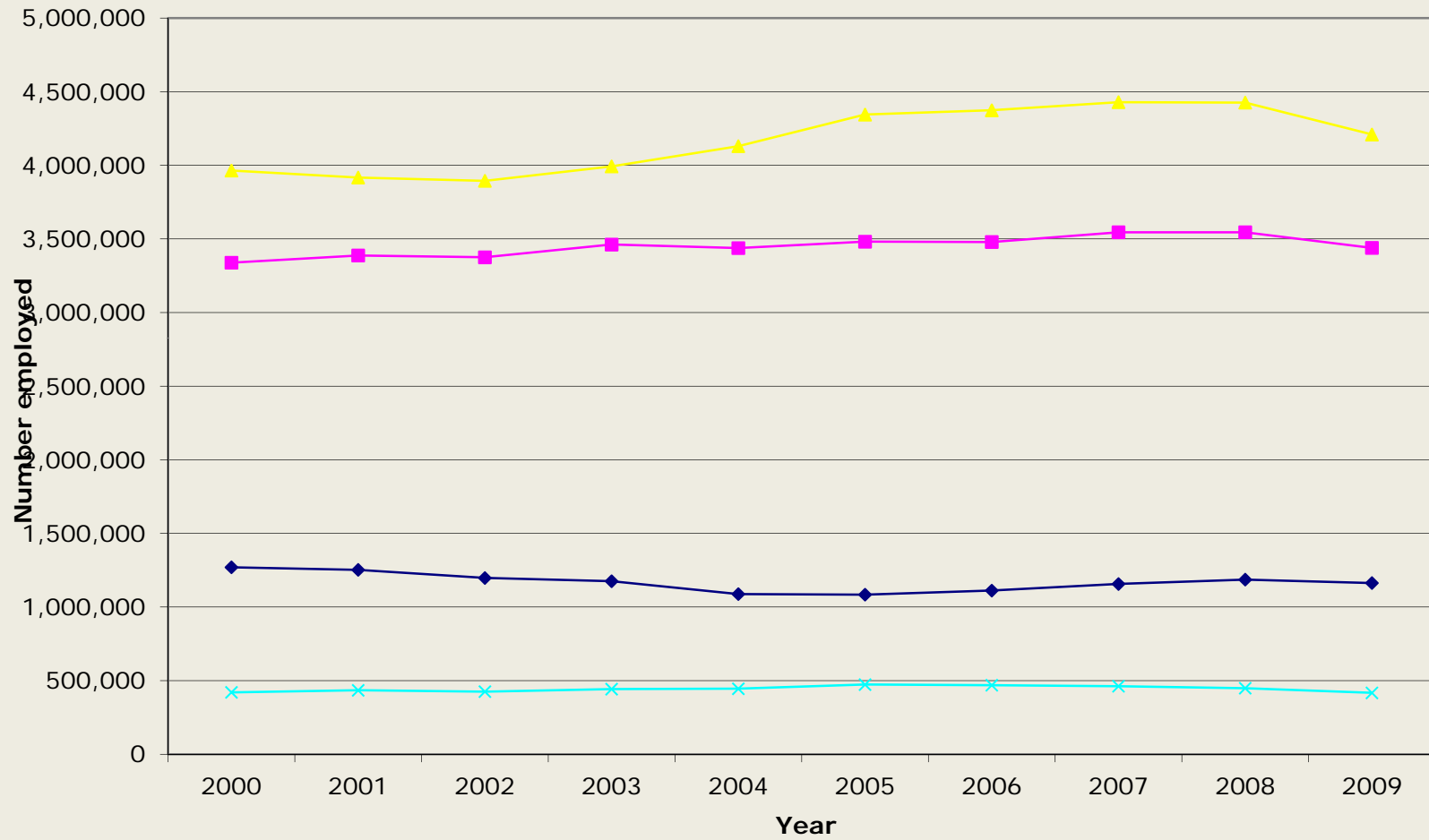
Legend:
- Supervisor of Retail Workers
- Cashiers

Employment Growth Retail Subsectors

Legend: First-Line Supervisors/Managers of Retail Sales Workers · Cashiers · Retail Salespersons · Counter and Rental Clerks

