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Chapter

First Draft

ECONOMIC DEVELOPMENT PLAN FOR PUERTO RICO'S RETAIL TRADE, WHOLESALE TRADE, TRANSPORTATION AND WAREHOUSING SECTORS

*José I. Alameda Lozada, Ph.D. **
*Carlos del Valle, Ph.D. **

* *Affiliation: University of Puerto Rico, Mayagüez Campus*

TABLE OF CONTENTS

CHAPTER **Page**

Executive Summary ... iii
Introduction ... vii
Objectives ... vii
Sources of Information ... vii

I DIAGNOSIS ANALYSIS FOR THE RETAIL, WHOLESALE AND TRANSPORTATION AND WAREHOUSING SECTORS

Puerto Rico Diagnosis ... 1
General Overview ... 1
Overview of the sectors in the economy of Puerto Rico ... 1
Diagnosis by sector ... 4
The historical level of population and the demographic transitions ... 4
Retail Sales ... 6
Geographical distribution ... 7
Transportation and Warehousing Sector general economic performance ... 9
Transportation sector diagnosis ... 9
Historical review ... 14
Concentration by NAICS Code – Herfindahl-Hirschman Index ... 17
The Concentration Index for Sectors ... 18
Regional Trends ... 26
Pull Factors ... 26
Comparison among states and Puerto Rico ... 29
Pull Factors using employees ... 29
Location Quotients ... 36
Retail Sector ... 36
Wholesale Trade Sector ... 37
Transportation and Warehousing ... 38
Impact of Mega-Box retail stores ... 39
Total Sales and square foot ... 40
Concentration by population size ... 41
Impact on small and mid-size retailers ... 43
The Impact of Mega retailers and the MSAs ... 47
Employee losses and mega retailers ... 48
Impact of mega-retailers ... 50
Impact on San Juan-Caguas-Guaynabo ... 28
Impact on other MSAs ... 53

CHAPTER **Page**

APPENDIX

Retail Trade (NAICS 44)....57
Location Quotient....57
Retail Trade Sector (NAICS 44)....58
Automobile Dealers (NAICS 4411)....59
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)....59
Home Furnishings Stores (NAICS 4422)....59
Electronics and Appliances Stores (NAICS 4431)....59
Building Material and Supplies Dealers (NAICS 4441)....59
Specialty Food Stores (NAICS 4452)....60
Health and Personal Care Stores (NAICS 4461)....60
Gasoline Stations (NAICS 4471)....60
Clothing Stores (NAICS 4481)....60
Shoe Stores (NAICS 4482)....60
Jewelry, Luggage, and Leather Goods Stores (NAICS 4483)....61
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)....61
Other General Merchandise Stores (NAICS 4529)....61
Florist (NAICS 4531)....61
Used Merchandise Stores (NAICS 4533)....61
Electronic Shopping and Mail-Order Houses (NAICS 4541)....61
Direct Selling Establishments (NAICS 4543)....62
Sector Comparison Analysis for the Years 2006 and 2011....62
Figure 5 (NAICS 44 - Retail Trade Sector)....62
Figure 6 (NAICS 4411 - Automobile Dealers)....62
Figure 7 (NAICS 4413 - Automotive Parts, Accessories, and Tire Stores)....62
Figure 8 (NAICS 4421 - Furniture Stores)....62
Figure 9 (NAICS 4422 - Home Furnishings Stores)....63
Figure 10 (NAICS 4431 - Electronics and Appliances Stores)....63
Figure 11 (NAICS 4441 - Building Material and Supplies Dealers)....63
Figure 12 (NAICS 4442 - Lawn and Garden Equipment and Supplies Stores)....63
Figure 13 (NAICS 4451 - Grocery Stores)....63
Figure 14 (NAICS 4452 - Specialty Food Stores)....64
Figure 15 (NAICS 4461 - Health and Personal Care Stores)....64
Figure 16 (NAICS 4471 - Gasoline Stations)....64
Figure 17 (NAICS 4481 - Clothing Stores)....64
Figure 18 (NAICS 4482 - Shoe Stores)....64
Figure 19 (NAICS 4483 - Jewelry, Luggage, and Leather Goods Stores)....65
Figure 20 (NAICS 4511 - Sporting Goods, Hobby, and Musical Instrument Stores)....65
Figure 21 (NAICS 4529 - Other General Merchandise Stores)....65
Figure 22 (NAICS 4531 - Florist)....65
Figure 23 (NAICS 4533 - Used Merchandise Stores)....65
Figure 24 (NAICS 4541 - Electronic Shopping and Mail-Order Houses)....65

