

**Fashion Clusters and Market Re-design in the 21<sup>st</sup> Century:  
Contracting Networks, Performance Incentives, and Garment District Advantage in New  
York and Los Angeles**

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Abstract

Recent apparel industry research has focused on what “market design” is best-suited for the survival of the industry in the United States. This paper examines the natural experiments in market design conducted in the New York and Los Angeles garment districts.

New York was the high-performing U.S. garment district for much of the 20th century, based on women’s wear fashions and a contracting system that was heavily-regulated by collective bargaining. Regulation generated anti-competitive “rents” by limiting market entry, but also fostered “efficiency rents” by stabilizing competition and encouraging relationship-specific investments in human and social capital among jobbers and contractors. As effective union regulation waned, New York’s jobbers re-designed their contracting system by using excess capacity and the threat of business failure to increase incentives for contractors to further raise productivity and cut costs.

The Los Angeles district specializes in sportswear fashions, promotes intensely-competitive contracting relationships for efficiency, and has resisted union and government regulation throughout its history. It overtook New York as the leading U.S. district in the early 1990s and, although both districts are declining, Los Angeles retains a workforce over 2.5 times larger than New York’s.

Both districts have similar industry structures, factor costs, and district externalities; they have overlapping product specializations, and both see their future in serving quick-response fashion markets. Field research and growth accounting models, however, point to different employment and fashion futures for these districts, based largely on differences in the design of contracting relationships.

## **Fashion Clusters and Market Re-design in the 21<sup>st</sup> Century: Contracting Networks, Performance Incentives, and Garment District Advantage in New York and Los Angeles<sup>1</sup>**

An earlier paper (Doeringer, 2011) traced the historical origins of garment district externalities in New York and Los Angeles from the 1900s through the early post-World War II period. It showed how New York developed a set of “first-mover” growth advantages from an abundance of agglomeration economies, which were later reinforced by a natural experiment in market “re-design” that replaced 19<sup>th</sup> century hyper-competition with a “regulated” form of competition under a series of collective bargaining agreements beginning in 1909 and continuing through much of the post-World War II period. It is estimated that the regulated sector accounted for as much as 90% of the apparel employment in New York City at one point during the 1920s (Levine, 1969, p. 424) and the regulatory changes introduced through collective bargaining during this period were especially important in securing economic benefits for manufacturers (also known as jobbers in New York) and their dedicated “core” contractors. The combination of traditional agglomeration economies and district externalities “created” by collective bargaining gave New York a near-monopoly in the women’s wear market between 1900 and the 1930s.

Los Angeles, as a “late-developing” garment district from the 1920s onward, rejected the New York model of market regulation in favor of a development strategy based upon aggressive resistance to unions and a reliance on highly-competitive unregulated markets. The combination

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of intense competition, strong agglomeration economies, relatively-lower factor costs, a regional market that was somewhat protected from competition by New York and other East Coast and Mid-West garment districts, and a new specialization in sportswear in the late 1920s helped Los Angeles to become the second largest women's garment district in the United States after World War II and to eventually overtake New York City as the leading U.S. garment district. However, it took Los Angeles over five decades of growth to acquire this lead and only after non-union domestic and foreign competition had overwhelmed New York's system of regulated competition under collective bargaining.

This paper examines the New York City and Los Angeles districts from the late 1990s through the 2000s, when both districts have been experiencing sharp declines in output and employment from foreign competition. It will show that a new system of market regulation by jobbers emerged in New York after the collapse of union regulation while competitive market arrangements continue to prevail in Los Angeles. The jobbers and manufacturers that survive in the New York City district have retained many of the core contracting relationships established under collective bargaining and have developed new efficiency incentives for core contractors that are superior to those of market competition in Los Angeles. Strong productivity incentives and contracting relationships, along with the smaller-scale and more flexible production methods of the firms that remain in New York, have strengthened the capacity of the district to serve niche markets, particularly those in more-fashionable women's wear. Meanwhile, Los Angeles continues to have a labor cost advantage over New York from lower hourly earnings among production workers and, because its firms are larger, the district is better positioned to take advantage of economies of scale, particularly in the mass-production of sportswear. While the Los Angeles district has performed better by measures such as output and job retention, New York produces more fashionable products and has higher labor productivity and a faster rate of productivity growth.

### Background

Los Angeles is the largest garment district in the United States and New York is the second largest.<sup>2</sup> Together they have dominated post-war women's wear markets for most of the

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<sup>2</sup> The New York garment district is defined as the five counties that comprise New York City, while the Los Angeles garment district is defined as Los Angeles County, which includes the City of Los Angeles. Reasonably consistent

post-World War II period (Rice, 2008) and they now account for 44.3% of national apparel employment and 90.3% of women's wear employment (2009).

New York, with its early ties to European fashion trends, had the head start in the development of a domestic apparel industry. It was America's fashion center in the mid-19<sup>th</sup> century and it became the "first-mover" women's wear manufacturing district in the 1890s, based on its knowledge of fashion, proximity to affluent consumers, and a growing pool of low-wage immigrant labor with tailoring and sewing skills. By 1899 it was supplying almost two-thirds of all women's wear made in the United States and its market share continued to climb through the 1920s. Market entry by other districts, including Los Angeles, steadily eroded New York's share of U.S. women's wear production thereafter, but New York still accounted for over half of U.S. value-added in 1947 and, despite its long-term decline in output and employment beginning in the late 1940s, it still supplied 27% of domestic value-added in women's wear in 1977 and 20% in 1997.

Los Angeles also had a small cloak and coat industry in the 1890s and 1900s, and a work clothes specialization beginning in the 1910s, but unlike New York's abundant supply of skilled immigrant labor, it could only draw upon an immigrant workforce for its less-skilled jobs. It served a relatively small regional market that was only growing slowly during this period and the district lacked the design knowledge needed to develop a distinctive fashion specialization.

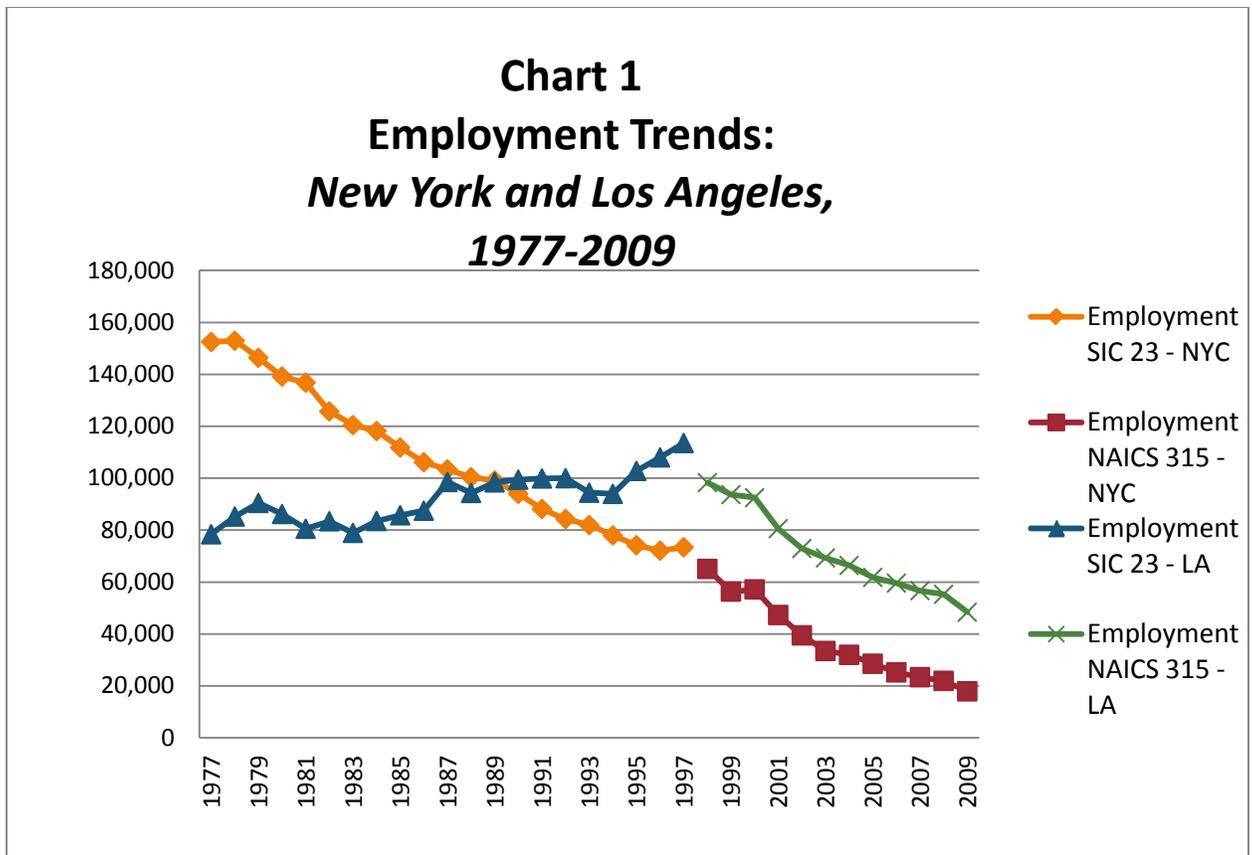
Los Angeles, however, started to become a successful late-developing garment district in the 1920s when designers for the Hollywood movie industry invented clothing designs with fashion content that was especially suited for California's casual, outdoor lifestyle. It already had the immigrant workforce and manufacturing capacity that allowed it to quickly develop its new sportswear specialization and it had an established base of buyers in a regional market that had grown considerably by the 1920s. Its share of the of the U.S. women's wear market in the 1930s was less than 3%, but more than doubled by the end of World War II as national buyers

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and detailed district-wide data, based on the NAICS classification system, are only available since 1997 at the earliest and the previous SIC classification uses very different industry categories that are not fully compatible with NAICS data, even at the aggregate industry level. Most comparisons between the districts will therefore be limited to the decade of the 2000s.

began to open offices in Los Angeles (Lassiter, 1953). It continued to grow through most of the 20<sup>th</sup> century as it came to serve an expanding national market for sportswear and a new international market for denim jeans.

New York City had long experienced competition from other East Coast and Mid-western garment districts as well from the geographic decentralization of production of lower-end and mass-produced apparel to adjoining suburban areas and then to rural areas in the south (Helfgott, 1959) and Los Angeles faced similar external competition as it moved from a regional to a national market. First-mover” New York reached its peak employment in 1948 before starting to decline. Late-developing Los Angeles surpassed New York in employment in 1990 and employment continued to grow until 1997 when import penetration and out-sourcing to nearby low-cost producing countries signaled the beginning of its decline (see Chart 1). Even as they decline, however, both districts have retained their traditional agglomeration economies and the competitive strategies of each district continue to be influenced by path dependent “created” agglomeration economies developed during their formative periods of industrial growth.



New York established its first mover advantage by drawing upon traditional district externalities and gained a substantial share of the national market for women’s cloaks and coats under highly-competitive, non-union market conditions during the late 1800s. However, when the industry was forced to respond to union bargaining demands backed by strikes in 1909, it embarked on an uneasy partnership with its unions to regulate “cutthroat” competition in the industry. During this early stage of regulation through collective bargaining, the Union focused on improving wages and benefits and then on working with employers to set and enforce prices commensurate with higher labor costs, but the district continued to face non-union competition and inefficient labor unrest.

These problems led employers to briefly abandon collective bargaining in the early 1920s, but market entry and even more intense district competition soon led New York employers to return to collective bargaining and to fashion a stronger set of market regulations. A new round of collective bargaining agreements limited entry by restricting unionized employers from contracting with lower cost suppliers and by expanding the organizing and

bargaining footprint of New York unions in order to standardize wages and benefits across a large fraction of suppliers to the New York market. The final stage of this regulation strategy was to manage the number of suppliers serving the New York market so as to control excess capacity and to better synchronize the growth in apparel supply with the growth of demand for New York's apparel products. Collective bargaining also stabilized competition and employment by requiring exclusive contracting relationships in which manufacturers and jobbers dealt only with designated contractors and contractors generally worked for a single jobber or manufacturer.

These collective bargaining regulations proved to be mutually beneficial to unions and employers. Union's secured higher wages and better working conditions for their members while employers benefited from less-intense competition from within the district, slower entry into New York's markets, and improved efficiency from the elimination of marginal employers and from increased human capital investments that became profitable under stable contracting relationships. In addition, the New York district was able to specialize in higher-value products that were best suited to a relatively high-wage workforce and to smaller-scale, faster, and more flexible production methods, but at the cost of conceding its lower-end and more standardized products to districts with lower wages, less-expensive real estate, and weaker unions.

This strategy allowed New York to sustain its market share in coats and cloaks and to gain large market shares in new specializations such as skirts and dresses. However, the entry barriers that protected more-fashionable specializations in New York and the higher labor costs that accompanied collective bargaining allowed lower-cost districts such as Los Angeles grow and left New York vulnerable to competition from these other districts when consumer preferences turned towards more casual clothing that could often be produced with large-scale mass production methods.

Meanwhile, Los Angeles deliberately fostered a union-free and highly competitive market structure from the beginning of its garment industry, except for a brief period during the Depression and World War II when public policy strongly encouraged unionization. This allowed Los Angeles to benefit from the efficiency incentives of market competition and to avoid the costs of union wage premiums and strikes. While Los Angeles lacked the monopoly and efficiency advantages that New York received from market regulation, it benefited from the

knowledge and market contacts of “runaway” employers that had left New York to escape unions, and from the continued outflow of lower-value production from New York.

Los Angeles eventually surpassed New York in output and employment in the 1980s and its lead over New York has continued to widen as both districts lose market share to imports (see Chart 1). This record of performance would seem to demonstrate that Los Angeles’ late-development strategy of opposing unions and maintaining active market competition is proving to be more durable than New York’s first-mover strategy of regulation through collective bargaining. New York City, however, has a long history of losing more standardized products to lower cost districts while retaining its leadership in the design of new products and its resourcefulness in serving volatile, small volume, and quick response markets.

## District Decline in New York and Los Angeles

Both districts have declined sharply during the 2000s.<sup>3</sup> New York experienced higher rates of job loss and business closure than Los Angeles. New York started the decade with 57,178 apparel workers (NAICS 315) and ended it with 17,942 workers for a job loss of 68.6% while Los Angeles had 92,697 workers in 2000 and ended the decade with 48,112 workers for a job loss of 48.1% (see Chart 1). Establishment data also show a decline, but at a somewhat slower rate than job loss. At the most aggregate level (NAICS 315), Los Angeles had 4,336 apparel establishments in 2000, compared to New York's 3,350 establishments while the corresponding numbers for 2009 were 2,636 and 1,362 establishments. By the end of the decade, the Los Angeles apparel industry had 2.4 times more apparel employment and almost twice as many apparel establishments as New York City. This section will examine the strengths and weaknesses of the New York and Los Angeles districts from the perspective of the women's wear manufacturing, the dominant specialization of both districts during the latter part of the 20<sup>th</sup> century, in order to assemble a broader understanding of the future of the apparel industry.<sup>4</sup>

### Trends in Women's Wear Employment, Establishments, and Output: 2000-2009

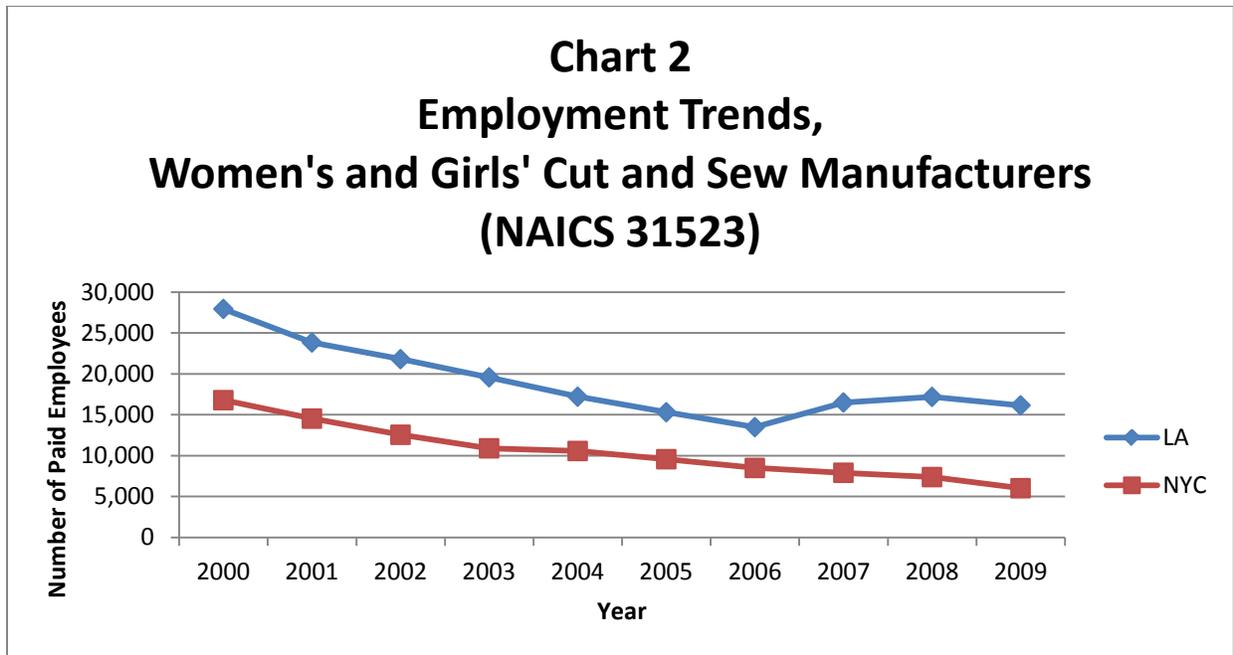
Women's wear accounts for 82% of apparel industry jobs in Los Angeles and 75% in New York City (2009). The supply chain for women's wear is organized around an important distinction between "manufacturers" and "contractors". Manufacturers and jobbers design clothing, purchase fabric, manage the commercial aspects of contracting production and marketing, and do some garment assembly, whereas contractors are almost exclusively responsible for garment assembly under contracts from manufacturers.