X-axis: Year (2000–2009)
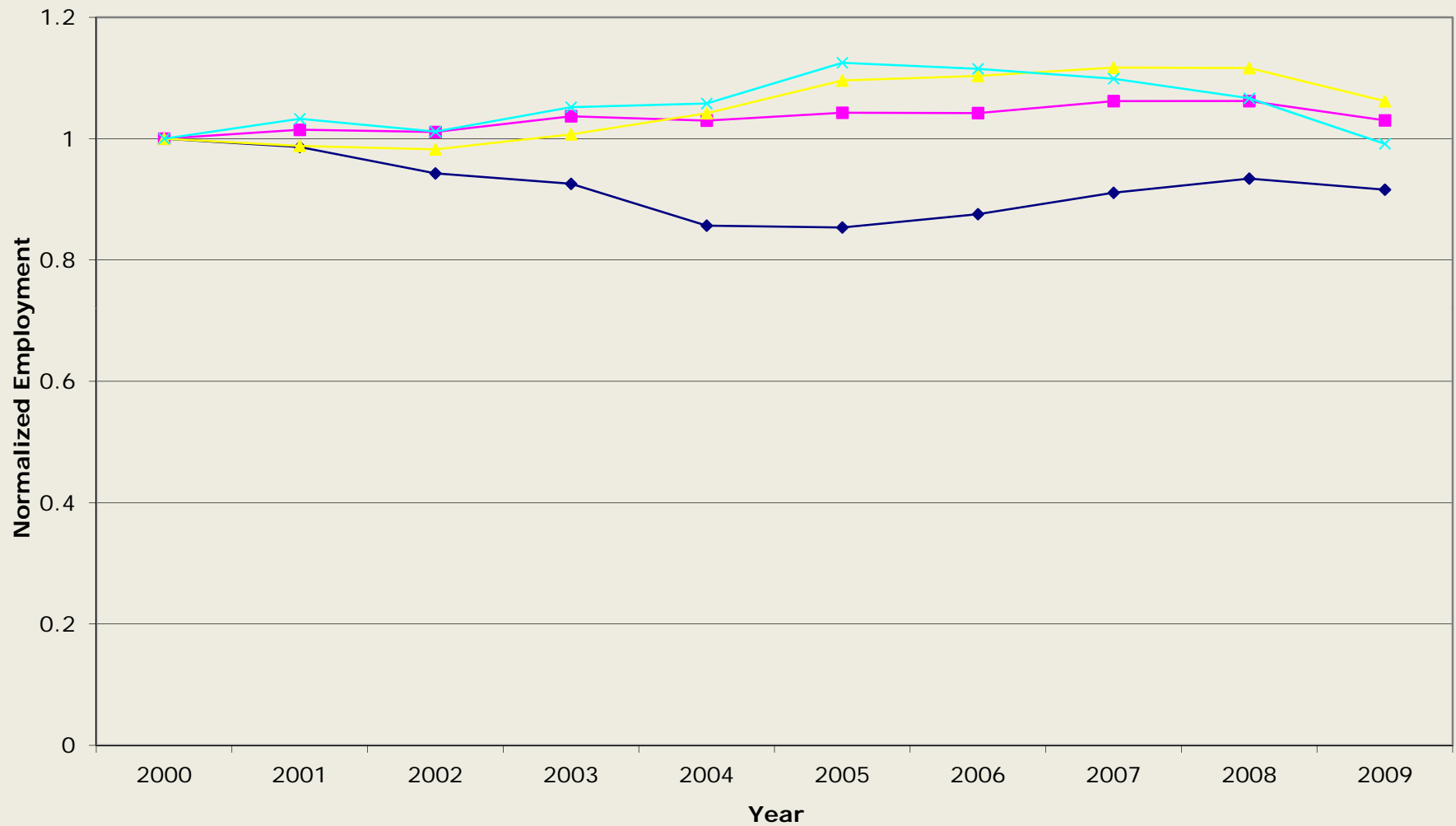Y-axis: Normalized Employment (0 to 1.2)

TX Average Wage
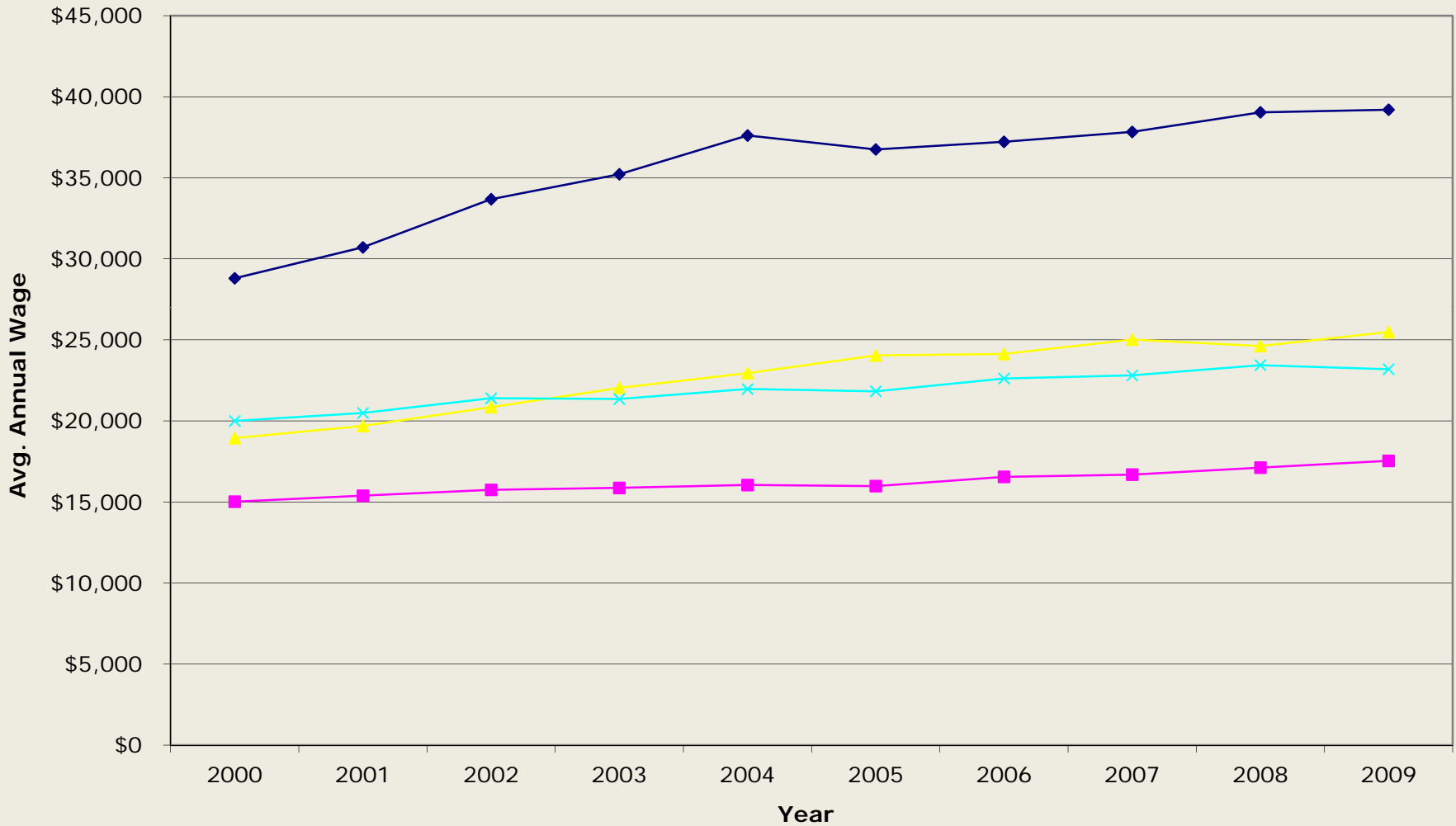
Legend: First-Line Supervisors/Managers of Retail Sales Workers | Cashiers | Counter and Rental Clerks | Retail Salespersons