CHAPTER **Page**

Figure 25 (NAICS 4543 - Direct Selling Establishments) 66
Choropleth Maps....66
Map 1A – Number of Establishments in Puerto Rico, 2006, NAICS 44 – Retail Trade 66
Map 1B – Number of Establishments in Puerto Rico, 2011, NAICS 44 – Retail Trade....67
Map 2B – Number of Establishments in Puerto Rico, 2011, NAICS 441 – Motor Vehicle and Parts Dealers 68
Map 3B – Number of Establishments in Puerto Rico, 2011, NAICS 442 – Furniture and Home Furnishing Stores....69
Map 4B – Number of Establishments in Puerto Rico, 2011, NAICS 443 – Electronics and Appliance Stores 70
Map 5B – Number of Establishments in Puerto Rico, 2011, NAICS 444 – Building Material and Garden Equipment and Supplies Dealers....71
Map 6B – Number of Establishments in Puerto Rico, 2011, NAICS 445 – Food and Beverage Stores....72
Map 7B – Number of Establishments in Puerto Rico, 2011, NAICS 446 – Health and Personal Care Stores....73
Map 8B – Number of Establishments in Puerto Rico, 2011, NAICS 447 – Gasoline Stations....74
Map 9B – Number of Establishments in Puerto Rico, 2011, NAICS 448 – Clothing and Clothing Accessories Stores....75
Map 10B – Number of Establishments in Puerto Rico, 2011, NAICS 451 – Sporting Goods, Hobby, Book, and Music Stores....76
Map 11B – Number of Establishments in Puerto Rico, 2011, NAICS 452 – General Merchandise Stores....77
Map 12B – Number of Establishments in Puerto Rico, 2011, NAICS 453 – Miscellaneous Store Retailers 78
Map 13B – Number of Establishments in Puerto Rico, 2011, NAICS 454 – Nonstore Retailers....79
Wholesale Trade (NAICS 42)....79
Location Quotient....79
Wholesale Sector (NAICS 42) 81
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)....81
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)....81
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)....81
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)....81
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)....81
Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)....82
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)....82
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238) 82
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)....82
Paper and Paper Product Merchant Wholesalers (NAICS 4241) 82
Drugs and Druggist's Sundries Merchant Wholesalers (NAICS 4242)....83
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243) 83
Grocery and Related Product Wholesalers (NAICS 4244)....83
Farm Product Raw Material Merchant Wholesalers (NAICS 4245)....83
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)....83