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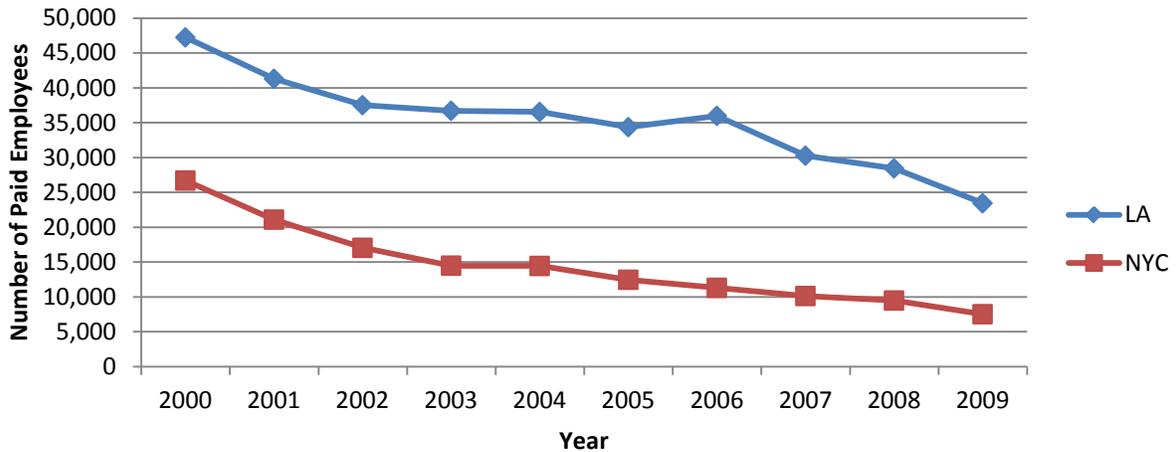
<sup>3</sup>Time series data at the district level are generally available for employment, the number of establishments, and earnings. Because New York and Los Angeles represent a large fraction of the garment industry in their respective states, state-level data from the Annual Survey of Manufactures and the 2002 and 2007 Economic Censuses for manufacturing will be substituted for district data when examining labor productivity, skill levels, value-added, fabric inputs, and shipments of apparel products, which are only available for states. Output data is not available at the district level, but trends in district employment are a reasonable proxy for district output because employment and output trends are similar at the state level.

<sup>4</sup> Most of the district analysis will examine trends in cut and sew women's wear at the 5-digit level (Women's and Girls' Cut and Sew Apparel Manufacturing, NAICS 31523) and 6-digit level (Women's, Girls', and Infants' Cut and Sew Apparel Contractors, NAICS 315212). State level analyses will be limited to the 4-digit level (Women's Wear, Cut and Sew Apparel (NAICS 3152).

Employment levels in women’s wear (defined as NAICS 31523 and NAICS 315212 combined) have declined in both districts between 2000 and 2009, but the decline was larger in New York (68.9%) than in Los Angeles (47.3%). Employment among women’s wear manufacturers (NAICS 31523) in Los Angeles fell some less than the women’s wear average during this period (42.2%), attributable in part to a rebound of employment in the blouse manufacturing sector after 2005, while employment by manufacturers in New York fell by 64.1% (see Chart 2). Employment among women’s wear contractors (NAICS 315212) did less well with Los Angeles losing 50.3% of its contractors’ jobs during the 2000s while employment losses among contractors in New York were 71.9% (see Chart 3). Nevertheless, the both districts continue to employ a relatively large number of workers in women’s wear, 39,602 (2009) in Los Angeles and 13,532 in New York.

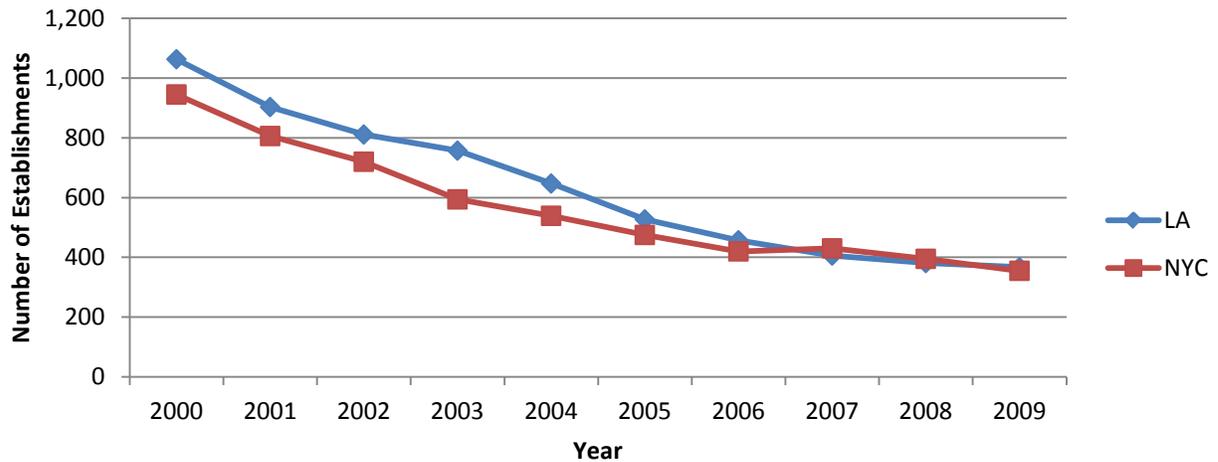


**Chart 3**  
**Employment Trends,**  
**Women's and Girls' Cut and Sew Contractors**  
**(NAICS 315212)**

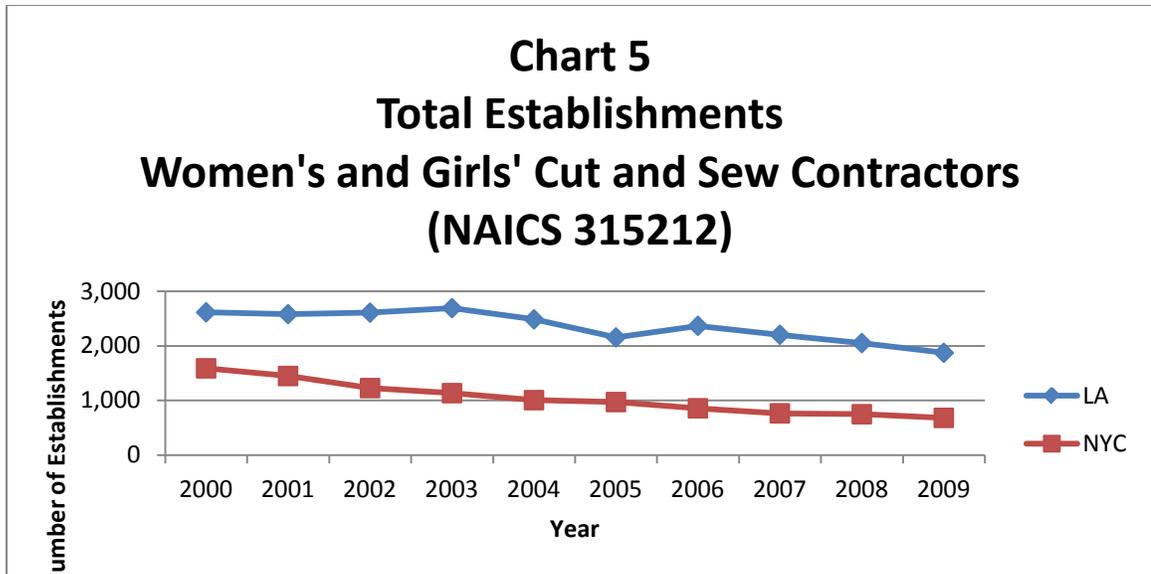


Los Angeles had more women’s wear manufacturers (1,063) than New York (945) in 2000, but the number of manufacturers declined more rapidly in Los Angeles (by 65.5%) than in New York (by 58.2%), so that New York had almost as many women’s wear manufacturers (355) as Los Angeles (367) by 2009 (see Chart 4). This convergence in the number of manufacturers in the two districts is the result of business closings in the “Other Women’s Outerwear Manufacturers” sub-sector (NAICS 315239) in Los Angeles, which includes jeans as well as bathing suits, jogging outfits, and shorts. The number of manufacturers in other women’s wear sub-specializations in Los Angeles stabilized during the mid-2000s and some showed minor gains by 2009. With the exception of blouse manufacturers, which showed a slight rebound after 2006, the manufacturer sector in New York declined across the board throughout this period. The net result of these changes in employment and establishments is that the average size of women’s wear apparel manufacturers in Los Angeles increased from 26.3 employees in 2000 to 44.0 in 2009, principally because of growth in employment among blouse manufacturers, while establishment size in New York remained relative stable at between 17 and 18 employees throughout the decade.

**Chart 4**  
**Total Establishments**  
**Women's and Girls' Cut and Sew Manufacturers**  
**(NAICS 31523)**



The number of women’s wear contractors also declined substantially during this period with New York losing contractors at a much faster rate than Los Angeles, 57.2% in New York compared to only 28.4% in Los Angeles. By 2009, Los Angeles had 1,872 women’s wear contractors while only 680 contractors remained in New York (see Chart 5). Employment among contractors fell more rapidly than the number of establishments in both districts so that establishment size in the women’s wear contractor sector experienced sharp declines. The average size of contractors in New York City fell from 16.8 to 11.0 between 2000 and 2009 and contractors in Los Angeles from 18.1 to 12.5 in during the same period so that by the end of the decade contractors in both districts were of roughly similar size.



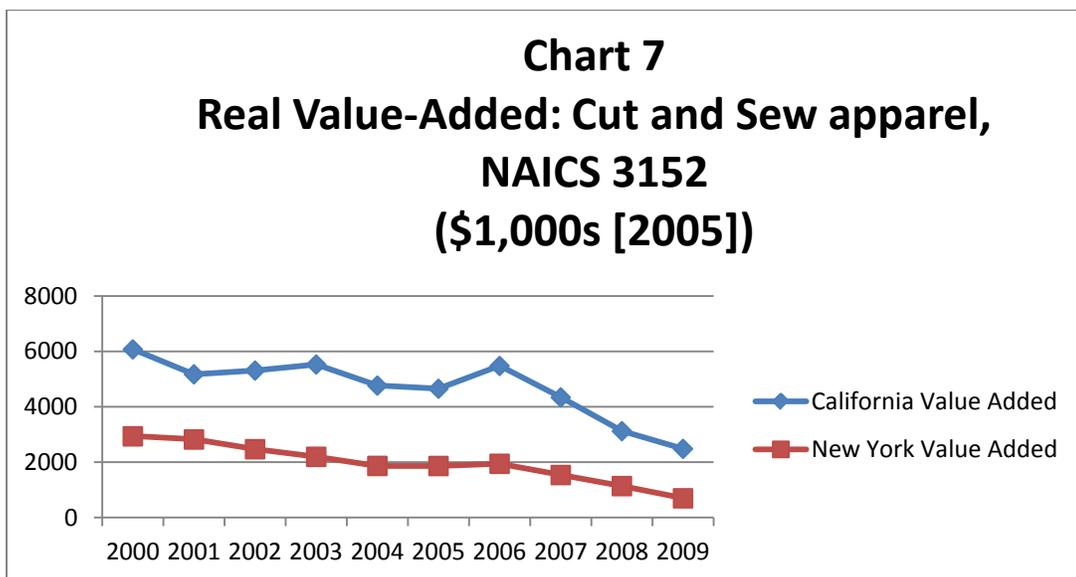
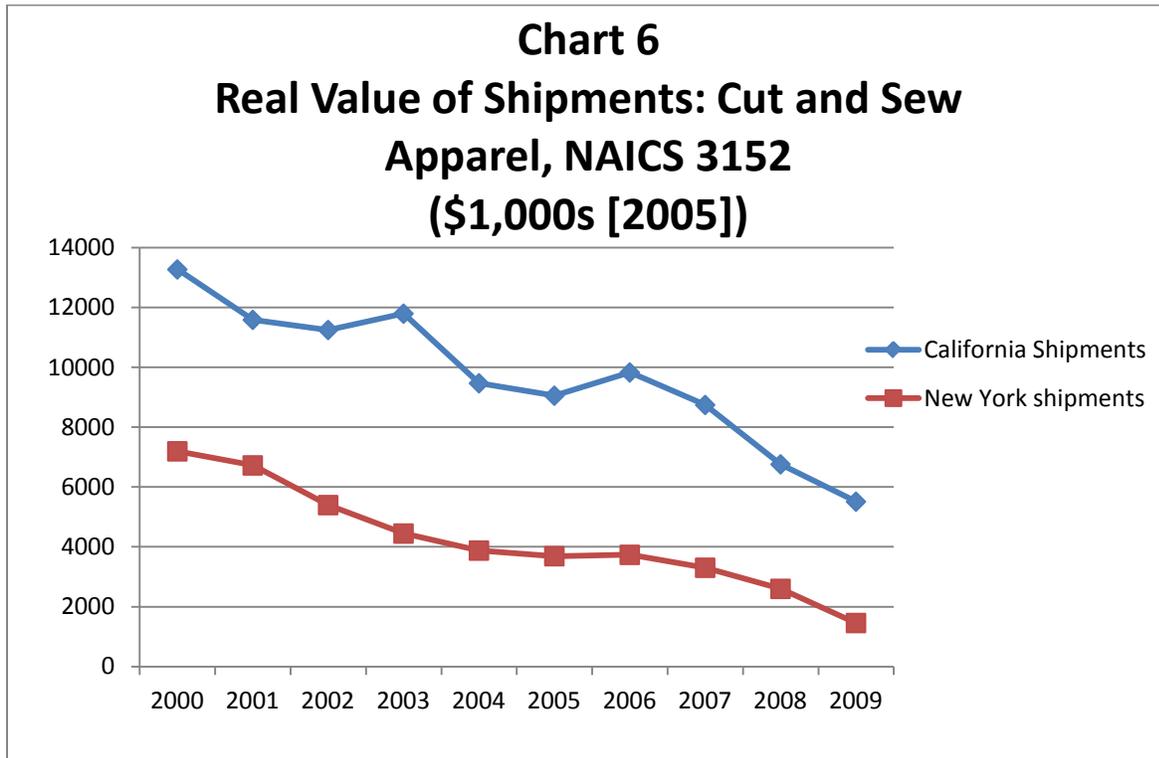
Trends in Women's Wear Output: Shipments and Value-Added, 2000-2009

A third way of measuring decline in the two districts is through data on output. While data on women's wear output are not available at the district level for New York and Los Angeles, there is state-level data on both shipments and value-added for the cut-and-sew apparel sector (NAICS 3152). Because Los Angeles and New York City account for a large fraction of apparel production in their respective states, trends in statewide data provide a reasonable approximation of those at the district level.<sup>5</sup>

The real value of shipments of cut-and-sew apparel by California were \$5.63 billion 2009, 3.8 times larger than New York's \$1.49 billion of shipments (see Chart 6) and California's shipments declined by 58.5% between 2000 and 2009 compared to a 79.7% decline for New York. Shipments of finished products, however, can include apparel that was manufactured in whole or in part outside of the United States so a better measure of domestic production is value-added. The real value-added by cut and sew apparel production in California in 2009 was \$2.54 billion; 3.5 times the \$716 million of value-added from production in New York (see Chart 7). During the decade of the 2000s, California's value added fell by 59.1%; while New York's

<sup>5</sup> Statewide data on shipments and value-added are published at the 3-digit level (Apparel Manufacturing, NAICS 315) and for the largest 4-digit classifications. Cut and sew apparel manufacturing (NAICS 3152) is the 4-digit NAICS code that most-closely approximates the women's wear sector. Los Angeles County accounted for 92% of all shipments of cut and sew apparel manufacturing in California in 2009 and the corresponding share of New York State shipments accounted for by New York City was 88%.

value-added fell by 76.2%. The magnitudes of these statewide declines in real value-added are somewhat larger than the corresponding changes in cut and sew apparel employment in both districts during this period, but it is apparent that the rates of decline in California are less severe than in New York.