TX Employment
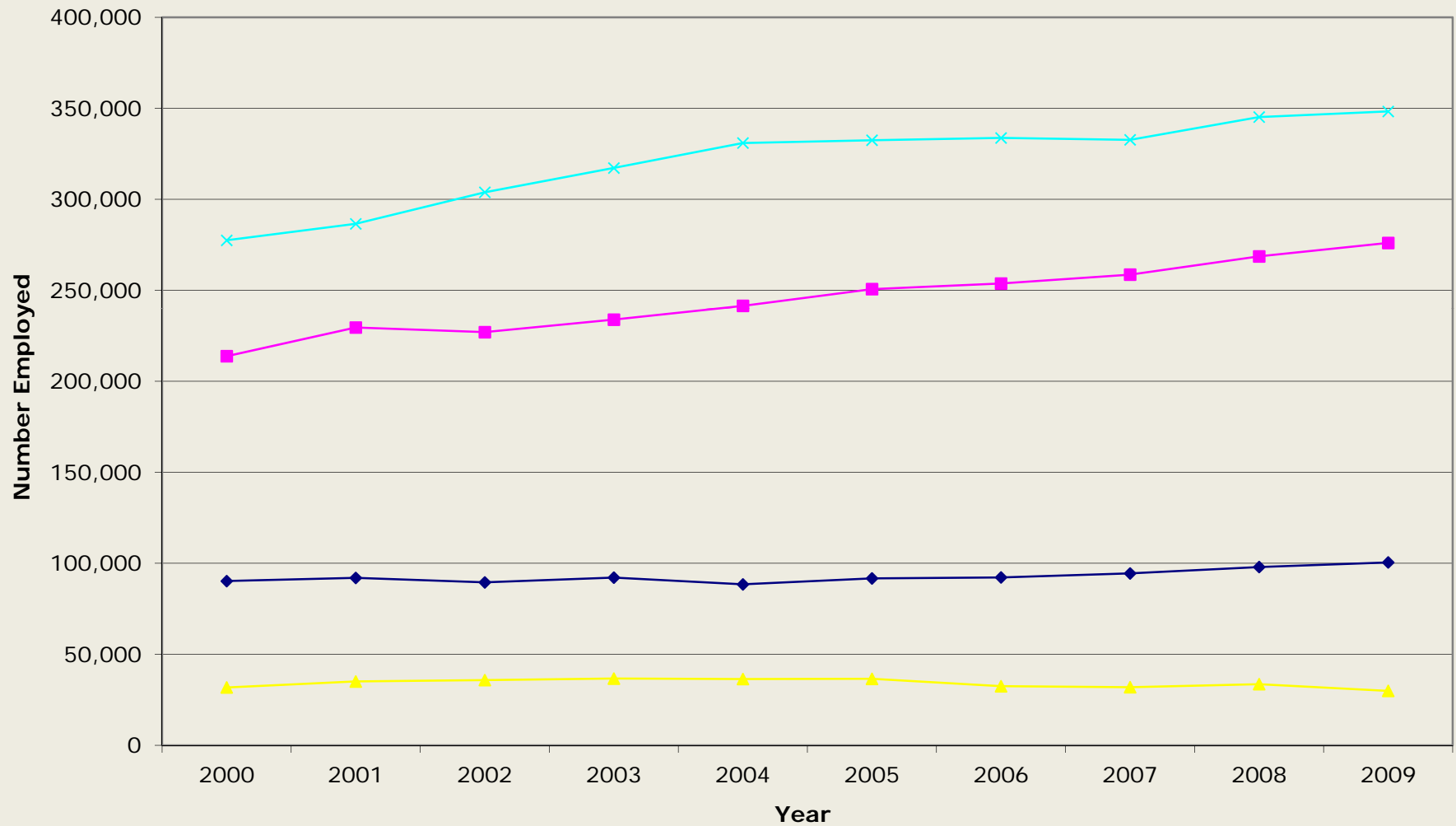
Number Employed (y-axis): 0 to 400,000

Year (x-axis): 2000 to 2009

Legend:
- First-Line Supervisors/Managers of Retail Sales Workers
- Cashiers
- Counter and Rental Clerks
- Retail Salespersons