CHAPTER **Page**

Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)..83
Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers (NAICS 4248)..........................84
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)..84
Wholesale Electronic Markets and Agents and Brokers (NAICS 4251)...84
Sector Comparison Analysis for the Years 2006 and 2011 84
Figure 5 (NAICS 42 - Wholesale Trade Sector)...84
Figure 6 (NAICS 4231 - Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers)..84
Figure 7 (NAICS 4232 - Furniture and Home Furnishing Merchant Wholesalers) 85
Figure 8 (NAICS 4233 - Lumber and Other Construction Materials Merchant Wholesalers) 85
Figure 9 (NAICS 4234 - Professional and Commercial Equipment and Supplies Merchant Wholesalers)..85
Figure 10 (NAICS 4235 - Metal and Mineral (except Petroleum) Merchant Wholesalers) 85
Figure 11 (NAICS 4236 - Electrical and Electronic Goods Merchant Wholesalers) 86
Figure 12 (NAICS 4237 - Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers)...86
Figure 13 (NAICS 4238 - Machinery, Equipment, and Supplies Merchant Wholesalers)....................86
Figure 14 (NAICS 4239 - Miscellaneous Durable Goods Merchant Wholesalers) 86
Figure 15 (NAICS 4241 - Paper and Paper Product Merchant Wholesalers).....................................86
Figure 16 (NAICS 4242 - Drugs and Druggist's Sundries Merchant Wholesalers) 87
Figure 17 (NAICS 4243 - Apparel, Piece Goods, and Notions Merchant Wholesalers) 87
Figure 18 (NAICS 4244 - Grocery and Related Product Wholesalers)...87
Figure 19 (NAICS 4245 - Farm Product Raw Material Merchant Wholesalers) 87
Figure 20 (NAICS 4246 - Chemical and Allied Products Merchant Wholesalers) 87
Figure 21 (NAICS 4247 - Petroleum and Petroleum Products Merchant Wholesalers) 88
Figure 22 (NAICS 4248 - Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers) 88
Figure 23 (NAICS 4249 - Miscellaneous Nondurable Goods Merchant Wholesalers) 88
Figure 24 (NAICS 4251 - Wholesale Electronic Markets and Agents and Brokers) 88
Choropleth Maps...89
Map 1A – Number of Establishments in Puerto Rico, 2006, NAICS 42 – Wholesale Trade................89
Map 1B – Number of Establishments in Puerto Rico, 2011, NAICS 42 – Wholesale Trade................90
Map 2B – Number of Establishments in Puerto Rico, 2011, NAICS 423 – Merchant Wholesalers, Durable Goods..91
Map 3B – Number of Establishments in Puerto Rico, 2011, NAICS 424 – Merchant Wholesalers, Nondurable Goods..92
Map 4B – Number of Establishments in Puerto Rico, 2011, NAICS 425 – Wholesale Electronic Markets and Agents and Brokers..93
Transportation (NAICS 48) 93
Location Quotient 93
Transportation Sector (NAICS 48)..94
Inland Water Transportation (NAICS 4832)..94
General Freight Trucking (NAICS 4841) 94
Specialized Freight Trucking (NAICS 4842)...95
Support Activities for Water Transportation (NAICS 4883)...95
Freight Transportation Arrangement (NAICS 4885) 95
Scenic and Sightseeing Transportation, Land (NAICS 4871) 95

CHAPTER **Page**

Scenic and Sightseeing Transportation, Other (NAICS 4879) 95
Support Activities for Rail Transportation (NAICS 4882) 95
Sector Comparison Analysis for the Years 2006 and 2011....96
Figure 3 (NAICS 48 – Transportation Sector) 96
Figure 4 (NAICS 4832 - Inland Water Transportation) 96
Figure 5 (NAICS 4841 - General Freight Trucking)....96
Figure 6 (NAICS 4842 - Specialized Freight Trucking) 96
Figure 7 (NAICS 4883 - Support Activities for Water Transportation) 96
Figure 8 (NAICS 4885 - Freight Transportation Arrangement)....97
Figure 9 (NAICS 4871 - Scenic and Sightseeing Transportation, Land)....97
Figure 10 (NAICS 4879 - Scenic and Sightseeing Transportation, Other)....97
Figure 11 (NAICS 4882 - Support Activities for Rail Transportation)....97
Choropleth Maps 98
Map 1A – Number of Establishments in Puerto Rico, 2006, NAICS 48 – Transportation and Warehousing 98
Map 1B – Number of Establishments in Puerto Rico, 2011, NAICS 48 – Transportation and Warehousing 99
Map 2B – Number of Establishments in Puerto Rico, 2011, NAICS 481 – Air Transportation 100
Map 3B – Number of Establishments in Puerto Rico, 2011, NAICS 483 – Water Transportation 101
Map 4B – Number of Establishments in Puerto Rico, 2011, NAICS 484 – Truck Transportation....102
Map 5B – Number of Establishments in Puerto Rico, 2011, NAICS 485 – Transit and Ground Passenger Transportation 103
Map 6B – Number of Establishments in Puerto Rico, 2011, NAICS 486 – Pipeline Transportation....104
Map 7B – Number of Establishments in Puerto Rico, 2011, NAICS 487 – Scenic and Sightseeing Transportation....105
Map 8B – Number of Establishments in Puerto Rico, 2011, NAICS 488 – Support Activities for Transportation 106
Map 9B – Number of Establishments in Puerto Rico, 2011, NAICS 492 – Couriers and Messengers....107
Map 10B – Number of Establishments in Puerto Rico, 2011, NAICS 493 – Warehousing and Storage108
Local (municipal) Location Quotients....108
Transportation and Warehousing Puerto Rico Location Quotients by municipality 114
Retail Trade Puerto Rico Location Quotients by municipality 122