## Traditional Explanations of the Los Angeles Employment and Output Advantage

There is a standard set of economic hypotheses that could explain the superior ability of Los Angeles to retain apparel jobs, businesses, and markets as the industry declines. These include lower wages, greater product specialization, scale and scope economies in production and marketing, and the ability of the larger Los Angeles district to generate greater agglomeration externalities than are available in New York.

### Wage and Labor Cost Advantages

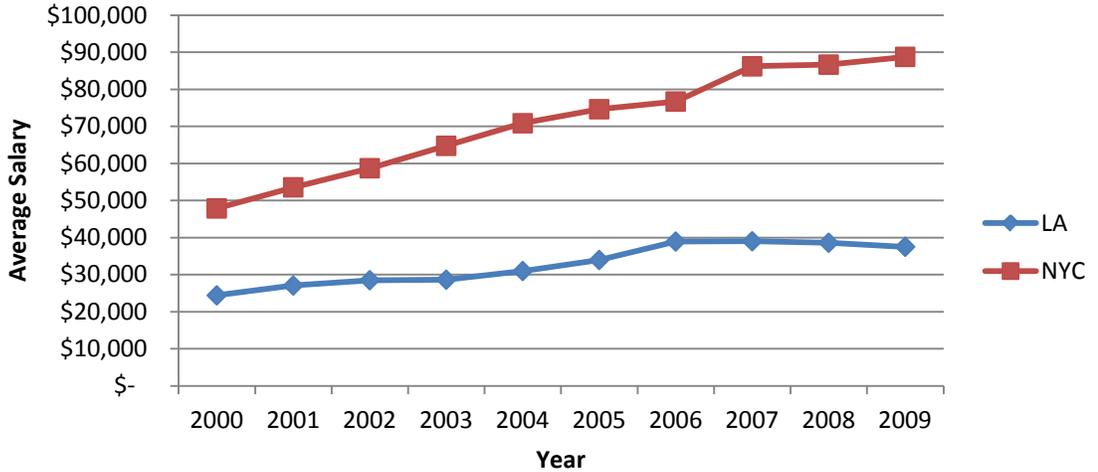
The labor supply of new immigrants coupled with intense competitive pressures on costs kept apparel wages in the New York garment district below those of other major districts during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, particularly for less-skilled labor, but this advantage disappeared quickly and by 1921 New York had the highest wages among the major U.S. apparel districts including Los Angeles.<sup>6</sup> Similar flows of new immigrant labor have characterized both districts in the post-war period. New York has generally been the recipient of a somewhat larger number of immigrants, but Los Angeles had a dramatic increase in the number of immigrants in the 1980s that dwarfed that in New York and caused unusual decline in low wage employment. More recent data for the 2000-2009 period shows that the New York district continues to be a high-wage district relative to Los Angeles in the women's wear manufacturer sector, while the contractor sector in Los Angeles has slightly higher earnings relative to New York (see Charts 8 & 9).<sup>7</sup>

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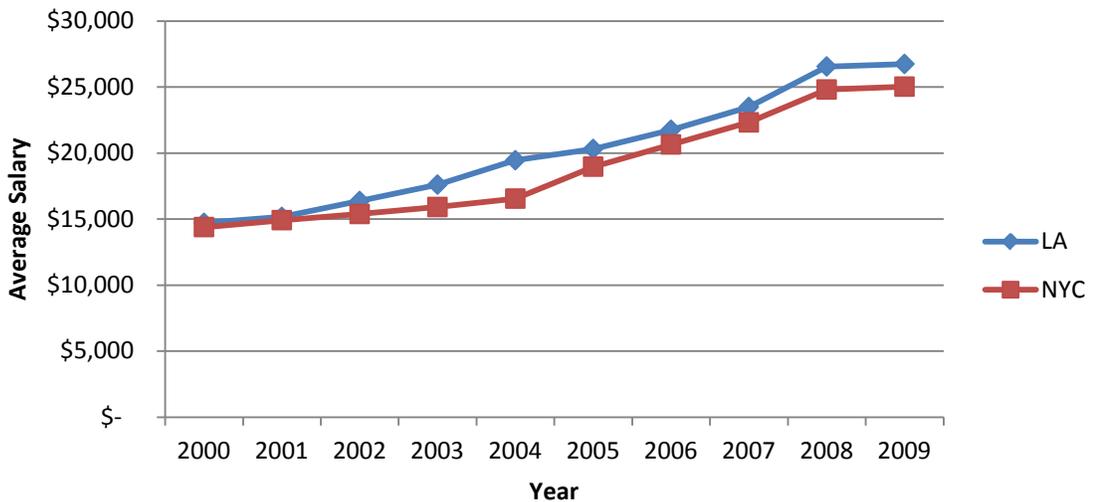
<sup>6</sup> Wages of factory-based sewing machine operators in 1906, for example, were 49% higher in Chicago than in New York, 34% higher in Boston, and 23% higher in Baltimore, with only Philadelphia (with a wage premium of only 2%) coming close to New York's wage level (Segal, 1960, p. 94). By 1910, however, competition from other districts was seen as a major constraint on wages (Carpenter, 1972, pp. 48-49, 560); in 1921 New York had the highest-wages among apparel districts with more than 2,000 employees, with average annual earnings in New York ranging from 11% above those in Cleveland to 58% above those in Los Angeles, to twice as high as wages in Baltimore (Levine, 1969, Table VII); and in 1939 New York wages were 30.8% above the U.S. average (Carpenter, p. 562). More recent earnings data for the 2000-2009 show that average annual apparel earnings (NAICS 315) for New York City were 58% higher than those in Los Angeles (see Chart 12), the same differential as prevailed in 1921.

<sup>7</sup> Los Angeles, however, has lower wages in key assembly occupations such as sewing, cutting, and pattern-making as will be discussed below. Manufacturers' wage in New York City in part reflect the higher salaries of designers relative to those in Los Angeles.

**Chart 8**  
**Average Annual Earnings**  
**Women's and Girls' Cut and Sew**  
**Manufacturers (NAICS 31523)**



**Chart 9**  
**Average Annual Earnings**  
**Women's and Girls' Cut and Sew Contractors**  
**(NAICS 315212)**



The wage gap between the two manufacturer sectors has widened in recent years and by 2009 average earnings among New York's manufacturers were \$88,773, almost 2.4 times those in Los Angeles (\$37,515). Contractors' earnings in Los Angeles and New York were roughly comparable at the beginning of the 2000s, but earnings of contractors in Los Angeles rose faster than those in New York over the entire decade and they exceeded those in New York by 6.9% in 2009 (\$26,750 in Los Angeles compared to \$25,031 in New York).

Obviously the wage differences between manufacturers and contractors represent differences in occupational composition since the manufacturer sector includes design, logistics, and commercial occupations as well as manufacturing employees while the vast majority of employees in the contractor sector are engaged in sewing and assembly work and it is also possible that there are differences in the occupational composition of manufacturers between the two districts.<sup>8</sup> There is no comprehensive occupational data available by sector for the New York and Los Angeles garment districts or even nationally, but there is wage and employment data for four occupations (fashion designers, sewing machine operators, textile fabric cutters, and fabric and apparel patternmakers) for which apparel manufacturing and other apparel-related industries are the main employers (U.S. Department of Labor, May 2010).<sup>9</sup>

This occupational wage data is consistent with the observed sectoral earnings differences between New York and Los Angeles for those occupations that are concentrated in the manufacturer sector. Wages for the skilled manufacturing occupations – cutting and pattern making – that are more typically employed by manufacturers than contractors have been equal to or higher in New York than in Los Angeles during the 2000s and that differential has been rising. Cutters in New York had 27% higher wages compared to those in Los Angeles in 2000 and 35% higher wages by 2010 while pattern-makers (the highest-paid of the manufacturing occupations) received comparable salaries in New York and Los Angeles in 2000, but by 2010 New York had 36% higher wages. Designers are also typically employed by manufacturers (and jobbers) rather than contractors and they too are paid more in New York than in Los Angeles, although this wage differential has narrowed from 17% in 2000 to 9% in 2010.

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<sup>8</sup> Sewing machine operators comprised 43.6% of employment in the 4-digit "cut and sew" manufacturers and contractors (NAICS 3152) nationally (U.S. Department of Labor, May 2010).

<sup>9</sup> Regional time series data on occupations is available under the BLS Occupational Statistics Program (See, for example, U.S. Department of Labor, May 2010). However, this is a small-scale survey program and the data is based on 3-year moving averages of employment with wages updated to reflect the latest year in the average.

In contrast to the sectoral data on contractors, the earnings for sewing machine operators (the dominant occupation in the contractor sector) have also been higher in New York during the 2000s, by about 13% in 2000 and 18% in 2010. However, contractors employ other occupations as well – quality checkers, packers, warehouse personnel, pressers, and various types of office workers -- which could explain the observed sectoral differences, and the earnings differences found among sewing machine operators in the two districts could also reflect productivity differences since sewing machine operators are the principle garment assembly occupation that receives piece-rate pay. In any event, the preponderance of the evidence points to New York as being the higher-earnings district relative to Los Angeles in the manufacturer sector and for key assembly occupations.

### Specialization Advantages

Greater specialization is a second possible source of Los Angeles' advantage over New York, particularly since the degree of specialization has been shown to have a substantial effect on district employment retention (Rice, 2008). NAICS data for the 2000s does not provide as much information on overall product specialization as the previous SIC categories for the apparel industry, but it does permit a comparison of product specializations among manufacturers in each district (see Table 1).<sup>10</sup>

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<sup>10</sup> Contractors are portrayed in the NAICS as providing sewing capacity that is undifferentiated by product. However, sewing skills, scale and organization of production, and type of material tend to vary between men's and women's wear so that contractors are unlikely to cross major product categories.

**Table 1**  
**Top Five Product Specializations:**  
**New York City and Los Angeles (2009)**

<b>Product Lines:</b>	<b>Cut &amp; Sew Manufacturers</b>	<u>NAICS</u>	<b>% Manufacturer Employment</b>	
			[NAICS 3152 minus 3152]	
			<u>NYC</u>	<u>LA</u>
<b>Men's Work Clothes</b>		<b>315225</b>	n.a.	4.4%
<b>Lingerie</b>		<b>315231</b>	9.7%	n.a.
<b>Women's Blouses/Shirts</b>		<b>315232</b>	6%	40.1%
<b>Dresses</b>		<b>315233</b>	35.6%	17.2%
<b>Women's Suits/Coats</b>		<b>315224</b>	9.5%	2.8%
<b>Other Women's Outerwear</b>		<b>315239</b>	33.2%	22.9%
<b>Total %</b>			<b>94.0%</b>	<b>87.4%</b>

Based on employment weights by type of apparel manufacturer, no clear picture emerges of which district is the more specialized. New York's 5 largest specializations account for slightly larger share of manufacturer employment (94%) compared 87.4% in Los Angeles and New York's top 5 specializations are exclusively in women's wear while Los Angeles' fifth largest specialization is in men's work clothes, which is a low-fashion mass-produced product. Los Angeles' largest specialization, women's blouses, employs a somewhat larger fraction of the manufacturer work force (40.1%) than does New York's counterpart dress specialization (35.6%), but the 4<sup>th</sup> and 5<sup>th</sup> ranked specializations in New York account for more than twice as large a share of manufacturer employment as those in Los Angeles.

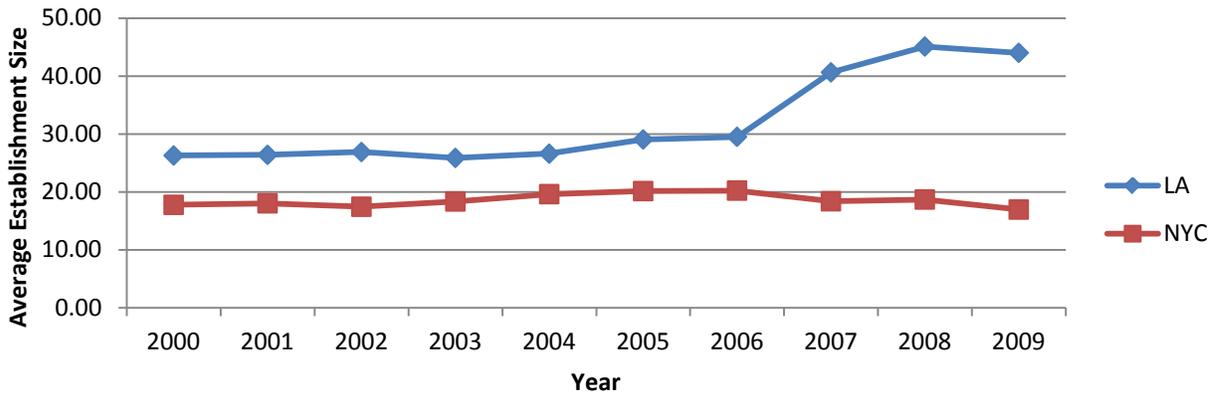
What is more striking however, is that each district has only one exclusive specialization among its top 5 (men's work clothes in Los Angeles and lingerie in New York) while four of the five largest specializations in these districts overlap. There are differences in the importance of overlapping specializations, but each district's presence in these overlapping specializations suggests that the two districts are able to compete in a number of similar product areas. Given the relative ease with which product designs can be imitated, it is unlikely that specialization by itself is can explain the large differences in output and employment trends between the two districts.

#### Scale and Scope Advantages

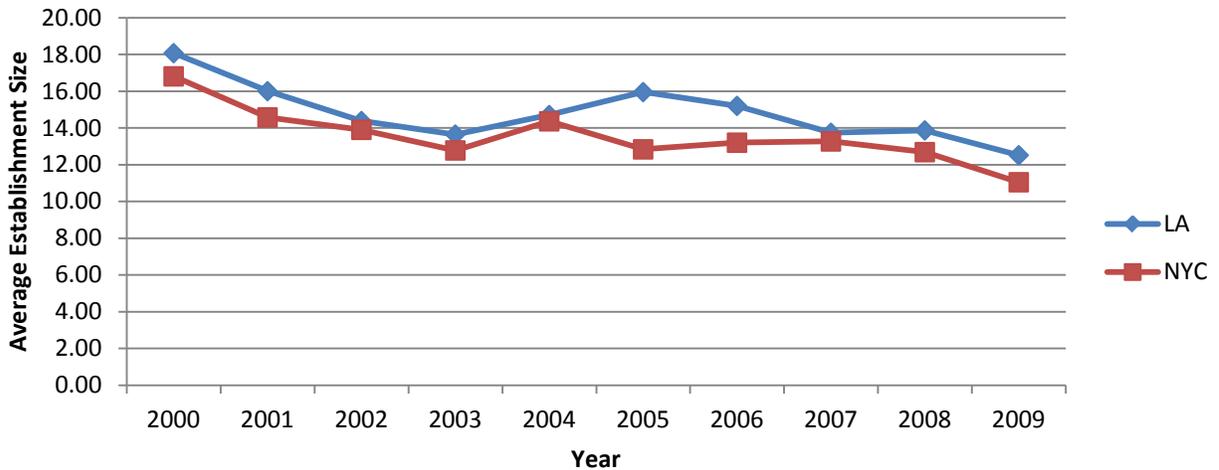
District efficiencies can arise from scale and scope economies of firms. While there is no data on firm-level scale and scope economies in the New York and Los Angeles garment districts, some sense of these differences can be inferred from the size of establishments in the two districts.