TX Normalized Employment
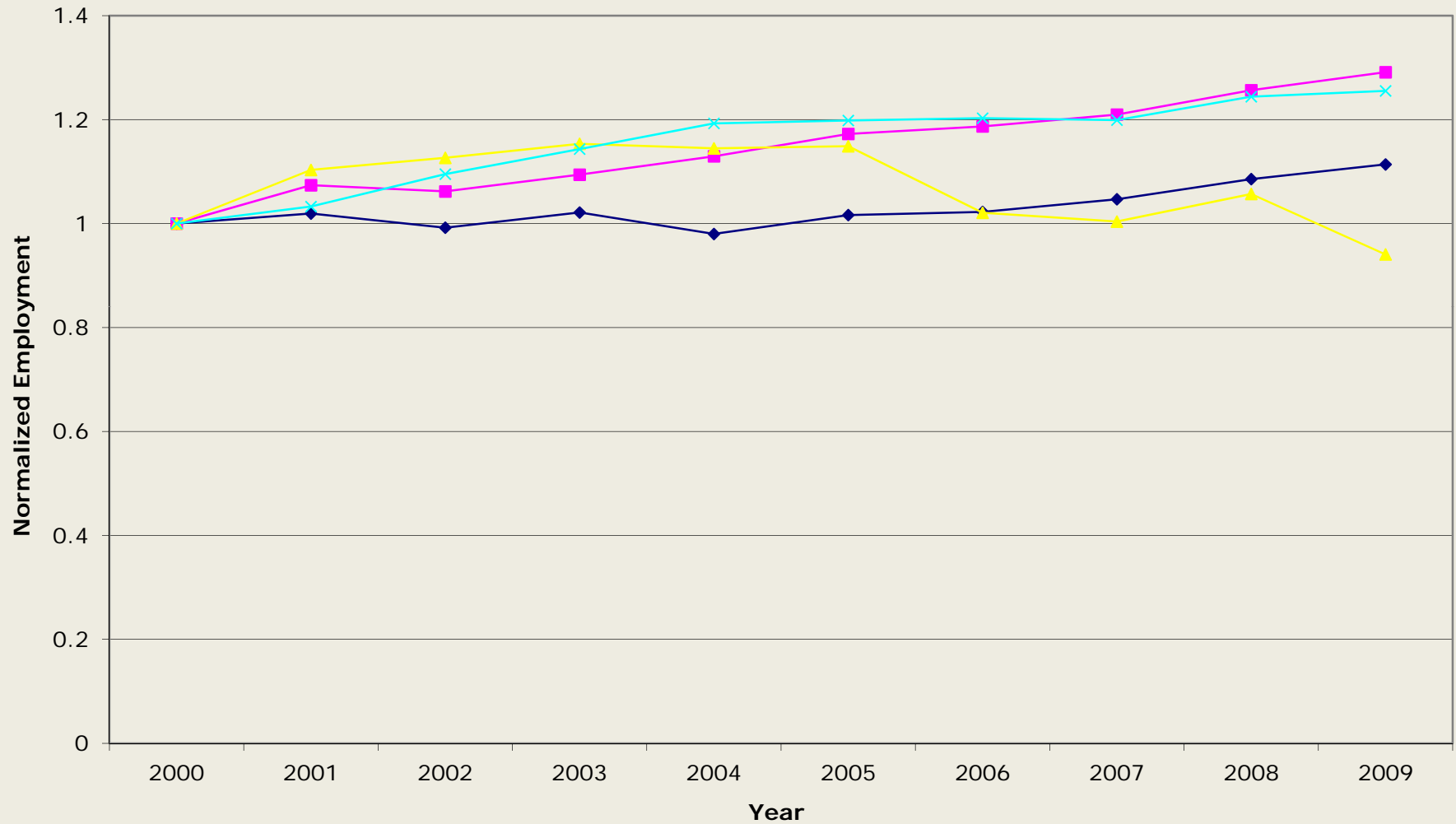
Legend: First-Line Supervisors/Managers of Retail Sales Workers; Cashiers; Counter and Rental Clerks; Retail Salespersons

The Income Returns to Firm Size

Return to Firm Size, Relative to Small Firm						
	Retail			Manufacturing		
	Income	Return*	Employment Growth Rate	Income	Return*	Employment Growth Rate
Small	$27,983 (2.975m)		-2.5%	$32,720 (1.256m)		-5.7%
Medium	$39,262 (5.532m)	40%	10.4%	$42,488 (7.302m)	30%	-13.4%
Large	$36,999 (7.426m)	32%	-15.4%	$63,604 (6.244m)	94%	-32.2%

Summary: The Income Returns to Firm Size

- In Manufacturing, returns to firm size are huge, but employment in large firms is falling sharply.
    - Those working in large firms earn 94% more than those working in small firms.
    - But the number of those working in large firms declined 32% (1998-2010), to 6.244 million.

- In retail, returns to firm size are more modest, but employment is high and growing.
    - Those working in large firms earn 32% more than small; those working in medium firms earn 40% more than small.
    - The number employed in large firms is 7.426 million; in mid-sized, 5.532 million.

➢ Big firms pay more. Skill differences are unobserved.

Employment by Education

Table 2. Percentage in each Education Level

Educational Attainment	Retail		Manufacturing	
	1992	2010	1992	2010
Less than high school diploma	38.57	11.41	18.86	13.23
High School graduate- high school diploma	44.69	38.51	43.03	36.41
Some college, but no degree	11.36	31.05	21.81	25.21
Bachelor's degree	4.04	15.78	12.15	17.56
Advanced degree	1.35	3.25	4.15	7.58

Summary: Employment by Education

▪ The distribution of employment by education level is about the same in retail and manufacturing.

▪ Both have 50% of their work-time with a high school degree or less.

▪Retail experienced a much larger increase in the percentage of employees that have some college or a Bachelor's degree than manufacturing.

▪The pattern of education in manufacturing is similar to that of the general population.

The Returns to Education

Return to Education 2010	Retail		Manufacturing	
	Average Income	**Return to Education**	**Average Income**	**Return to Education**
Less than high school diploma	$16,289		$22,019	
High School graduate	28,000	72%	33,701	53%
Some college	31,339	12%	45,395	35%
Bachelor's degree	49,215	57%	73,748	62%
Advanced degree	77,789	58%	106,289	44%

Summary: The Returns to Education

- Both retail and manufacturing have high <u>returns</u> to education.
- The returns are higher in manufacturing; skills in manufacturing are likely high (more technology based).