II ANALYSIS OF STRENGTHS, WEAKNESS, OPPORTUNITIES, AND THREATS (SWOT)

SWOT Analysis....148
The Retail sector....148
SWOT for Retail Industry in Puerto Rico 148
Strengths 148
Weaknesses 148
Opportunities 148
Threats 148
SWOT for Wholesale Industry in Puerto Rico 149
Strengths 149
Weaknesses 149

CHAPTER **Page**

Opportunities 149
Threats 149
Detail of SWOT for Retail and Wholesale Industry in Puerto Rico 150
Strengths 150
Weaknesses 152
Opportunities 152
Threats 153
SWOT for Transportation and Warehousing 155
Strengths 155
Weaknesses 156
Opportunities 157
Threats 157

TABLES

CHAPTER I **Page**

1.1 General Information of the sectors 3
1.2 Population by age groups in Puerto Rico: 2010, 2011 and 2012 6
1.3 Population by age groups in Puerto Rico: 2013, 2020, 2025 6
1.4 Retail Sales in Puerto Rico at nominal prices ($) 7
1.5 Sales per industrial sector (millions $) at four digit SIC 7
1.6 Sales per regions in Puerto Rico: 2006 to 2013 7
1.6 Sales per regions in Puerto Rico: 2006 to 2013 8
1.2 Commercial Regions in Puerto Rico 8
1.7 International Comparison of Retail Sales: 2011 9
1.8 Retail. Wholesale and Transportation employees by size: 2006 and 2011 18
1.9 Concentration Herfindalh-Hirschman, Retail Sector – three digits 18
1.10 Concentration Herfindalh-Hirschman, Retail Sector – four digits 19
1.11 Concentration Herfindalh-Hirschman, Retail Sector – five digits 20
1.12 Concentration Herfindalh-Hirschman, Retail Sector – six digits 21
1.13 Concentration Herfindalh-Hirschman, Wholesale Sector – four digits 22
1.14 Concentration Herfindalh-Hirschman, Wholesale Sector – five digits 23
1.15 Concentration Herfindalh-Hirschman, Retail Sector – four digits 24
1.16 Concentration Herfindalh-Hirschman, Retail Sector – four digits 25
1.17 Pull Factors by states and Puerto Rico 27
1.18 Retail Trade – Pull Factors by state, D.C. and Puerto Rico: 2006 and 2011, Ranking for the biggest to lowest 31
1.19 Retail Trade --Pull Factors by state, D.C. and Puerto Rico: 2006 and 2011, In selected states 32
1.20 Wholesale Trade Pull Factor 32
1.21 Transportation and Warehousing 34
1.22 Retail Trade by Selected States: 2006 35
1.23 Retail Trade by Selected States: 2011 35
1.24 Wholesale Trade by Selected States: 2006 35