Apparel manufacturing establishments are generally small and, between downsizing and business failures by larger firms, the average firm size has been falling in both districts as the industry has declined. On average, cut and sew apparel establishments (NAICS 3152) have been smaller in New York (15.2 employees) than Los Angeles (18.2 employees) between 2000 and 2009 and this size difference has been increasing over the decade. Much of the size difference comes from the women's wear manufacturers sector (see Chart 9) while women's wear contractors have been much more similar in size during this period (see Chart 10).

**Chart 9**  
**Average Establishment Size**  
**Women's and Girls' Cut and Sew Manufacturers**  
**(NAICS 31523)**



**Chart 10**  
**Average Establishment Size**  
**Women's and Girls' Cut and Sew Contractors**  
**(NAICS 315212)**



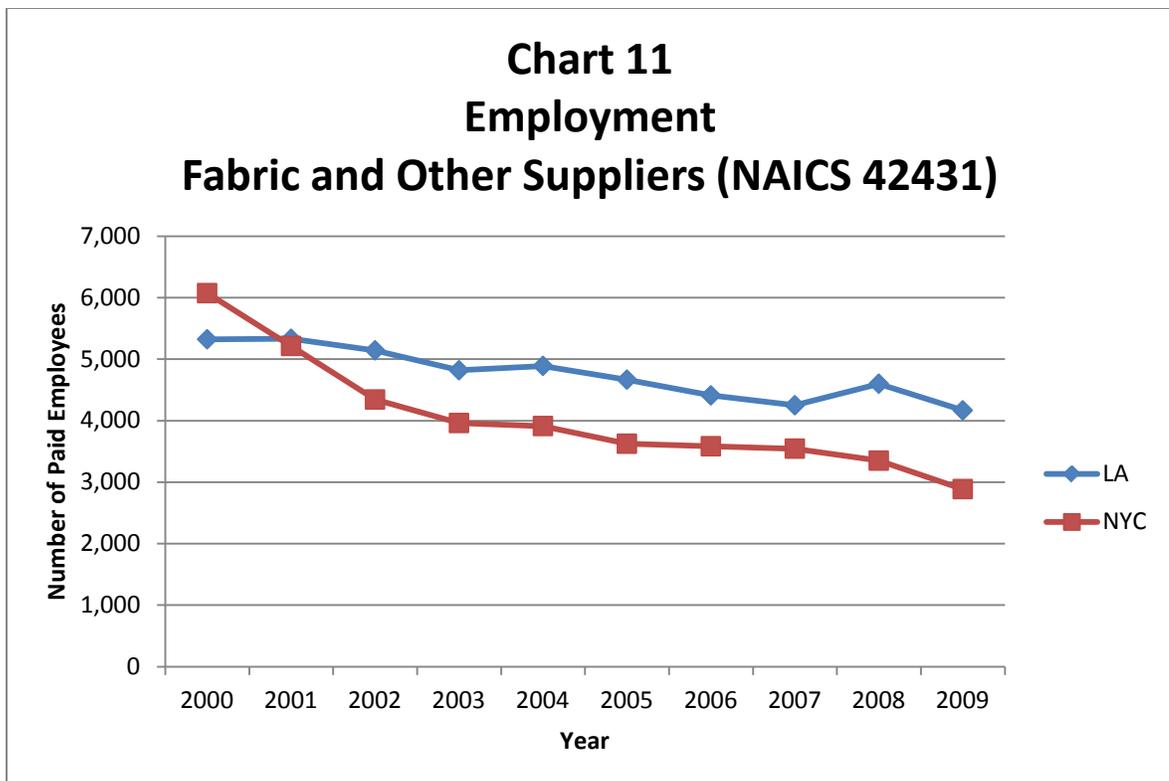
Average sizes, however, can be misleading because the size distribution is so highly-skewed toward smaller establishments. While roughly equal fractions of the establishments in both districts had fewer than 20 employees in 2009 (78% in New York and 79% in Los Angeles) and fewer than employees than 50 employers (94% in New York and 92% in Los Angeles), Los Angeles has traditionally had more large establishments. As recently as 2000, Los Angeles had 19 women's wear manufacturers and 5 contractors with more than 250 employees, compared to 3 and 3 respectively in New York (Table 2). By 2009, however, Los Angeles had lost most of its larger establishments and was down to 4 manufacturers and 7 contractors with 250 or more employees, but by then New York had only 1 manufacturer with more than 250 employees and no large contractors. However important scale and scope economies of manufacturing might once have been, they are rapidly disappearing from Los Angeles and are now virtually absent from New York.

<b>Table 2</b>			
<b>Large Women's Wear Manufacturers (NAICS 31523)</b>			
By Employment Size			
	100- 249	250- 499	500- 999
Los Angeles 2000	54	15	4
New York 2000	17	2	1
Los Angeles 2009	20	3	1
New York 2009	3	0	1
<b>Large Women's Wear Contractors (NAICS 315212)</b>			
By Employment Size			
	100- 249	250- 499	500- 999
Los Angeles 2000	53	6	1
New York 2000	10	2	1
Los Angeles 2009	27	4	1
New York 2009	3	0	0

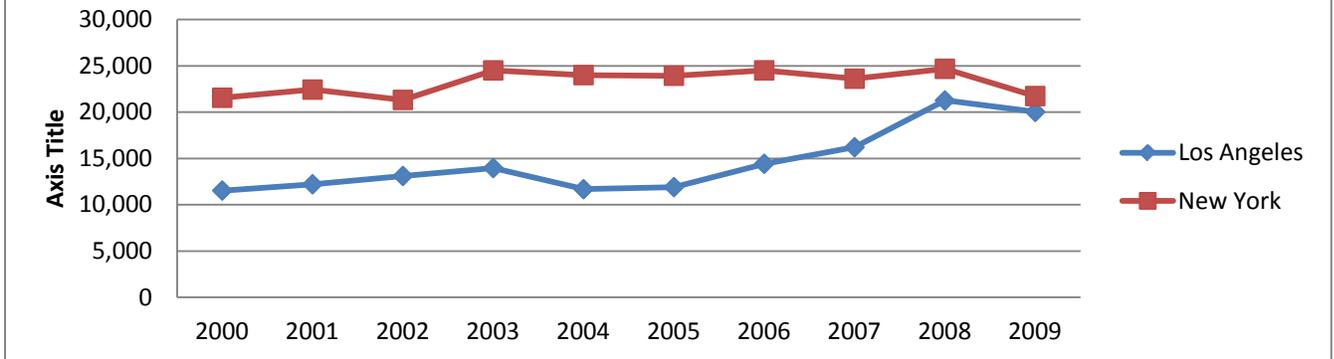
## Garment District Agglomeration Economies

It is well established that agglomeration economies are correlated with the size of cities (Ellison, et al., 2010) and this size effect has also been documented for garment manufacturing (Rice, 2008). Because Los Angeles has a far larger apparel manufacturing sector than New York, it should have the greater advantage in district externalities.

However, agglomeration economies are derived from all of the sectors within a district's apparel supply chains – suppliers, wholesalers and jobbers, and designers -- not just manufacturing. A broader examination of the relative size of different supply chain sectors in Los Angeles and New York shows a mixed pattern of relative strengths and weaknesses. Using employment as an indicator of size, for example, shows that Los Angeles has an increasing advantage among suppliers of manufacturing inputs such as fabric, trimmings, zippers, and needles (see Chart 11) while New York has a narrowing advantage in the wholesale distribution of women's wear (see Chart 12).



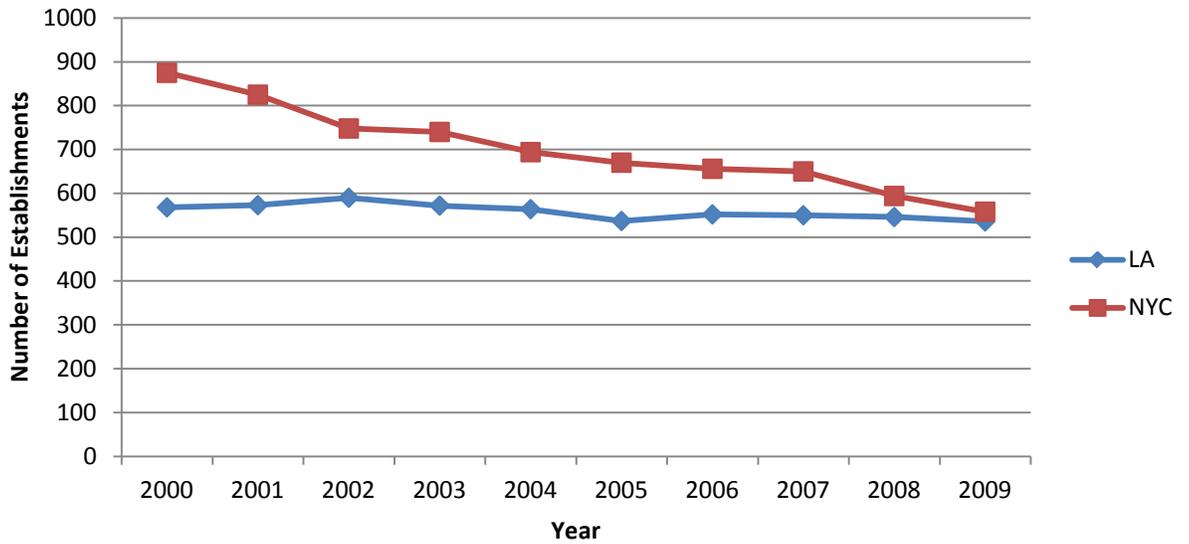
**Chart 12**  
**Employment:**  
**Women's Wear Wholesalers**  
**NAICS 42433 (42333)**



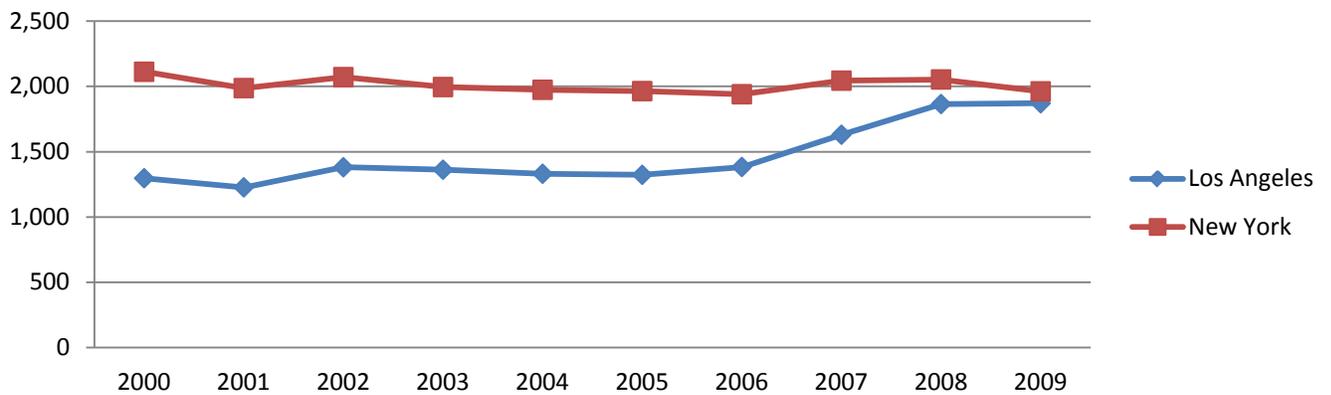
In an industry like apparel where product differentiation is important, however, the appropriate measure of “size” may be the number and variety of firms within supply chains rather than the scale of the sector. By this measure, New York has had roughly the same number of women’s wear manufacturers as Los Angeles since the mid-2000s (see Chart 5) and has maintained an, albeit diminishing, advantage over Los Angeles in the number of suppliers of fabric and other inputs and of women’s wear wholesalers (see Charts 13 & 14).

A third way of assessing externalities is to look at the size of the occupational labor pools available to each district. Occupational labor pools are featured prominently in the traditional agglomeration literature as both a source of skill and a conduit for information about products and supply chain operations. Clearly Los Angeles has the larger aggregate labor pools for both manufacturers and contractors, and this advantage is also evident in more-detailed data for apparel production occupations in the two districts (U.S. Department of Labor, May 2010, various occupations). The labor pool in Los Angeles for sewing machine operators is 2.1 times larger than in New York, 3.7 times larger for cutters and 68% larger for patternmakers. The relative magnitudes of the sewing machine operators and cutters reflect the overall differences in

**Chart 13**  
**Total Establishments:**  
**Fabric and Other Suppliers (NAICS 42431)**



**Chart 14**  
**Total Establishments:**  
**Women's Wear Wholesalers**  
**NAICS 42433 (42333)**



employment and output in the two districts and the narrower difference in patterns makers is consistent with the New York having less output, but a roughly equal number of manufacturers compared to Los Angeles.

These labor pool advantages, however, are reversed in the case of fashion designers where New York had 6,790 fashion designers (2010) or about 2.6 times as many as the 2,640 designers in Los Angeles. Fashion designers are found in industries such as footwear and electronics as well as apparel, but the largest employers are apparel related. Apparel and piece goods wholesalers and the cut and sew apparel manufacturing sector account for 60% of the employment of fashion designers nationally (U.S. Department of Labor [27-1022 Fashion Designers], May 2010) and there are also independent and free-lance designers associated with the apparel industry in both Los Angeles and New York.

The relative magnitudes of these labor pools in Los Angeles and New York can also be seen in their shares of national employment as measured by location quotients.<sup>11</sup> The Los Angeles metropolitan area surpasses the New York metropolitan area in its concentration of production occupations, with a location quotient of 5.44 for sewing machine operators compared to 1.97 for New York, 5.74 compared to 1.09 for cutters, and 10.89 compared to 4.97 for patternmakers. New York, however, dominates in its concentration of fashion designers with a location quotient of 11.51 compared to 5.85 for Los Angeles.

These admittedly indirect measures point to New York and Los Angeles having somewhat different profiles of district externalities. New York's externalities are clearly weighted towards design and sales activities while Los Angeles has stronger externalities relating to clothing manufacturing. While these differences in externalities could explain why Los Angeles now produces more apparel than New York, they also reflect the current size of the two districts and fail to explain how the historically much larger New York district came to be overtaken by Los Angeles.

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<sup>11</sup> An occupational location quotient is the ratio of the percentage share of an occupation in local employment to the percentage share of that occupation in national employment. Location quotients greater than 1 indicate that fashion designers are over-represented in the local area when compared to the national average. The location quotient for fashion designers in the New York-New Jersey Metropolitan Divisions in 2010 was 11.51 compared to 5.85 for the Los Angeles-Long Beach Metropolitan Division. This means that fashion designers are over-represented in both districts, but that New York is a more designer-intensive district than Los Angeles.

## Product Life Cycles and the Re-Design of District Advantage in New York and Los Angeles

None of the traditional sources of garment district advantage – labor costs, scale and scope economies, product specialization, or agglomeration economies – provide an adequate explanation of why the Los Angeles garment district should have gained and sustained its lead over New York City. New York’s manufacturers pay higher salaries on average than those in Los Angeles and sewing machine operators are higher paid as well, but average earnings for the contractor sector are somewhat lower in New York and earnings differences could well reflect productivity differences. The presence of larger-scale manufacturers and contractors may confer economies of scale and scope on the Los Angeles district that are not available in New York, but the size differences on average are small, large firms are rapidly disappearing from both districts, and the smaller scale of establishments in New York could also offer advantages of greater speed and flexibility in serving smaller markets for highly-differentiated and higher-priced fashion products. Another plausible explanation, that the demand for domestic production of fashion products has declined more rapidly than for sportswear, fails to recognize that New York’s strong endowment of designers, flexible manufacturing capacity, and overlapping product specializations should have allowed it to quickly expand its sportswear production in response to such a market trend. Even the possibility that district inefficiencies from unionization limited New York’s ability to compete directly with Los Angeles seems unlikely, given that unions have not been a bar to New York manufacturers adopting Los Angeles’ highly competitive contracting relationships for a decade or more.