Putting it all together………

Average Wage: Retail 2010

Firm Size	Income by Occupation*		Income by Firm Size**			Summary	
	Cashiers	First-Line Supervisors	High School Degree	Some College But No Degree	College Degree		
Small			$25,073.24 (526)	$26,352.95 (399)	$36,302.98 (246)	Modest return to education;	44.6
Medium			$34,739.44 (1043)	$40,003.57 (771)	$53,404.83 (420)	Higher return to education;	53.9
Large			$29,832.33 (1328)	$33,938.57 (1149)	$57,891.65 (566)	Highest return to education;	69.3
All	$19,030 3,439,380	$39,130 1,163,040	$30,734.93 (2897)	$34,649.85 (2319)	$52,051.33 (1232)	A significant percent of high school graduates are employed as	

Average Wage: Manufacturing 2010

Firm Size	Production Worker	First-Line Supervisor	High School Degree	Some College But No Degree	College Degree		
Small			$26,839.84 (274)	$34,050.64 (183)	$51,343.12 (131)	High return to education;	91.3
Medium			$33,735.52 (1781)	$43,945.50 (1089)	$67,996.42 (615)	High return to education;	101.6
Large			$42,751.32 (1087)	$54,366.33 (959)	$85,519.03 (838)	High return to education;	100.0
All	$32,629 5,452,950	$50,000 1,000,000	$36,253.27 (3142)	$47,613.28 (2231)	$75,889.32 (1584)	Those with a high school degree rarely progress beyond production	

*BLS data. Employment is given below income data.

** CPS data. Sample size in parentheses.

Summary: Income by Occupation and Firm Size

- In Retail
    - Those with a high school degree often earn more than what they would make as an early-level employee – they must be first-line supervisors.
- In Manufacturing
    - Those with a high school degree rarely progress beyond production maker.

- The mid-sized and large sized "modern retail" establishments promote within to "good jobs" as first line supervisors.
- There are a lot of first-line supervisors; and where retail is growing, those jobs are growing.
- Employment of first-line supervisors in retail is growing much faster then employment of production operators in manufacturing.

Pay in Retail

- Entry-level jobs for the least skilled are low paying jobs.

- Most workers in retail are not in the entry-minimum wage jobs.

- Pay rises with firm size – large retail firms pay well.

- Pay rises with education – there are very sizable returns to education.

Modern Retail as the New Manufacturing

Modern Retail as the New Manufacturing

	Manufacturing Historical	Retail Small Firms	"Modern Retail"	
			Mid-Size Firms	Large Firms
Product Market				
1) New Product or process	yes	no	yes	yes
2) International trade or brand development	yes	no	no	yes
Community				
1) Engine of growth	yes	no	yes	yes
2) Assimilation of immigrants	yes			
Jobs				
1) Jobgrowth				
2) Entry-level job	yes	yes	yes	yes
a) Low pay for less skilled	yes	yes	yes	yes
b) high pay for less skilled	no	no	no	no
3) Promotion within	no	no	yes	yes
4) High return to education	yes	no?	yes	yes
Summary	Good Job for the highly skilled	Low-paid jobs; few oppurtunities	Low pay initially; Income growth with promotion or education	

Recent Work that Supports these Findings

- Holzer, Lane, Rosenblum and Andersson (2011) find that retail "now provides good jobs to many workers in the fourth and fifth quintiles of skills who obtain jobs in higher quintiles of firm quality." In other words, lower skilled workers are finding jobs in better firms in the retail industry.

- Jorgenson, Ho and Samuels (2010) show that retail is one of the top contributors to productivity and value added over the past 50 years. They state that in "an ordering of industries by contributions to value added and productivity .... wholesale and retail trade, head the list."

- Foster, Haltiwanger and Krizan (2007) examine the growth in national chains (many of which we would consider modern retail) and find that "once created, an establishment for a Mega firm is much more stable in the sense that it is much less likely to contract and exit." In terms of job uncertainty, more stable firms offer better jobs.

Key Points and Hypothesis

Key Point 1: Manufacturing is declining; traditional retail is too.

Key Point 2: There are many innovative firms in the retail sector – modern retail firms that are innovative in their processes or products. These are often mid-size to large retail firms.

Key Point 2: Modern retail firms offer good jobs for many. The good jobs are:
- First-line supervisor and other managerial jobs
- Entry-level jobs that offer the possibility of promotion to first-line supervisor
- Jobs with high pay for intangibles – like problem-solving and teamwork.
- Jobs with high pay for education – the return to education is high.

Where do these jobs locate?

Hypothesis: good retail jobs are located in areas of high wealth – where there are highly educated workers who are earning large returns to education. More specifically:
- The productivity of the retail sector – as measured by the entry of innovative firms – is higher in areas of high income.
- Thus, there is spillover from the demand for the highly educated (in sectors such as health, education, and technology) to the retail sector, where there are good jobs for the less educated.

IV. Where is modern retail growing?

Data on Texas Communities

- We have data on the entry of every retail establishment in Texas, from 1990 to 2006.

- We match this to data from every school in Texas, data on test scores and property values.

- We create aggregate to areas or communities, where each community is the area surrounding the high school. We have 1320 communities in Texas, that we follow from 1990 to 2006.

Stores enter Texas market.