CHAPTER I **Page**

1.25 Wholesale Trade by Selected States: 2011....35
1.26 Wholesale Trade by Selected States: 2011....35
1.27 Wholesale Trade by Selected States: 2011....36
1.29 Location Quotient for Retailing sector: Puerto Rico and selected states 2011....37
1.30 Location Quotient for Wholesale sector: Puerto Rico and selected states 2011....38
1.31 Location Quotient for Transportation and Warehousing sector: Puerto Rico and selected states 2011....39
1.32 Estimated Sales and Total Sales of Puerto Rico (000,000)....40
1.33 Walmart Establishments and Average Square Foot....41
1.34 Population Clusters: Puerto Rico....42
1.35 Population by Size....42
1.36 Total Mega Stores' Establishments by Population Size Groups....42
1.37 Sales of Mega Retailers by municipalities in Puerto Rico....43
1.38 Total Mega Store Establishments by Square Foot (sf) and Population Size Groups (000)....44
1.39 Total Establishments by employee's size and the Population Size Groups....44
1.40 Total Mega Store Square Foot per 1,000 inhabitant and Total Retail Trade number of establishments 1 to 19 employees - changes %: 2011-05....44
1.41 Classification of mega retailers' impact....45
1.42 Decrease small & medium size & high level of sf of mega boxes (35 municipalities)....46
1.43 Simulation of Mega retailers' impact on small and mid-size firms....47
1.44 Population and Square Foot of Mega retailers by MSAs....48
1.45 Table 1.45 Total Square Foot of mega retailers by MSAs (000)....48
1.46 Employees of Retailers (1 to 19 employees by establishments)....48
1.47 Estimated Sales by MSA's....49
1.48 Total Square Foot and Employees losses....49
1.49 Total Square Foot and Employees losses by Sales....49
1.50 Estimated Sales of Mega Retailers by MSAs....50
1.51 Regression Analysis for MSAs....51
1.52 Correlation matrix....52
1.53 Regression Analysis....52
1.54 Correlation matrix....53
1.55 Regression Analysis....53
1.56 Correlation Matrix for other MSAs....54

APPENDIX

1 Location Quotient of Number of Employees Retail Trade (NAICS - 44)....57
2 Location Quotient of Annual Payroll Per Employee Retail Trade (NAICS - 44)....57
3 Location Quotient of Number of Establishments Retail Trade (NAICS - 44)....58
4 Location Quotient of Total Annual Payroll Retail Trade (NAICS - 44)....58
5 Location Quotient of Number of Employees Wholesale Trade (NAICS - 42)....80
6 Location Quotient of Annual Payroll Per Employee Wholesale Trade (NAICS - 42)....80
7 Location Quotient of Number of Establishments Retail Wholesale (NAICS - 42)....80
8 Location Quotient of Total Annual Payroll Wholesale Trade (NAICS - 42)....80
9 Location Quotient of Number of Employees Transportation and Warehousing (NAICS - 48)....94
10 Location Quotient of Annual Payroll Per Employee Transportation and Warehousing (NAICS - 48)....94
11 Location Quotient of Number of Establishments Transportation and Warehousing (NAICS - 48)....94
12 Location Quotient of Total Annual Payroll Transportation and Warehousing (NAICS - 48)....94
13 Wholesale Electronic Markets and Agents and Brokers....109