### The Apparel Product Cycle and the New York Garment District

Clues to this puzzle about the causes of these different patterns of growth and decline in Los Angeles and New York can be found in the analysis of product-cycles and district externalities from an earlier study of the women’s and children’s wear industries conducted in New York in the mid-1950s, a period when New York had already past its post-war peak of employment but was still the dominant U.S. apparel district (Helfgott, 1959). This study concluded that New York had been experiencing an outflow of apparel production since the 1920s when held its largest share of apparel industry employment and output. While the New York district continued to grow in absolute terms for almost three decades thereafter, the 1920s

marked the beginning of its transition from a high-growth district to a mature and declining district.

The profile of this decline is well-documented in the study and follows a version of what would later be called the “international” product life cycle (Vernon, 1979). New York began to lose its men’s wear production and then its less fashionable, and more standardized women’s wear products in the 1920s to lower-cost regions, including Los Angeles, where wages were lower, unions weaker, and the efficiencies of scale economies in production could at least partly offset the dominant external economies available in the New York City garment district (Helfgott, 1959). It was this outflow that New York’s apparel industry and unions sought to limit in various ways through collective bargaining regulation, but it proved difficult to use collective bargaining to limit market entry without having a strong union presence in competing districts outside of New York. Establishing a national network of collective bargaining proved an elusive goal of the garment unions and, as other regions became less dependent on New York’s manufacturers for orders, regulation of competition through collective bargaining based in New York became less and less effective.

Despite New York City’s gradual loss of market share, it continued to grow the late 1940s as new products and growing national markets more than offset the loss of lower-end and more-standardized production. But the changing composition of production was also redefining New York’s district advantages. By the mid-1950s, New York City was increasingly a district of smaller firms producing the most rapidly-changing apparel products that had the least stable and predictable demand (Vernon, 1960, Ch. 5). Its emerging district advantages were in producing more-fashionable products that required qualitatively-different traditional agglomeration economies – labor pools of relatively more-skilled occupations (fashion design, pattern-making, broadly-skilled sewing machine operators), proximity to suppliers of relatively-small quantities of diverse fabrics and trims, and easy access to higher-end retailers and branded manufactures.

These district externalities were also being augmented by newly “created” district externalities – quick and flexible production methods and work organization; fast shipping networks; and prompt face-to-face communications among jobbers, contractors, fabric suppliers, and buyers (ibid). While this study did not anticipate the full extent of the import penetration that would occur later in the century, it correctly predicted that New York would decline as a

production center by continuing to lose larger-scale, more standardized production to lower-cost U.S. regions and to lower cost countries, and that the shift to more casual clothing styles that could be produced in larger quantities would accelerate this process (Helfgott, 1959, pp. 68-93).

In the intervening years since the mid-1950s, production of more-standardized and more casual clothing continued to be transferred to other garment centers, first to the South and Los Angeles and then offshore, while design, supply chain management, and marketing activities remained in New York. Meanwhile New York City retained the smaller and more unpredictable market niches, although these niche markets were for lower-end as well as fashion products. Skilled labor pools also became more important as the New York district downsized, although mostly in pre-production activities (such as pattern-making), supply chain logistics, buying and selling occupations, and in sewing operations where workers needed to be broadly-skilled in order to perform a wider range of high quality tasks on each garment and to be able to switch quickly from one product to another. Proximity suppliers and buyers continued to be important, but the pool of suppliers had to be able to quickly provide a broad range of fabrics and trims in relatively small quantities.

The quickening rate of economic decline of the New York City district in the 1980s was initially met by a series of unsuccessful attempts by the apparel unions to slow trade liberalization, and also to impose economic sanctions on jobbers and manufacturers in order to deter offshore contracting. But just as unions were unable to block the transfer of production to Los Angeles and other U.S. garment districts, they lacked sufficient control over buyer markets to bar offshore contracting that competed with New York production. By the 2000s, our field research interviews with jobbers and manufacturers found that they had already established relationships with contractors in the Caribbean or intended to do so in the near future.<sup>12</sup> A dual system for allocating orders between on-shore and offshore contracting was emerging that was managed by individual jobbers and manufacturers with no meaningful regulation by unions.

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<sup>12</sup> The major part of this field research in New York City was conducted in 2003 by Sarah Crean and Seth Myers under the auspices of the Fiscal Policy Institute, with my participation in some of the interviewing and data analysis. Survey data was collected during a series of in-depth interviews with a representative sample of 34 apparel firms in the New York City garment district in 2003 and the project also had access to a counterpart survey in 2003 of 116 unionized apparel contractors in New York City, provided by the UNITE trade union. These surveys were supplemented by additional interviews conducted with UNITE officials, large branded manufacturers, retailers, and industry associations and by more recent follow-up discussions with industry experts.

## The Product Cycle and the Los Angeles Garment District

Los Angeles got its start as a “late developing” district by launching innovations in sportswear designs and by adding specializations in casual women’s wear products. These products were generally more standardized than those being produced by New York and allowed for some economies of scale. The increasing demand for casual clothing after World War II allowed the Los Angeles industry to reinforce its pre-war industry structure that combined the scale economies of mass production of larger manufacturers with the flexibility provided by a small contractor sector to efficiently produce a range of more-standardized products. These were the same types of products that were leaving the New York district in favor of lower cost production locations and, although its product designs differed somewhat from those in New York, Los Angeles became a beneficiary of the exodus of production from New York (Cummings, 2009, pp. 9-10).<sup>13</sup>

Los Angeles also had other advantages that complemented the production of relatively-standardized products. Its large pools of unskilled immigrant labor and its endowment of fabric suppliers that specialized in providing variety of casual fabrics in relatively larger quantities were well-matched to the large-scale production of more-standardized products. And because expanding markets for relatively-standardized products meant longer production runs, the efficiency of the Los Angeles district depended more on the division of labor in garment assembly than on the skill investments made possible by the stable contracting relationships found in New York. The district culture of highly-competitive contracting and freedom from union regulation was therefore well-suited to promoting the kinds of efficiencies that were well-suited to attract the lower-end production that was leaving New York.

While the Los Angeles district had long been considered the “exception” to the general U.S. pattern of widespread job loss to imports (Bonacich and Appelbaum, 2000) it would be more appropriately described as a being located at a different point in the international apparel product life-cycle. Like New York in an earlier period, Los Angeles continued to experience net growth by receiving production from other districts and introducing new products, while also

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<sup>13</sup> This transfer of production from New York to Los Angeles and other districts is captured by Rice (2008) who finds diverse patterns of employment growth and decline among U.S. garment districts while employment was declining both nationally and in New York City.

losing its more standardized products to suppliers with lower labor costs in Florida, Texas and later Mexico.<sup>14</sup> Apparel production in Los Angeles was already beginning to shift to Mexico prior to NAFTA and about 17% of Los Angeles manufacturers were sourcing garment production in Mexico by 1992 (Kessler, 2004). NAFTA, however, caused this trend to accelerate after 1994 and by 2000 about 55% of Los Angeles manufacturers were outsourcing production to Mexico with additional manufacturers planning to use Mexican suppliers in the future (ibid.). The increase in offshore production first hit garment assembly and caused a decline in the employment of sewing machine operators after 1995, but this precursor of overall employment decline in the Los Angeles industry overlooked because of offsetting growth in non-production occupations between 1995 and 1998 (ibid.). At that point, it became clear that Los Angeles was vulnerable to the same types of external competitive pressures as New York.

#### Declining Markets and District Efficiency Incentives

Both New York and Los Angeles are now experiencing similar effects from the international product cycle. The decline in New York district began earlier and brought with it the gradual erosion of unions and collective bargaining, which had been the source of regulatory efficiencies for most of the 20<sup>th</sup> century, while the decline in Los Angeles occurred in the context of unregulated market competition. These differences proved to be critical in shaping how the two districts responded to continued decline in the 2000s.

#### Efficiency and Market Re-design in New York

The erosion of union regulation gave New York jobbers the opportunity to revisit their choice between regulated and competitive markets. District-wide industry regulation by employers was not a legal option without effective unions and, in any event, offshore supply chains were so well-established that regulating entry and fixing prices would likely have been

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<sup>14</sup> The “international product life-cycle” in Los Angeles is well-illustrated by denim jeans, a product for which Los Angeles is known as a design innovator and major supplier of U.S. markets. However, the largest U.S. manufacturers such as Levi-Strauss and VF often chose to locate their mass-production facilities in southern tier states like Texas and Arizona, and then eventually moved their production offshore. Imports of jeans exceeded domestic production by 1997 and U.S. production fell precipitously thereafter (from 6.4 billion units in 1997 to 1.1 billion units in 2003) while imports, primarily from Mexico, more than doubled from 1.3 billion units to 2.7 billion units over the same period (Allen, 2005). As lower-end jeans manufacturers closed or outsourced their production, Los Angeles retained niche markets for premium jeans. However, the even Guess Inc., the largest producer of fashionable jeans in Los Angeles moved much of its production to Mexico beginning in the late 1990s.

ineffective even with strong union involvement.<sup>15</sup> However, it remains permissible for individual jobbers to continue many of the kinds of preferential economic relationships with their core contractors that had previously been established through collective bargaining. Many of the surviving jobbers who had been part of the union regulation system had opted to retain their established contracting relationships, and to build upon these relationships by developing new and more powerful efficiency incentives for contractors, by the time our field research was conducted in the 2000s.

The primary components carried over from previous collective bargaining regulations were exclusive contracting relationships between jobbers and their core contractors and the commitment of jobbers to share work evenly among these contractors. While the original intent of the dedicated contracting requirements was to limit entry by non-union contractors and to ensure that contractors received enough work to keep them employed as close to full capacity as possible, one unintended consequence of stable contracting relationships was the opportunity for additional investments in human and social capital. “Locked-in” contracting relationships meant that jobbers could make idiosyncratic investments in the skills and knowledge of specific contractors without fear of losing the returns on these investments if their contractors worked for competing jobbers and that contractors could make similar investments in knowledge about their jobber’s customers and product requirements.

A second consequence was the “embedding” of reciprocity and mutual obligation into relationships between jobbers and their core contractors. Just as both parties gained from the increased productivity and security made possible by stable contracting relationships, they also benefited from an implicit agreement whereby jobbers used the sharing of orders to help their contractors survive as demand declined and their core contractors helped them win more orders by maintaining quality standards, adhering to tight delivery schedules, and advising jobbers on how manufacturing costs could be reduced. The result was a distinction between “core”

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<sup>15</sup> Section 6 of the Clayton Act generally exempts unions and their collective bargaining agreements from anti-trust regulation. Union regulation of the New York garment district through collective bargaining included restrictive practices such as exclusive dealing and price fixing that would have been illegal if conducted solely by the employer associations with which the apparel unions bargained.

contractors and “peripheral” contractors in terms of productivity, earnings, and continuity of work.<sup>16</sup>

As union regulation waned and jobbers gained sole responsibility for continuing dedicated contracting relationships, many jobbers also continued to honor their embedded obligations to their core contractors. As orders declined, however, jobbers abandoned the previous practice of adjusting the number of core contractors in order to keep them working close to full capacity in favor of using order-sharing to keep as many as possible of their core contractors in business.

During our interviews, jobbers often spoke about declining business and their obligation to continue to support as many of their core contractors as possible. Even though jobbers may eventually have to drop core contractors, they do so with reluctance and retain far more contractors than are necessary for efficient production. As a result, capacity utilization among contractors has declined substantially.

The excess capacity of idle machinery and empty production lines was evident during our field research in 2003 and our survey of contractors revealed an average capacity utilization rate of 37%, far less than the national average utilization rates for women’s wear contractors of 66% at that time.<sup>17</sup> The contractors we interviewed understood the basic economics of their situation in a declining market with excess contracting capacity. They recognized that they were at risk of having to close if the industry continued to decline and they appeared to be making typical end-game pricing responses and cost adjustments.<sup>18</sup>

They lowered prices, absorbed the costs of changes in orders, accepted faster production schedules, and were on call day and night to consult immediately (and often face to face) with

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<sup>16</sup> These embedded obligations and the distinction between the “core” and “peripheral” sectors were noted by Uzzi (1996, 1997) and Palpacuer (1997) in their earlier studies of the New York City garment district in the 1980s and 1990s. Uzzi also documented the higher survival rates of core contractors relative to those in the peripheral sector of the New York district.

<sup>17</sup> Capacity utilization in 2003 was also substantially below capacity utilization rates reported among apparel contractors in Manhattan during the Depression (Teper, p. 20).

<sup>18</sup> The effects of falling demand and excess capacity are well-described by simple economic theories of the firm. Fewer orders from jobbers and rising excess capacity caused contractors to reduce prices and raise productivity to avoid reaching their shut-down point where minimum average variable costs were no longer covered by marginal revenues. See, for example, Waldman and Jensen (2001) for a discussion of “shut-down” conduct under perfect and monopolistic competition (pp. 30-33, 44-46).

their jobbers in hopes that they and their jobbers could remain in business for a little longer. They also transmitted these pressures to their employees by asking them to accept lower wages, production speedups, and sometimes deteriorating working conditions in exchange for a commitment to sharing available work so as to retain as many of their employees as possible.

What is new about jobber regulation, however, is that rates of excess capacity are determined by jobbers who control the number of core contractors that they retain.<sup>19</sup> Because there are tradeoffs between the efficiencies of operating at full capacity and the effort incentives provided by excess capacity, jobbers can maximize their profits by selecting the optimal rate of excess capacity that balances the marginal efficiency losses of underutilized contractor capacity against the marginal efficiency gains from lower prices and higher contractor effort (see Appendix).

The incentives of excess capacity in this “efficiency contracting” model are further reinforced by the loyalty, commitment, and reciprocity that have been historically embedded in core contracting relationships. Jobbers dispense orders to their contractors in a paternalistic way that appears to place contractor survival ahead of concerns for profits, and for the standard efficiencies associated with smaller number of contractors working a full capacity. Contractors, in turn, respond to these incentives by accepting a reciprocal obligation to help their jobbers to survive by lowering prices and otherwise accommodating their production needs.

Even the most efficient core contractors remain dependent on their principal jobbers because some of their productivity is derived from relationship-specific knowledge that could not be transferred to other jobbers and because working for another jobber is likely to be seen as an indicator of an unwillingness to accept reciprocal obligations, which would place the contractor

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<sup>19</sup> This “efficiency contracting” incentives model is reminiscent of an earlier practice by New York manufacturers in the 1890s and 1900s of deliberately generating excess capacity to lower contract prices by allocating small amounts of their orders to a large cadre of contractors based only on price and without any preferential contracting arrangements, and then relying on an intense form of “cut-throat” competition to keep contract prices low. What distinguishes the modern version of efficiency contracting from this earlier use of excess capacity is that current excess capacity incentives are combined with paternalistic attitudes among jobbers and a sense of reciprocal relationships between jobbers and “core” contractors. Paternalism, reciprocity, and dedicated relationships with core contractors reinforce the incentives of excess capacity and sustain the benefits of relationship-specific investments in human and social capital that are possible when there is continuity in contracting relationships.

at risk of being designated as a “peripheral” supplier without preferential access to orders. While these exclusive and dependent contracting relationships were documented repeatedly in our field research and in that of others (Uzzi, 1996, 1997; Palpacuer, 1997), the quantitative magnitude of dedicated contracting and reciprocity in the New York district is illustrated by data collected by the U.S. Department of Labor’s Wage and Hour Division (WHD) as part of its investigation of violations of federal wage and overtime regulations in New York and Los Angeles at about the same time. For example, the New York data shows that an average of 58.3% of New York contractors (for 1999 and 2001) worked for a single jobber during the previous six months whereas the average was only 39.8% (1998 and 2001) in Los Angeles (Weil and Mallo, 2007, p. 798).