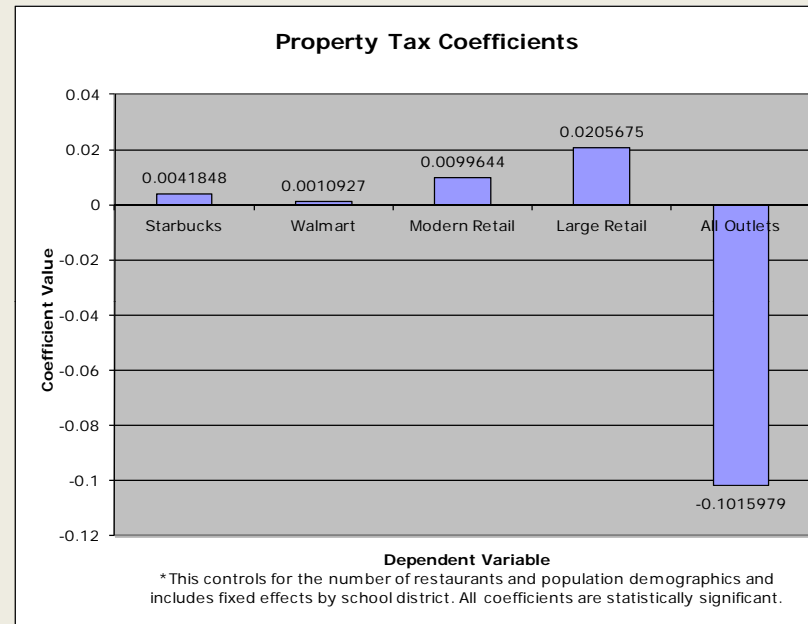Probability of Store in the School District
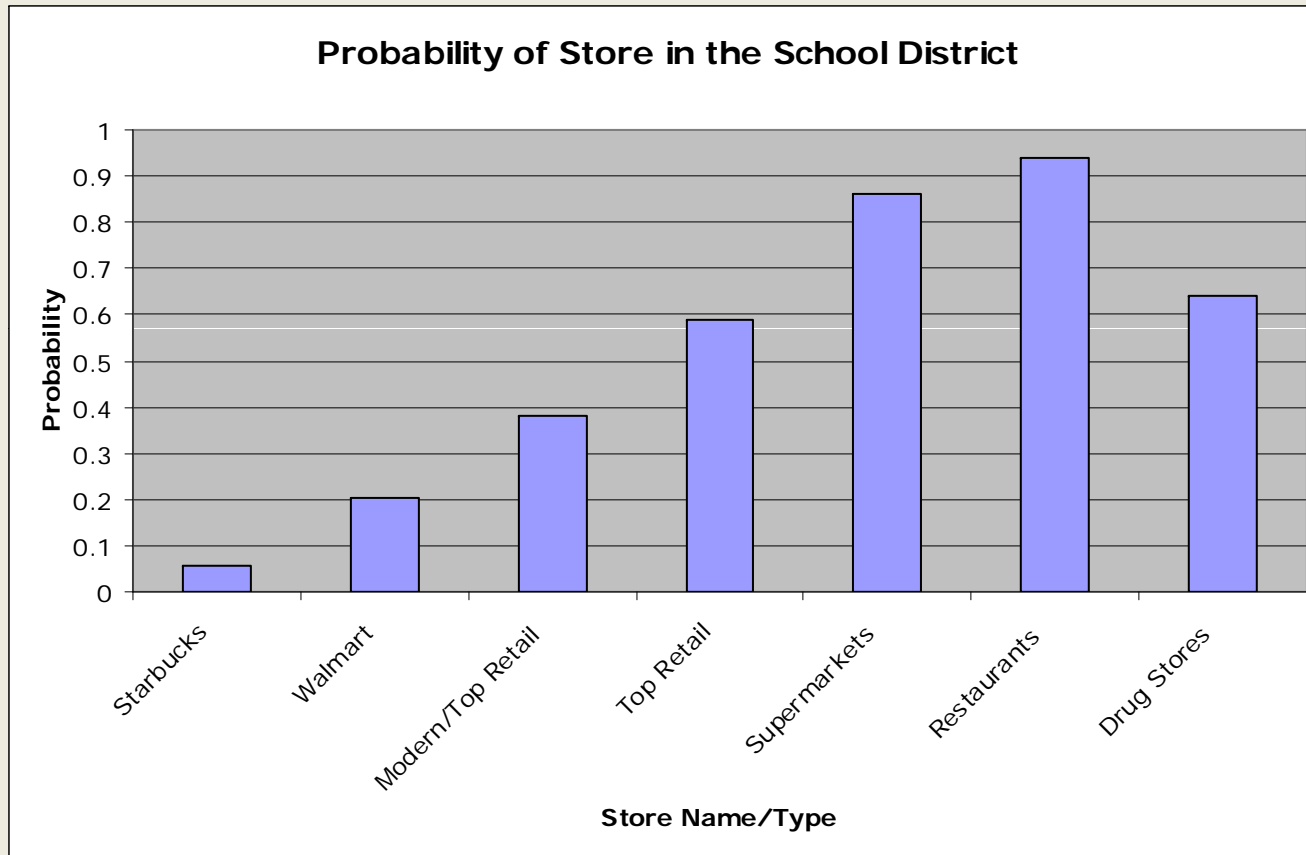
Modern Retail Communities

- We hypothesize that the consumption of modern retail goods rises with property values. Property values serve as a proxy for income and wealth in each community:

(1) $R_{it} = \beta_0 + \beta_1 W_{it} + \beta_2 X_{it} + \alpha_i + e_{it}$

where R_{it} is retail consumption as measured by the number of modern retail stores; W_{it} is consumers' average wealth as measured by the property values in the community; X_{it} is a vector of demographic variables reflecting tastes for goods, including the percent of the community that is Hispanic and African American; and α_i is the area fixed effect in the regression.

Regression results: the number of modern retail stores as a function of property taxes.