Page

14 Merchant Wholesalers, Durable Goods 110
15 Merchant Wholesalers, Nondurable Goods 112
16 Air Transportation 114
17 Water Transportation 114
18 Truck Transportation 115
19 Transit and Ground Passenger Transportation 117
20 Pipeline Transportation 119
21 Scenic and Sightseeing Transportation 119
22 Support Activities for Transportation 120
23 Couriers and Messengers 121
24 Warehousing and Storage 121
25 Motor Vehicle and Parts Dealers 122
26 Furniture and Home Furnishings Stores 124
27 Electronics and Appliance Stores 126
28 Building Material and Garden Equipment and Supplies Dealers 128
29 Food and Beverage Stores 130
30 Health and Personal Care Stores 132
31 Gasoline Stations 134
32 Clothing and Clothing Accessories Stores 136
33 Sporting Goods, Hobby, Book, and Music Stores 138
34 General Merchandise Stores 140
35 Miscellaneous Store Retailers 142
36 Nonstore retailers 144

FIGURES

CHAPTER I **Page**

1.2 Population in Puerto Rico: 2001 to 2012 5
1.3 Map - Puerto Rico's transportation system 10
1.4 Map – Home to work (origin – destination) trips 2010 11
1.5 Map – Home to other place trips (no work) 2010 11
1.6 Map – Passengers arrivals and departures 12
1.7 Map – Flights – arrivals and departures 12
1.8 Map – Air cargo arrivals and departures 13
1.9 Map – Sea port cargo arrivals and departures 13
1.10 Retail Trade Sales per capita, 2012, Puerto Rico and selected states 29
1.11 Relationship between square feet of Mega Stores per 1,000 inhabitants vs. Changes in the number of retailers (1 – 19 employee size) 45
1.12 Relationship between square foot of mega stores and employee losses in small and mid-size stores: 2005 to 2011 46

CHAPTER II

1 Nutritional Assistance Programs: Fiscal Years 2004 to 2013 in millions ($) 150

ECONOMIC DEVELOPMENT PLAN

Diagnosis
Puerto Rico's Retail Trade, Wholesale Trade, and Transportation and Warehousing Sectors (EDSP)

Executive Summary
Introduction

This executive summary constitutes the diagnostic view of a comprehensive plan of development of the Puerto Rico's Retail, Wholesale and Transportation sectors. The Planning Board of the Commonwealth of Puerto Rico, hired the consulting services from the economist and planner José I. Alameda-Lozada, Ph.D., in the preparation of such a strategic plan of economic development.

Indeed, as a general vision, the retail and wholesale trade are main service sectors compromised with buying goods from manufacturers, dealers or producers and selling them in smaller quantities by retailers. Transportation and warehousing sector connects wholesalers, retailers and consumers by moving intermediate and final goods by water, air and/or land.

By the late 2000s, the scale and scope of multinational retailing had become substantial out of worldwide frontiers. Virtually all the leading transnational retailers had experienced a rise in their international sales, creating panic for the indigenous small and mid-sized firms. Technological progress and consumer behavior are at the heart of a profound transformation within retail and wholesale and the growth of online trading is changing the way businesses operate and consumers interact, generating new challenges and opportunities.

The economic contribution of retail, wholesale and transportation go beyond their value added, GDP and, employment. It also concerned about the competitiveness of the economy, technological innovations and consumer welfare. These sectors have demonstrated a great diversity and multiplicity of business formats in both sectors – from global business leaders to a myriad of small local or international businesses. It shows the extreme dynamism and innovation of sectors driven by intense competition as well as by ever changing and diverse consumer demands.

Main findings summary

- Three basic variables describing the economic performance of the three sectors are employment, payroll and establishments. Analysis was performed from year 2006 and 2011.
- In terms of employment the three sectors compromised 26.7% of total private employees by 2011 but 24.9% by 2006. Absolute values of employees reduced from 190,000 to 131,560 employment.
- The retail trade sector was the single but strongest industrial sector, by far. At 2006, this sector represented 17.9% of total private employment but 19.5% at 2011.
- The biggest decline was observed at the Retail sector where 4,942 employment were losses. Secondly, the Wholesale sector experienced a decline of 4,438 employees, and Transportation and Warehousing a 993 losses.