Further evidence of the imprint of jobber regulation on contracting relationships in New York can be seen in the extent to which contractors have the power to negotiate contract terms with jobbers or manufacturers. While the discussion thus far has focused on the effort and price-cutting incentives of jobber-regulated efficiency-contracting in New York, these incentives depend on their being mutual reciprocity within jobber-contractor relationships. In the context of reciprocity, jobbers are expected to recognize the legitimate needs and concerns of contractors during negotiations over prices, delivery schedules, and other contract issues and the WHD surveys in New York and Los Angeles again provide some information on the extent of such reciprocity. On average, 29.2% of the contractors in New York in 1999 and 2001 were able to conduct such renegotiations compared to an average of only 12.5% (1998 and 2000) in Los Angeles (ibid.).

#### Efficiency and Market Re-design in Los Angeles

Apparel manufacturers in the Los Angeles district also developed path-dependent responses to import competition by continuing to rely on competition-based opportunities for lowering costs. The principle source of such opportunities was a large spike in immigration into Los Angeles County during the 1980s, with the largest immigrant flow being Latinos (mainly from Mexico) with relatively low levels of education and English literacy (Myers et al., 2010). During this period, more than 1.5 million new immigrants came to Los Angeles, 60% more than the roughly 950,000 new immigrants that arrived in New York City (ibid.). Light (2006, Ch. 4) summarizes the literature showing the absolute and relative declines

in the wages of low-skilled workers and the growth in informal employment that accompanied this increased immigrant labor supply in the 1980s.<sup>20</sup>

The garment industry was a major beneficiary of the rising immigrant labor supplies and falling wages during this period as immigration networks fed new Latino immigrants into apparel jobs. Latinos began to replace the industry's traditional Asian immigrant work force (Light, 2006, p. 87; Brown, Domezaine, and Villoria-Siegert, 2002, Appendix VI) and, by 1990, Mexican-born workers accounted for over half of the sewing machine operators in the industry (Light, 2006, p. 91).

Falling wages were exacerbated by the disregard for labor standards that was prevalent among apparel contractors in Los Angeles. Just as Los Angeles apparel industry had resisted regulation by unions; it also had a long history ignoring minimum wages, overtime regulations, and health and safety standards that was further encouraged by an environment of lax governmental enforcement of labor standards (Light, 1988, 2006; Sarmiento, 1996; Bonacich and Appelbaum, 2002; Brown, Domezaine, and Villoria-Siegert, 2002, Appendix VI). An extreme example of the violation of labor standards was a high profile case of indentured servitude involving a contractor with large sweatshop that in 1995 employed over 70 Thai garment workers who had been smuggled into United States and were being paid far less than the minimum wage (Chaiyarachta, 1996; Light, 2006). Lesser violations of labor standards were widespread in the Los Angeles apparel industry. A 1994 study by the Wage and Hour Division of the U.S. Department of Labor, for example, found that over three-fourths of the contractors in Los Angeles were not in compliance with regulations governing minimum wages, overtime, and the use of child labor (ESA-WHD news release USDL-112, 2000).

The sudden abundance of immigrant labor in the 1980s and the opportunity to take advantage of a regulatory environment that allowed for substandard wages and working conditions presumably gave many Los Angeles contractors a labor cost advantage in competing with both domestic and offshore suppliers and this advantage likely explains much of the growth

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<sup>20</sup> Light (2006) cites data on the increasing concentration of foreign-born workers in the lowest earnings decile in Los Angeles during the 1980s, which rose from under 25% before 1980 to about 45% by 1990, as well as surveying a substantial literature on the declining wages among Mexican and other Latino immigrants in Los Angeles and in California. Joassart-Marcelli and Flaming (2002) estimate that undocumented immigrants constituted 47% of the apparel workforce by 1990, (cited in Light, 2006) while Bonacich and Appelbaum (2000) see a substantial growth in sweatshops in the 1980s and early 1990s.

in garment industry employment that occurred in the 1980s through the mid-1990s when employment started to fall when NAFTA accelerated outsourcing to Mexico. However, NAFTA was not the only cause of decline in the Los Angeles industry. During the 1990s there was also a reversal of the economic factors that led to the growth of immigration in the 1980s. Declining wages, rapidly rising housing costs, weakening economic conditions during the 1980s gradually made Los Angeles a less attractive destination for low wage Mexican immigrants (Light, 2006, Ch. 2; Meyers et al. 2010). As a result, the immigrant inflows that had risen by over 45% in the 1980s fell back almost to their 1980 level by 2000 and have continued to fall since then (Meyers et al. 2010) so that the Los Angeles district is no longer experiencing atypical growth in its supply of unskilled labor.

The era of permissive enforcement of labor standards also changed sharply beginning in the mid-1990s (Light, 2006, Ch. 6). State-level monitoring and enforcement of labor standards increased in 1995, following the well-publicized Thai garment workers case, and were further strengthened by a subsequent initiative by the Clinton administration to create a federal-state partnership for monitoring labor standards and securing voluntary compliance, which was targeted on both Los Angeles and New York.<sup>21</sup> The U.S. Department of Labor's compliance survey conducted in Los Angeles in 2000 showed that the overall rate of compliance with federal labor standards had increased to 33%, up from 22% in 1994 (ESA-WHD news release USDL-112, 2000).

Nevertheless, adherence to labor standards in Los Angeles remains below that in New York City. The most recent monitoring studies by the Wage and Hour Division of the U.S. Department of Labor show that 51% of the Los Angeles garment contractors investigated had violated minimum wage regulations in 1998 and this violation rate rose to 56% in 2000 (Weil and Mallo, 2007). In contrast, contractors in New York City were far more likely to comply with

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<sup>21</sup> Not only were existing labor standards enforced more aggressively, but there was also an increase in the California minimum wage during this period, which placed minimum wages in Los Angeles about 10% above a recently-increased federal minimum wage in 1996 (Light, 2006).

wage and hour regulations with minimum wage violation rate of only 35% in 1999 and an even lower rate of 13% in 2001 (ibid.).<sup>22</sup>

### Was Market Re-design a Failure?

While New York adopted new ways to sustain practices embedded in contracting relationships that raised productivity and provided stronger incentives for contractor effort and Los Angeles took advantage of competitive market opportunities to lower wage costs, neither district reduced costs sufficiently to stem the net outflow of production in the 2000s. Both Los Angeles and New York City have recently completed assessments of the future of their districts that draw upon their experience with declining markets in the 2000s (The Municipal Arts Society of New York, 2011; Community Redevelopment Agency of the City of Los Angeles, 2011; California Fashion Association, 2011). Both districts now see their long-term survival in similar terms. They identify the need to target their apparel industries on niche markets that can be served by local fashion designers and local supply chains that are dedicated to quick and flexible production.

This conclusion, in one form or another, has been the conventional wisdom apparel industry survival since the 1990s for (Abernathy et. al., 1990; Berg et al., 1996). The difference now is that previous assessments have been based on firm-level or supply chain reforms, rather than on district-based strategies that distinguish between product specializations and the economic structures, processes, and relative advantages needed to support them in different districts. Los Angeles is choosing to become a district of “fast-fashion” products because of its distinctive district characteristics and New York City intends to concentrate on higher-fashion products for the same reasons. Assessing the likely success of this choice to specialize on opposite sides of the “fashion divide” in the apparel industry requires a reexamination of the sources of district advantage in the two districts.

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<sup>22</sup> More recent studies of wage and hour violations conducted in 2008 confirm that garment workers in Los Angeles continue to experience more minimum wage violations than those in New York by a factor of 2.4 to 2.7 times (Milkman, et al. 2010; Bernhardt, et al., 2010)

## A Fashion Perspective on Garment District Performance

Wages have traditionally been the major cost factor in apparel production, agglomeration economies have been the traditional source of district productivity advantages, and jobs and output have been the traditional measures of district performance. However, when districts are choosing between specializing in fast fashion or higher fashion women's wear products, speed and flexibility, design capacity, and the skills and productivity of labor also become important considerations for district performance.

Fast fashion products are intended to serve markets that are attuned to the most recent, and often the most transitory, fashion trends. Designs are developed continuously and in large numbers, products are quickly market tested, and designs that show promise market are produced quickly for immediate sale with little or no prospect for reorders. The typical customers are teenagers and young women who want stylish apparel at a reasonable price that can be affordably replaced as fashions change. As a result, the overall "look" of the product is more important than its quality. Assembly standards are much lower than for better quality products, fabrics are less expensive, and much of the fashion "design" is determined by colors, finishes, and trims, rather than careful design.

Fast fashion products are design-intensive in the sense that many more designs are generated than are market-tested and that the product life of any successful design is relatively short. Fast fashion is produced throughout the season and popular products are replaced with slightly different products as soon as inventories are depleted. Because fast fashion products must be brought to market quickly, production speed is critical. Fast fashions can be produced using relatively-slow assembly line methods, but only by keeping fabrics in a greige (unbleached and undyed) state, which allows for design choices among colors, fabric finishes, and trimmings to be made at the very end of the production process.<sup>23</sup> Or they can be produced on a smaller-scale through quick-turnaround contracting using pre-dyed fabrics.

Higher-end fashion products follow a different model of design and production. Haute couture collections involve fashion "houses" that mobilize high levels of design creativity to

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<sup>23</sup> Zareh is frequently cited as the leading manufacturer of fast fashion products using these kinds of large-scale assembly techniques.

develop seasonal designs that evolve over months from preliminary sketches to final templates, and these designs are coordinated among the various components of each season's "collection". This process takes the better part of a season to complete, although additions can be made to collections throughout the selling season, and designs undergo substantial change from season to season. Fashion fabrics are expensive and receive the same design attention as the shape, finish, and color of the final garment. Prototype products are generally presented at fashion shows and retail versions are generally made to order by craftsmen who cut and assemble each garment.

Ready-to-wear collections and lower-tier designer and "bridge" products are derived haute couture fashion, but have progressively simpler designs, lower price points, and larger markets. Fabrics are of high quality, but are less expensive than those in couture products. Manufacturing is carried out to high-quality standards, but once couture products are introduced, manufacturing speeds and schedules for delivery to retailers need to be completed as quickly as possible. There is little inventory replacement in these kinds of fashion markets, but the introduction of new products at mid-season or between seasons is becoming more common.

Both fast fashion and traditional fashion products are design-intensive, but fashion products require higher levels of aesthetic creativity while fast fashion products require a larger volume of new designs. Both types of products require a quick manufacturing capacity, but fast fashions can be produced using either large or small-scale assembly methods whereas more fashionable products have smaller markets that often preclude large-scale assembly and they have quality requirements that are better-suited to using multi-skilled workers than to the division of skills and the specialization of labor that makes large-scale assembly efficient.

Neither district currently has much experience with fast-fashion designs per se, but both are well-endowed with fashion designers and should potentially be able to develop a fast fashion design capability. However, Los Angeles has had a strong connection to casual "street" fashions, it has the advantage of proximity to Hollywood fashions that could be readily translated into fast fashion designs, and it has some recent experience with the fast fashion market. New York has the advantage of having a substantially larger number of creative and experienced fashion designers that are familiar with higher-end design projects and it is well-known for its high-end fashion designers, while Los Angeles might find it more difficult to move up the fashion ladder to higher-end designs.

In terms of manufacturing capacity, Los Angeles has retained more large-scale manufacturers and contractors than New York, which means that it has more options in the scale of production for fast fashion products than are available in New York. However, speed and flexibility are also important for fast fashion production and this is an area where there are sharp distinctions between the two districts. Large-scale assembly line production is both less flexible and requires more time for products to be completed than small-scale assembly processes (Abernathy, et al., 1990; Doeringer and Watson, 1999), so its scale efficiencies would be limited to a subset of fast-fashion products where markets are large and time to market is relatively less important. For fast-fashion products with smaller markets and those where speed and flexibility are most important, however, Los Angeles also has the option of market-coordinated production by contractors.

New York lacks a large-scale assembly line capacity, but it has a jobber-coordinated production system with considerable excess capacity. Its dedicated core contractors also have jobber-specific investments in knowledge and problem-solving skills, along with embedded obligations to accommodate their jobbers, which can contribute to greater productivity, speed, flexibility, and uninterrupted production. In addition, it has experience with the production of fashion products that requires greater skill, better quality of sewing, and greater care in the handling of costly fabrics than do fast fashion products, which are not present to the same degree in Los Angeles.

In principle, these district differences suggest that the New York district has some advantages in speed and manufacturing knowledge over Los Angeles that could be useful in developing fast fashion markets while Los Angeles has factor cost advantages over New York in manufacturing fashion products, but that in terms of design and manufacturing experience Los Angeles is likely to have comparative advantage in fast fashion and New York in higher fashion products. While there is no district level data for measuring differences in productivity or fashion experience in the two districts, there is state level data on productivity and the fashion content of production that can offer further clues about the relative advantages of the two districts.

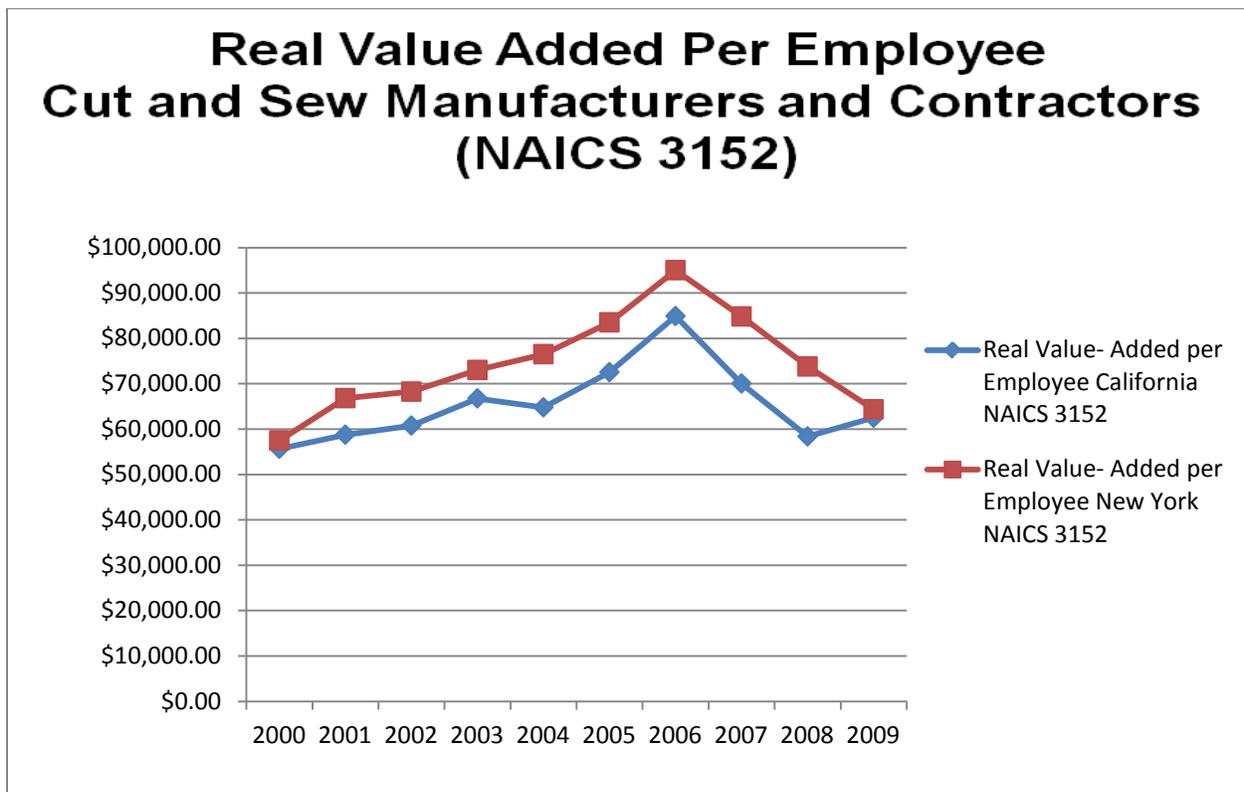
#### Efficiency Contracting, Market Contracting, and Labor Productivity

If the efficiency contracting model is successful in providing stronger incentives for effort than market competition, this effect should be observable in differences in trends in labor

productivity between New York and Los Angeles. While data on productivity is not available at the district level, there is data on real value-added per employee at the state level for the cut and sew apparel sector (NAICS 3152).