Property Tax Coefficients

* This controls for the number of restaurants and population demographics and includes fixed effects by school district. All coefficients are statistically significant.
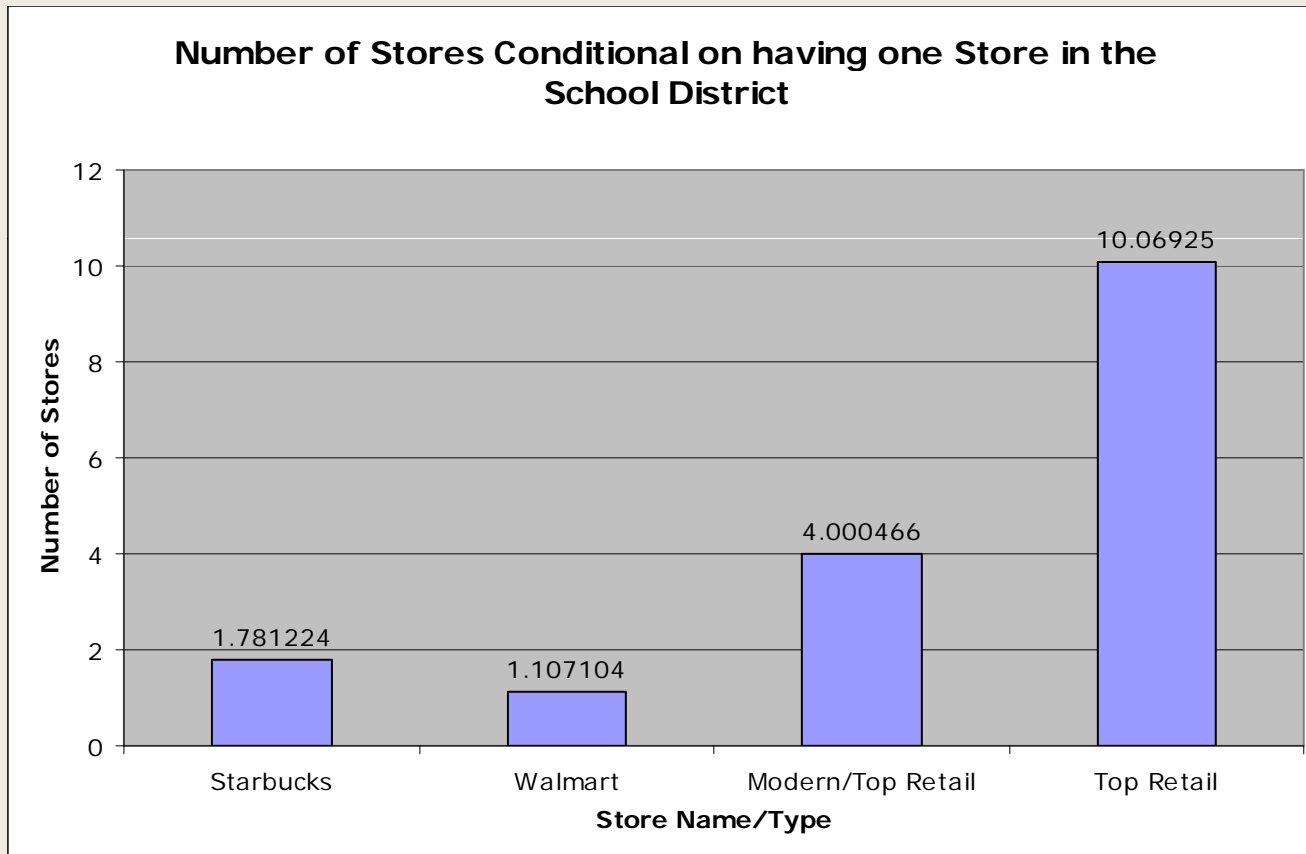
(1) $R_{it} = \beta_0 + \beta_1 W_{it} + \beta_2 X_{it} + \alpha_i + e_{it}$

➔   Modern retail consumption rises with property wealth, as a proxy for high-skilled jobs in the community.

➔   The elasticity of consumption with respect to property wealth is highest for modern retail, and is negative for all retail.

One modern retail store increases the probability that more will follow.

Modern Retail Communities

- We hypothesize that there is agglomeration of modern retail – that modern retail today is higher in a community in which modern retail entered five years ago.

(2) $R_{it} = \beta_0 + \beta_1 W_{it} + \beta_2 X_{it} + \beta_2 R_{it-5} + \alpha_i + e_{it}$

where R_{it-5} is retail consumption five years earlier.

- We hypothesize that community wealth is higher in areas of high modern retail, as a proxy for the presence of intangible human capital in those communities. Thus, there is agglomeration of modern retail and of human capital wealth.

(3) $W_{it} = \beta_0 + \beta_1 W_{it-5} + \beta_2 X_{it} + \beta_2 R_{it-5} + \alpha_i + e_{it}$

where R_{it-5} is retail consumption five years earlier.

Regression results: the number of retail rises with the lagged number of modern retail stores.