Measuring concentration

In term of size of establishments, the sectors are classified into five categories--measure as employees per establishment-- from 1 to 4 (micro size); 5 to 19 (small size); 20-49 (medium size); '50-99' (big size), and 100 or more (mega-big). The following conclusions were derived:

(a) About 65% of establishments lost in the retail trade sector concentrated in those from 1 to 4 employees;
(b) 90.3% of establishments in the retail sector closed are from 1 to 19 employees. Then, most of lost establishments (90%) are from small and medium sized establishments;
(c) At the Wholesale sector, 83 establishment closed (61%) were from 1 to 19 employees, once again, from the small and medium sized firms sub-sectors;
(d) In the Transportation and Warehousing sector, 52 establishments from 1 to 19 employees were closed (85%);
(e) Therefore, the vast majority of the closed establishments belong to the small and medium sized establishments; 90% for retailers, 61% for wholesalers and 85% for transportation.

Retail sales

- In general terms, retail sales in Puerto Rico increased at a 4% from 2006 to 2013 Nonetheless, per capita sales increased at 9.4% because total population declined since 2006 at 5.0%.
- Notwithstanding, retail sales per industrial sectors has shown a different picture. Five retailer sectors have portray rate of changes higher than 10%; (1) Gas stations (84%); Furniture stores (27%); New and used car dealers (15%); other retailers (14.5%), and Food stores (10.1%).
- Conversely, hardware stores, clothing, jewelry, music stores, and building materials have suffered strongly due to the economy stagnation. This is so because the demand of these items are relatively elastic to respect income.

Geographical distribution

- The pattern of retail sales by geographical area have been changed according to the Commonwealth Department of Commerce. There are nine (9) regions; San Juan, Bayamón, Caguas, Humacao, Fajardo, Aguadilla, Ponce, Arecibo y Mayagüez. It is observed a changing patterns of retail sales to the East Regions mainly, Caguas, Fajardo and Guayama. Aguadilla, have gained a strong market shares while Mayaguez, San Juan and Arecibo has been loosed ground.
- Ponce and Bayamón regions have been growing at 5% to 6%, respectively. No doubts, even the nominal value of the retail trade figures have been highly stable, the geographical composition have been changed for the East side.

Assessment through Pull Factors (PF) and Location Quotients (LQ)

Pull Factor

- There are two relevant indicators for the measure of regional economic performance: (1) Pull Factor (PF) and (2) Location Quotient (LQ). The diagnostic explored the PF and LQ for United States and Puerto Rico. The comparison was performed also between Puerto Rico and some selected states.
- Pull factor ratios are used to estimate the proportion of local sales (or employees) that is captured by the community (region) as compared to the state or nation.
- Puerto Rico's pull factor is 0.775, ranked at 52th position. Comparing with some selected states, Puerto Rico retail sales per capita is lower than states with similar population size or dimension. New Hampshire ranked at first place because its retail sales per capita is 54% higher that national average. Meanwhile, Wyoming and North Dakota exhibited high PF, 1.37 and 1.32, respectively.

- For the wholesale trade sector the top four states for year 2006 and 2011 were New Jersey, North Dakota, Minnesota and Illinois. New Jersey is a state leader the New England region on finance, insurance and real estate combined with commercial real estate --office buildings and factories--and large insurance company headquarters. It also a leader on trade group such as center for wholesale trade of chemicals and machinery, and discount stores, service stations, and trade group.
- Minnesota and California are those states that the U.S. Department of Commerce argued as ranked the fifth place in growth of GDP last 2013 year. Both are based upon economic activities of durable-goods manufacturing, construction, mining, agriculture, wholesale trade, and finance and insurance.
- In the PF for Transportation and Warehousing, the top four states were Alaska, North Dakota, Nebraska and Hawaii. Alaska is a "three-legged stool". One leg being the petroleum and gas industry, the second leg being the federal government and the third one the other industries and services.
- For Alaska, transportation and warehousing sector is a crucial for the industrial productions of crude petroleum, natural gas, coal, gold, precious metals, zinc and other mining, seafood processing, timber and wood products. The state also has recently supported a growing service and tourism sector which is also highly related to the transportation sector. Meanwhile, food imports to Alaska is transported into the state from "outside", and shipping costs make food highly expensive to the residents.