By this measure, New York State had a small productivity advantage (3.3%) over California at the beginning of the decade, its lead increased to 9.3% by 2003 (when our survey of the New York City garment district found efficiency contracting in use), and its productivity averaged 13.3% above California's over the entire decade (see Chart 15). However, after reaching highs in 2006 of \$95,012 in New York and \$84,905 in California, labor productivity in both districts began to decline and by 2009 it was close to its levels in 2000. The most likely explanation for this fall in labor productivity is a combination of increased excess capacity caused by the steep declines in output after 2006 and the loss of scale and scope economies as the number of larger manufacturers (with 100 or more employees) fell in both districts.<sup>24</sup>

Chart 15



<sup>24</sup> Los Angeles also experienced a loss in jeans manufacturers during this period, but also experienced very rapid growth in blouse manufacturing that was concentrated among smaller employers.

### Movement into Niche Fashion Markets

The ability to enter higher fashion markets is usually seen as a measure of the quality of designs, the speed, flexibility, and production quality of manufacturers and contractors, and the marketing ability of jobbers and manufacturers. Industry experts have reported that New York's products historically were of higher fashion content than those in Los Angeles (Doeringer, 2011) and one earlier study showed that New York City retained a far larger fraction (94%) of the area's jobs in the more fashionable high-priced dress sector than in the of lower-priced dress sector (40%) as product-life cycle considerations caused production to decentralize away from New York City in the 1940s and 1950s (Helfgott, 1959, p. 72). This ability to retain products with high fashion content is also consistent with the relative importance today of New York's specializations in lingerie, dresses, and women's suits and coats compared to Los Angeles' relative strength in women's shirts and blouses, and other women's wear specializations. However, more recent expert commentary claims that both districts are moving towards more fashionable products in recent years (Municipal Art Society of New York, 2011; Williams and Currid-Halkett, 2011; Community Redevelopment Agency (Los Angeles), 2011).<sup>25</sup>

Fine grained fashion comparisons are even more difficult because there is no generally-accepted measure of fashion content. However, because fashion products typically use relatively more-expensive fabrics, an approximate measure of fashion content can be obtained by comparing the cost of the fabric in a garment to its selling price. State-level data on total "material" costs (for which fabric is the major component) and the total value of apparel shipments for the cut and sew apparel manufacturing sector (NAICS 3152) show that the average percentage of shipment value accounted for by fabric and other materials is slightly higher in New York (53.5%) than in California (51.6%) over the period 1997-2009, and the fabric content of shipments was higher in New York for 11 of the 13 years between 1997 and 2009 (see Chart 16).<sup>26</sup> However, the fashion content of shipments fell during the latter part of this period and by 2009 the fashion content of shipments in both States was below its level in 2001.<sup>27</sup>

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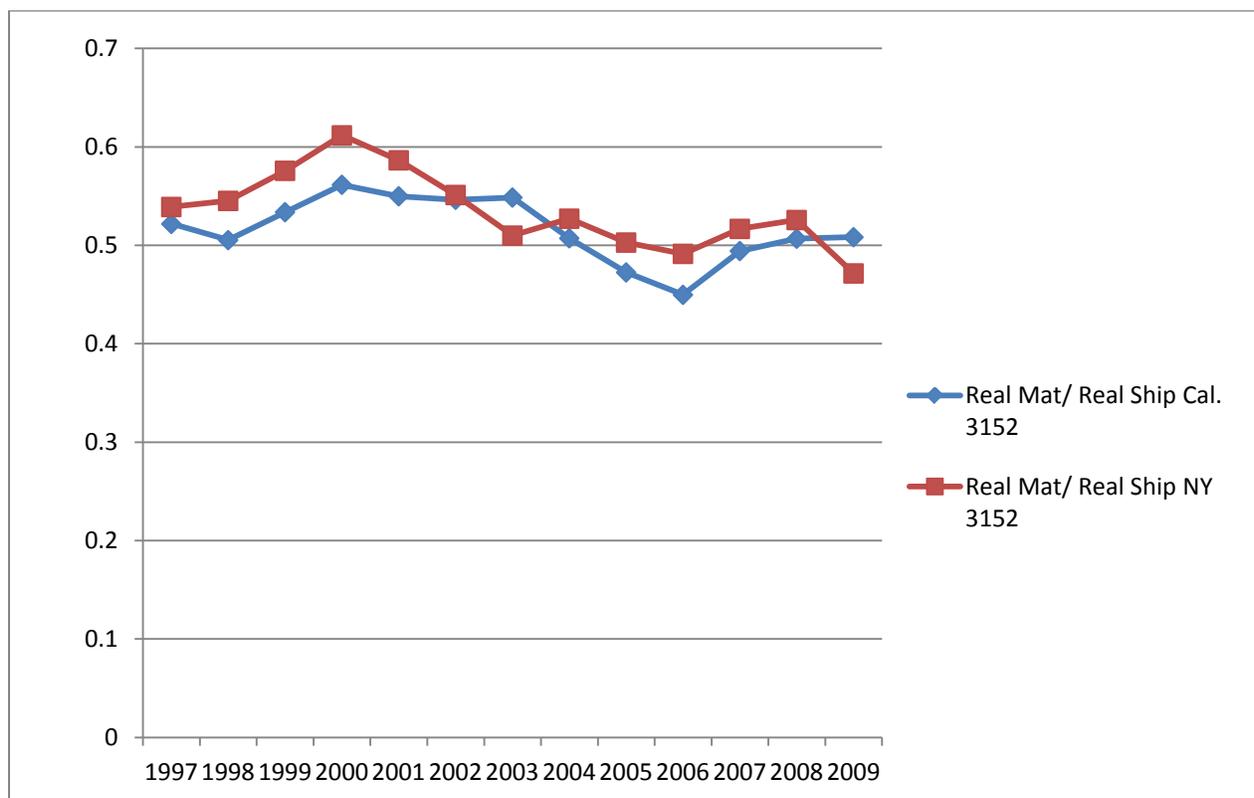
<sup>25</sup> The recent trend towards "higher" fashion in Los Angeles, however, includes some "fast fashion" products (Community Redevelopment Agency (Los Angeles), 2011).

<sup>26</sup> Shipments can include products that were assembled offshore, and which sometimes include materials purchased all or in part from offshore sources. To test for the robustness of measuring fashion content relative to

### Chart 16

## Ratio of Real Value of Materials (fabric & trims) to Real Value of Shipments, Cut and Sew Manufacturers and Contractors

(NAICS 3152)



While there is no comparable data for Los Angeles, some further insights about fashion content and fashion production capacity are available from data collected during the 2003 field research in New York, which was conducted at the time when New York was at the bottom of a slump in fashion content and had a fashion-content indicator that was below that of Los Angeles for the first time in the decade (see Chart 16). The field survey asked suppliers about both the fashion content of their current production and their ability to move up the fashion ladder, based

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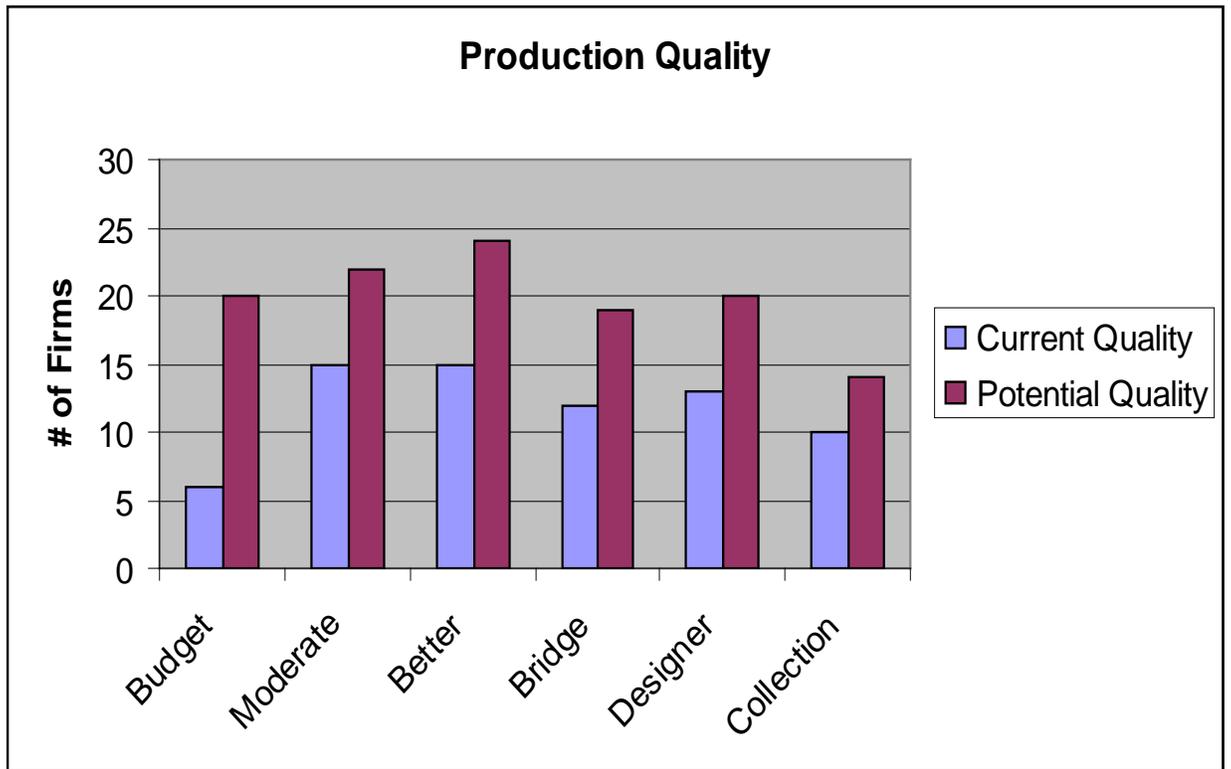
shipments, a second fashion indicator was tested that compared the real value of materials to the real value of domestic value added. This alternative measure showed similar trends to the fashion indicator used above.

<sup>27</sup> Fast-fashion products frequently use fabrics that incorporate the types of trims and fastenings that are separately attached during the manufacturing of higher-quality fashion products in New York City so the trend towards fast fashion probably overstates the fashion content of more recent production in Los Angeles and this may explain the rebound in the fabric content of shipments in California since 2006.

on product categories ranging from budget clothing to designer “collections” that were generally understood in the New York district. The median firm in the sample was mainly a producer of “better” products, but about one third of the firms were producing “designer” products and high-end collections (see Chart 17), the types of higher-end women’s wear products that have greater fashion content than the sportswear products that are typical of the Los Angeles district.

**Chart 17**

**Actual and Potential Production by Fashion Level of Production**



In addition, New York City firms had substantial potential capacity to move up the fashion ladder. For example, the 6 firms in the sample producing budget products could also manufacture moderately priced products, 5 could produce “better” quality products, half could do bridge and designer quality products, and 1 could even do haute couture collections. Although the skills needed to move to higher-fashion products increase at each level of fashion, two-thirds or more of the firms are capable of producing at least a one step higher level of fashion and half are capable of moving up two levels or more in the fashion hierarchy. These high levels

of unutilized capacity for fashion production are an indicator of the ability of the New York district to shift production towards more fashionable market niches.

Because the ability to move the fashion ladder is likely to be correlated with having had previous production experience with higher fashion products, the data also suggests that as apparel demand was falling sharply in the district, New York retained a large fraction of its fashion-capable contractors because they were able to produce garments that were lower on the fashion ladder. The data further shows that some of the fashion firms were continuing to serve fashion markets while also producing less fashionable products, suggesting that the efficiency incentives derived from jobbers keeping core contractors in business are partly being sustained by combining production of low-end products with fashion products.

#### Further Evidence on District Differences in Labor Productivity

The evidence amassed so far points to New York City having a comparative advantage over Los Angeles in moving towards higher fashion market niches because of its high concentration of fashion designers, its established fashion production base, its more-skilled and productive workforce, the flexibility and speed from the smaller size and efficiency incentives of its contracting networks, and its greater proximity to fashion buyers. Los Angeles appears to have a comparative advantage in lower-quality sportswear and fast fashion products because of its design connections with Hollywood, the lower wages in its manufacturer sector and the substantially lower wages the key production occupations (cutting, pattern making, and sewing), its ability to combine scale economies in apparel manufacturing with flexible contracting practices, and from the district externalities of a larger-scale supplier base.

However, descriptive statistics on the Los Angeles and New York City districts have limitations for analyzing efficiency differences between the incentives of jobber regulation and those of market competition, labor productivity differences resulting from differences in the organizational structure and scale economies in the two districts, and the consequences of district differences in fashion content. One option for exploring these issues is to re-examine the state-level data on value-added within a more formal growth accounting framework. While growth accounting in this case is severely constrained by the availability of data -- only 13 years of reasonably-consistent time series observations and the absence of sensible measures of capital inputs given the large amount of unutilized capital as the industry declines, a simplified short-term “growth-accounting” production function can be specified that includes only labor.

A production function,  $V_t = AL_t^{(a)}$ , can be estimated for New York and California using a log-linear specification  $\ln V_t = A + aL_t + e$ : where “ $V_t$ ” is the aggregate real value-added from apparel production in year  $t$ , the constant term “ $A$ ” represents increases in total productivity between 1997-2009, “ $L_t$ ” is a measure of labor inputs in year  $t$ , “ $a$ ” is an estimate of the marginal productivity of labor, and ( $e$ ) is the error term.<sup>28</sup> The estimation strategy begins with the simplest model where labor is the only input and then disaggregates labor into production workers and non-production workers in order to test for differences between jobber regulation and market competition for garment assembly in the two districts. The final model adds a measure of fashion content ( $F_t$ ) to test for a relationship between higher-fashion production and value added.

The definitions and mean values of the variables used in these are presented in Table 3. All specifications are log-linear form and are run separately using state-level data for New York and California.<sup>29</sup>

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<sup>28</sup> The bias from omitting capital inputs is likely to be less serious in a labor-intensive industry like apparel where three quarters of the production jobs in the industry involve sewing operations where the technology has changed little in recent years and where and earlier vintages of sewing machinery are the dominant capital input. There has been technological change in pre-assembly work, such as pattern-making and size grading, and in IT, but these technologies were largely in place prior to the time period covered by the data.

<sup>29</sup> Durbin-Watson tests were run to assess the degree of serial correlation and in all cases were either insignificant or inconclusive.

**Table 3**  
**Mean Values of Variables (NAICS 3152)**  
**(1997-2009)**

Variable	New York	California
$V_t$ = Real Value Added (\$1,000s) in cut and sew manufacturing (NAICS 3152)	\$23,125.4	\$49,620.0
$L_t$ = Total Employment in cut and sew manufacturing (NAICS 3152)	36,442.0	81,614.5
$P_t$ = Total Hours of Production Workers (in 1,000s) in cut and sew manufacturing (NAICS 3152)	48,498.0	115,391.3
$NP_t$ = Total Non Production Employment in cut and sew manufacturing (NAICS 3152)	9,222.1	16,287.0
$F_t$ = Real value of materials as a percent of the real value of clothing shipments in cut and sew manufacturing (NAICS 3152)	53.5%	51.6%

As expected, value added is positively and significantly correlated with total employment (Table 4) in both New York and California. The marginal product of labor, as estimated by the coefficient on employment, is similar in both States and the constant terms both show statistically-significant growth in labor productivity over the period studied.<sup>30</sup> The magnitudes of the parameter estimates are similar for New York and California and the differences between the regressions are not statistically significant, indicating that no differences are apparent in the relationships between labor inputs and value-added at this level of aggregation.<sup>31</sup>

<sup>30</sup> Because of the small sample size, 10% significance levels are included along with the traditional 5% and 1% levels.

<sup>31</sup> The number of observations is too small to identify statistically- significant differences between New York and California in either the parameter estimates or the overall models.