Regression of Number of Retail Stores on the Five Year Lag of Retail Stores

Coefficient Value (y-axis): 0.44 to 0.58

Modern Retail 5 year lag ≈ 0.48
Top Retail 5 year lag ≈ 0.57

Independent Variables

*This controls for property values, number of other stores in the area, population demographics, and includes fixed effects by school district. All coefficients are statistically significant.
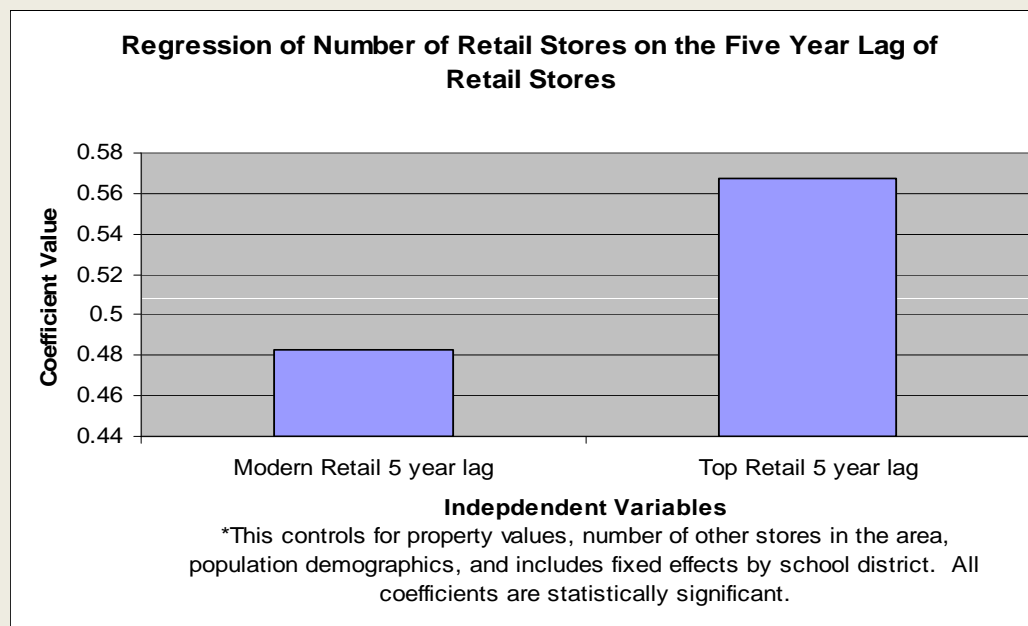
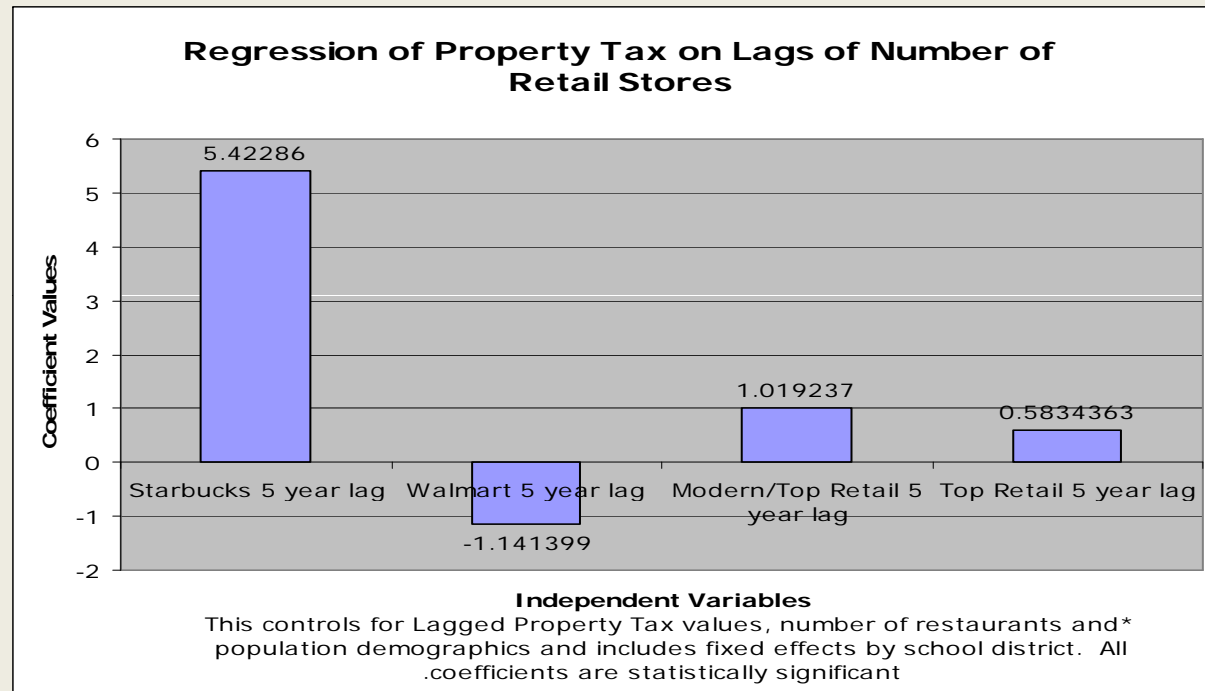$$(2) \quad R_{it} = \beta_0 + \beta_1 W_{it} + \beta_2 X_{it} + \beta_2 R_{it\text{-}5} + \alpha_i + e_{it}$$

➔   If we drop all control variables, the estimated β_2 is 1.01 for modern retail and 1.10 for top retail firms.

➔   Modern retail consumption raises future modern retail consumption, due to the agglomeration of skills or intangible capital.

Regression results: the wealth of the community rises with the lagged number of modern retail stores.

Regression of Property Tax on Lags of Number of Retail Stores

Coefficient Values:
- Starbucks 5 year lag: 5.42286
- Walmart 5 year lag: -1.141399
- Modern/Top Retail 5 year lag: 1.019237
- Top Retail 5 year lag: 0.5834363

Independent Variables

This controls for Lagged Property Tax values, number of restaurants and* population demographics and includes fixed effects by school district. All .coefficients are statistically significant

(3) $W_{it} = \beta_0 + \beta_1 W_{it-5} + \beta_2 X_{it} + \beta_2 R_{it-5} + \alpha_i + e_{it}$

➔ Modern retail consumption raises future property wealth, where modern retail serves as a proxy for the agglomeration of intangible skills and tastes in the community.

Summary of Key Points

Key Point 1: Manufacturing is declining; traditional retail is too.

Key Point 2: There are many innovative firms in the retail sector – modern retail firms that are innovative in their processes or products. These are often mid-size to large retail firms.

Key Point 3: Modern retail firms offer good jobs for many. The good jobs are:
- Mid-size to large firms pay more:
  - Higher pay for all employees
  - More first-line supervisor and other managerial jobs
  - Entry-level jobs that offer the possibility of promotion to first-line supervisor
- More jobs with high pay for intangibles – like problem-solving and teamwork.
- More jobs with high pay for education – the return to education is high.

Key Point 4: There is virtuous cycle of development. High income areas consume more modern retail, which generates more high paying jobs for the less skilled in retail. Thus, there are positive externalities, from very high-human capital groups spilling over to the less skilled in retail.

Key Point 5: "Modern retail" is the new manufacturing because modern retail represents productive innovative firms that are growing and providing good jobs for the lesser skilled workers. Modern retail creates incentives for education by providing opportunities.

Implications for Skill Demand

- Skill demand is derived demand from the product market.

- Modern retail represents mid-size to large firms that are innovative in products or processes.

- Skills that are required in retail (at all levels):
  - Interpersonal skills; teamwork.
  - Growing percentage of college educated in retail.