**Table 4**

**Value-added and Total Employment**

**Cut and Sew Apparel Manufacturing (NAICS 3152), New York and California: 1997-2009**

	New York: Constant	California: Constant	New York: Marginal Product, Total Employment	California: Marginal Product, Total Employment
Coefficient	2.1108**	2.4848*	0.7587***	0.7367**
Standard Error	0.9712	1.4853	0.0912	0.1301
N	13	13	13	13
R-Squared, New York	0.9212			
R-Squared, California		0.7971		

Dependent Variable = Real Value Added (\$1,000s), New York and California

(Significance Levels: \* = 10%, \*\* = 5%, \*\*\* = 1%)

The second specification disaggregates total employment into production and non-production labor to test for differences in the marginal productivities between assembly workers and commercial, design, and marketing employees. Disaggregation also allows labor inputs to be measured more accurately by using hourly units for production workers while continuing to measure non-production labor in units of employment. The results show that occupation is an important omitted variable (Table 5). Only the coefficient for the marginal productivity of production workers is now statistically significant in New York (at the 1% level) and only the coefficient for the marginal productivity of non-production workers is statistically significant (at the 1% level) in California. The disaggregation of labor inputs by occupation also reduces the estimated values of the productivity growth coefficient in both New York and California and productivity growth is now only statistically different from zero in New York (at the 10% level). These findings are consistent with the descriptive data showing a higher average value-added by

apparel workers in New York during the decade of the 2000s, as reported in Chart 15, and they also support the findings of the field research about the scope for “self-coordination” under reciprocal contracting relationships and the incentives of efficiency contracting under jobber-regulation. Similarly, the relatively greater productivity of non-production labor in California is consistent with scale economies of design, marketing, and commercial work from the greater presence of large manufacturers in California compared to New York, and with the need for managers to coordinate a mixed system of assembly-line and contracted production.<sup>32</sup>

The smaller scale of establishments in New York eliminates and reciprocity embedded in core contracting relationships in New York helps these supply chains to be “self-coordinated”, and efficiency incentives of jobber regulation represent an “invisible hand” that motivates effort and problem-solving by contractors and their production workers.

The third specification of the growth model (Table 6) adds a measure of fashion content ( $F_t$ ). The introduction of the fashion content variable has only minor effects on the estimates of labor productivity in both States and on productivity growth in New York. The biggest indirect effect of fashion-content is that the estimated coefficient for the marginal product of production labor in California becomes statistically significant. However, production labor in New York continues to have a higher marginal product than its counterpart in California. These indirect effects of fashion content on marginal productivity leave intact the previous finding on the differences in productivity growth between the two States.

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<sup>32</sup> It is also important to note that the large manufacturers and contractors in Los Angeles are also likely to employ non-production designers that contribute to value-added through product innovation whereas in New York designers are more likely to be employed by large retailers and by branded “manufacturers” that no longer produce clothing in-house and are therefore excluded from data on the NAICS data on the apparel manufacturing sector.

**Table 5**

**Value-added: Production Workers and Non-production Workers  
Cut and Sew Apparel Manufacturing (NAICS 3152), New York and California: 1997-2009**

	New York: Constant	California: Constant	New York: Marginal Product, Production Workers (Annual Hours)	California: Marginal Product Production Workers (Annual Hours)	New York: Marginal Product, Non-Production Workers (Total Employment)	California: Marginal Product, Non-Production Workers (Total Employment)
Coefficient	1.9503*	0.5974	0.6032***	0.2415	0.1775	0.7630***
Standard Error	0.9557	0.9767	0.1669	0.1804	0.7778	0.2184
N	13	13	13	13	13	13
R-Squared New York	0.9300					
R-Squared California	0.8823					

Dependent Variable = Real Value Added (\$1,000s), New York and California

(Significance Levels: \* = 10%, \*\* = 5%, \*\*\* = 1%)

**Table 6**

**Value-added: Production Workers, Non-production Workers and Fashion Content  
Cut and Sew Apparel Manufacturing (NAICS 3152), New York and California: 1997-2009**

	New York: Constant $A_t$	California: Constant $A_t$	New York: Production Workers, Annual Hours	California: Production Workers, Annual Hours	New York: Non- Production Workers, Total Employment	California: Non- Production Workers, Total Employment	New York: Real Value of Materials/Real Value of Shipments	California: Real Value of Materials/Real Value of Shipments
Coefficient	2.2928*	-1.4158	0.5683**	0.2991**	0.1955	0.8290***	0.211	-1.06467 **
Standard Error	1.1741	1.0111	0.2022	0.1175	0.2058	0.1461	0.8562	0.4349
N	13	13	13	13	13	13	13	13
R-Squared New York	0.9304							
R-Squared California		0.932						

Dependent Variable = Real Value Added (\$1,000s), New York and California

(Significance Levels: \* = 10%, \*\* = 5%, \*\*\* = 1%)

Consistent with the large underutilized capacity for fashion production in New York City, there is no relationship between fashion content and value-added in New York. However, there is a large, statistically significant, and negative relationship between fashion content and value-added in California in which a 1% increase in fashion content reduces value-added by a corresponding amount. One explanation is that the orientation towards casual sportswear production and the greater reliance on large-scale production methods in Los Angeles mean that production workers lack the skills to efficiently produce more-fashionable products. Because they are less productive per unit of time, their contribution to value-added falls. A more mundane explanation, however, may lie in the movement towards quick-fashion sportswear in Los Angeles. Quick fashion products often use fabrics with more trimmings, which add to fabric costs, but require less careful assembly, which reduces value-added by production workers.<sup>33</sup>

### Concluding Discussion

The New York and Los Angeles garment districts have experienced sharp declines in output and employment during the 2000s as apparel production continues to move to lower-wage offshore sources. However, long-term decline came later and is less severe in Los Angeles than in New York. The data on industry structure and traditional agglomeration economies show that the two districts are similar in many ways and, while there are differences in scale economies, product specializations, and the mix of district externalities, none of these appear sufficient to explain these performance differences.

What has mattered over the longer term have been the differences in the relationships between manufacturers and contractors in the two districts and in the fashion-content of their specializations. More recently, differences in access to low-wage labor supplies has also mattered. Los Angeles had access to an unusually large influx of immigrant labor during the 1980s and early 1990s that was willing to accept sub-standard wages and working conditions. When coupled with lax enforcement of labor standards, Los Angeles gained a labor cost advantage that allowed its apparel industry employment to grow during this period despite the increasing transfer of production offshore.

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<sup>33</sup> I am grateful to Lynn Oxborrow for this comment about substitutions between quick fashion fabrics and quick fashion labor.

The New York district did not receive a correspondingly large increase in immigrant labor and it has a tradition of stronger enforcement of labor standards. Moreover, its main source of district advantage, dating back to the early 1900s, came from market regulation through collective bargaining. While this regulation was designed to protect the district's markets against entry, these regulations also resulted in long-term contracting relationships between manufacturers and their core jobbers that provided opportunities for mutual investments in knowledge and skill and for the development of strongly embedded reciprocal economic obligations between manufacturers and their core contractors. As apparel unions have weakened in New York City, manufacturers have continued the investment processes and reciprocity of this regulatory regime into the present period and have used them as the foundation for developing new types of effort incentives.

The Los Angeles district has a long history of successfully resisting unions and other forms of regulation, and of favoring intensely-competitive arms-length contracting relationships. By keeping unions weak, the district was able to secure cost advantages by promoting active competition among contractors, but competition inhibited the development of stable employment and the dedicated and reciprocal contracting relationships found in New York City. These efficiency incentives of competition have persisted into the modern period in Los Angeles and were further intensified by the large inflows of immigrant labor in the 1980s and early 1990s.

Competition between these two contracting systems was initially limited by differences in the fashion content of production and by collective bargaining regulations in New York designed to limit market entry. However, New York was already losing less-fashionable and more-standardized products to lower wage, non-union districts in like Los Angeles in the 1920s. Nevertheless, New York's overwhelming edge in fashion design continued to generate a sufficient number of successful fashion products that allowed the district to grow through the 1940s while at the same time it was losing market share to other districts.<sup>34</sup>

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<sup>34</sup> Los Angeles was also developing its reputation for sportswear and casual fashion products during this period and the growth in sportswear markets in the early post-war period was seen as a further cause for job loss in New York. Helfgott (1959, p. 78) cites national data on changes in unit sales of informal and formal women's wear between 1946 and 1955 showing dramatic growth rates in informal skirts (284%), blouses (130%), and dresses (60%) compared to formal suits (-10%), coats (17%) and higher-priced dresses (9%).

Even though New York's production was skewed towards higher-fashion products and Los Angeles' towards sportswear and more standardized women's wear products, there was always a fashion boundary line along which the two districts competed against one another. For decades this boundary was shifting in Los Angeles' favor as garment production moved out of New York, but it now cuts across many overlapping specializations. New York firms are making fashion sportswear products that resemble those made in Los Angeles, and also the kinds of more-standardized lower-end "budget" and "moderate" product lines that were previously leaving the district.

While both districts see their future in serving small niche markets with quick and flexible production, it would be a mistake to interpret these trends as pointing to a convergence of markets in the two districts. Instead, the persistent differences in their district advantages are likely to sharpen a fashion divide defined by fast fashion produced in Los Angeles and high fashion products produced in New York. New York has a fashion advantage in its large pool of designers and its proximity to fashion buyers, and its core contracting relationships foster the kinds of knowledge investments, skill development, and commitments to reciprocal cooperation that allow the district to remain a major supplier of fashion products as well as having the speed, flexibility, and cost structure to compete in niche markets for lower-fashion product lines.

New York manufacturers currently maintain excess production capacity in order to enhance efficiency incentives for their contractors and they have far more fashion-production capacity than current demand for fashion products can support. As a result, the district has been backstopping its fashion-production with orders from lower-fashion niche markets as a way of slowing the contraction of in fashion capacity in hopes that demand for fashionable apparel will increase. Some of this backstopping production is in sportswear and in low-end products, but at present there seems to be no urgency among manufacturers of fashion products to consider entering fast-fashion markets.

Instead, the New York district aspires to remain the fashion center for the United States and its surviving fashion manufacturers, jobbers, and core contractors with fashion design and production capacity continue to look at ways to expand sales of fashion products. These include efforts at the national level to reduce tariffs on the high-quality imported fabrics often used in fashion products as well as local efforts to modernize the mid-town garment district, secure

lower real estate costs, and foster long-term manufacturing connections with its very large pool of fashion designers.

In principle, Los Angeles could direct some of its design capacity towards imitating New York's higher fashion products, but it has less experience in these markets and would need to build much of the fashion design, manufacturing, and marketing infrastructure already available in New York. Instead, Los Angeles is moving to open new markets for fast-fashion products, which require quicker production schedules than most of its current specializations but which can draw upon design skills and assembly quality similar to those of its current specializations. The products can also be sold to many of the same buyers already available to Los Angeles, and be efficiently produced across a wide range of market sizes using the different scales of production present in the district.

These initiatives in Los Angeles and New York conform to the prevailing wisdom in the industry that the future of apparel production in the United States and other high-wage countries lies with small-scale, market niches for fashion-oriented women's wear products with very short life-cycles. These are the kinds of markets that low-cost, mass-market offshore suppliers have difficulty serving, even when they are located in relatively close proximity to their final consumer markets. However, the distinction between high-end "bridge" and "designer" products and more moderately-priced "fast fashion" products is likely to continue to divide the future specializations of the two districts.<sup>35</sup> The recent arrival of fast-fashion retail chains in the United States, such as Zara as H & M, suggest that the markets for fast-fashions are likely to grow more rapidly than those for products with higher fashion content in the foreseeable future. However, higher-end fashion markets also have growth potential and may be more profitable. Designer fashions and fashion accessories are complements, markets for luxury accessories have been growing, and the price markup for fashion products can be higher because customers are relatively affluent demand and is relatively inelastic compared to fast fashion products where consumers are younger and less affluent demand is relatively competitive with respect to price.

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<sup>35</sup> This distinction between districts specializing in "fast" fashion and those specializing in "traditional" fashion are also evident in our European research. Italy, for example, has remained the second largest exporter of apparel (by value) by specializing largely in bridge and designer fashion products, while garment districts like the Sentier in Paris and Leicester in the UK are specializing in fast fashions. While lower-end products with larger and less time-sensitive markets are being outsourced in all locations, the higher-end and more time-sensitive products continue to be produced domestically.

The imprint of these different systems of fashion production can be seen quantitatively by comparing the labor productivity, fashion content, and growth accounting analyses for the two districts. Non-production labor is more central to productivity in Los Angeles because large-scale production and arms-length contracting depend heavily on managerial and commercial coordination by large-scale manufacturers. Conversely, production labor is primary source of productivity in New York because of the coordination and efficiency advantages of jobber regulation.

Looking towards the future of the two districts, the disappearance of large manufacturers and contractors, the prevalence of collaborative contracting relationships, and the relative high productivity of production labor in t New York suggest that the district is returning to its craft production roots in which relatively small manufacturers work with small and flexible contractors to produce small orders of more fashionable products that require more skilled and less specialized production labor. Meanwhile, Los Angeles is continuing to use an industrial model of hierarchical and market-based contracting in which large manufacturers and non-production labor remain dominant features of the district's supply chains. In both districts, arresting the declines in employment and output will depend on the success of these systems in expanding demand for fashion women's wear – for fast fashion products in Los Angeles and high fashion products in New York.

## Appendix

### Jobber Regulation and Efficiency Contracting

The essence of the “efficiency contracting” model is that the increasing possibility of insufficient orders raises the value to contractors of paternalistic work sharing by jobbers and intensifies the “threat” incentives of business failure. Both paternalism and threat incentives encourage contractors to work harder, cut corners on production costs, accommodate their jobbers, and intensify sweatshop pressures on their workers so as to keep contract prices low.

The key instrument for stimulating higher effort and lower costs under the efficiency contracting model is the amount of excess capacity that jobbers maintain among their core contractors. The profit maximizing strategy for the jobber is to choose the optimal balance between the marginal gains from higher effort and the marginal efficiency losses from excess capacity among its core contractors. The optimization process is for jobbers maximize profits by adjusting the number of their core contractors (N) and the level of capacity utilization of contractor i ( $U_i$ ), conditional upon the jobber’s volume of orders (O), the cost function of ( $MC_i$ ) of core contractor i, and the unit price of contracts (P).

A simple model of the jobber’s profit function in each time period t is:

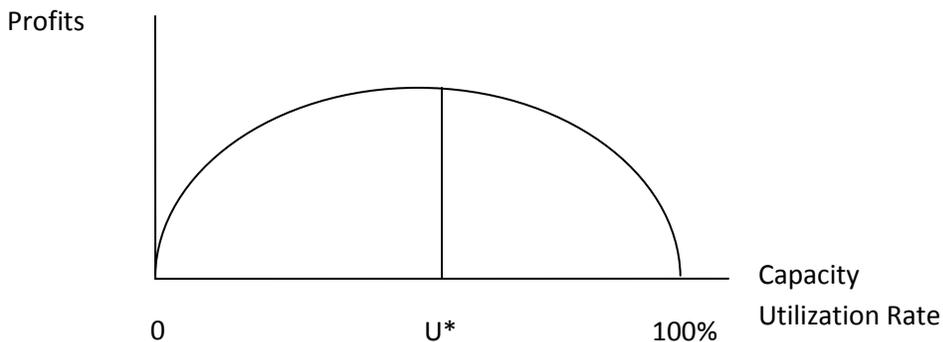
$$\text{Max } f(N_t, U_{it}, O_t, MC_{it}, P_t)$$

In a simple model where contractors have identical cost functions and  $P = MC$ , the number of core contractors (N) is a function of U for any given level of orders (O). Since jobbers do not produce for stock, contracting depends on the orders a jobber receives. Once a jobber has orders in hand, U becomes the strategic variable of interest in maximizing profits.

Assuming a convex profit function, jobbers will select an optimal  $U^*$  which equalizes the marginal gains from the incentive efficiencies of lowering capacity utilization and the marginal losses from inefficiencies of contractors producing below full capacity (see Graph A-1). If orders are declining over time, the numbers of core contractors attached to each jobber should fall, but more slowly than under the traditional jobber system.

Graph A-1

#### The Jobber Profit Function



In addition, the hierarchical incentives of the jobber system inhibit movements towards specializations that capture district agglomeration economies by delaying the exit of contractors. Not only do jobbers try to maintain excess capacity by allocating orders to contractors that might otherwise leave the industry, but the incentives for cost-cutting in the jobber system often allow contractors that do not draw upon the New York garment district's agglomeration economies to remain in business.

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