Location Quotients (LQ's)

- Location Quotients (LQs) are ratios allowing a given distribution of employment by industry in a state o region to be compared to a reference distribution, usually, the nation. Indeed, an LQ is computed as an industry's share of a regional total for some economic statistic--earnings, GDP by metropolitan area, employment, etc., divided by the industry's share of the national total.
- We assess the LQ for Puerto Rico, Connecticut, Florida, Hawaii, Massachusetts, Mississippi, New York and South Carolina. Puerto Rico showed the highest LQ for all retail sectors; followed by Mississippi and South Carolina. Meanwhile, LQ over two were found at Automotive parts, Specialty Food, Shoe Stores, Health and personal care and Jewerly, luggage and leathers.
- Mississippi shows two sub-sectors with a LQ over 2; other merchandise stores and gasoline stations. Hawaii also with Jewerly, luggage and leather, and Office supplies, stationery and gift stores. Jewerly, luggage and leather were found a LQ over two in Puerto Rico and Hawaii.
- In the wholesale sector, Puerto Rico showed the higher LQ at NAICS 4242, Drugs and druggists sundries merchants with a LQ of 2.721. Paper and paper products as well as Hardware and plumbing exhibits LA ratio over the unity. New York has a 3.2 level is apparel, piece goods and notions merchant.
- Puerto Rico shows high level at support activities for water transportation, NAICS 4883, with a LQ of 3. 5. High values of LQ in this sector were also found in Hawaii (3.951) and South Carolina (1.788). Scenic and Sightseeing activities were found extraordinary high LQ value in Hawaii (NAICS 4871, 4872 and 4879), basically because the tourist industry of Hawaii.

The Mega Boxes and their impact

- This section investigates the impact of mega-stores over the small and medium size retail stores in Puerto Rico since 2006 to 2011. The analysis was performed considering the main mega-boxes stores located in Puerto Rico: WalMart (discount and supercenters); Amigo, Sam's Club, Kmart, CostCo, Walgreens and CVS Pharmacy.
- There does exist plenty information concerning the impact of mega stores in local communities. The Sierra Club believes that these retailers leave a large footprint on the environment and the community. Wal-Mart and other big box stores should not necessarily fulfill all environmental laws and/or meet community standards.
- The estimated sales of these mega stores in Puerto Rico amounted to $5,325.5 million, 18.6% of total retail sales in Puerto Rico, excluding motor vehicles and gasoline.
- The main mega-store in WalMart and its business lines. Total estimated sales for WalMart is $2,919 million near

55% of total mega stores, whereas supercenters accounted for 20.3% of total mega stores sales. Walgreens and Kmart represented near $1,000 million and $880 respectively, combined 35.3% of total sales from mega stores.

- Since Puerto Rico is not a heterogeneous land, it compromises 78 municipalities in which population sizing varies across the borders.
- Six groups or clusters of population was classified; Group I those smallest municipalities, 1,000 to 15,000 residents; Group II, those from 15,001 to 35,000; Group III, 35,001 to 45,000; Group IV, 45,001 to 75,000; Group V, 75,001 to 100,000; and Group IV, 100,001 and over.
- Near 46% (92 of 202) of total establishments of mega stores are located at those five municipalities of Group IV. From those 92 establishments, 47 are from Walgreens (51%), and 20 units (22%) are from Wal-Mart, Sam's and Amigos.
- Conversely, municipalities grouped at first three clusters, compromises only 55 units (27.2%) of total mega-stores. Costco for instance, has only four establishments, all of them located in wealthiest municipalities of Group VI.

Impact on small and mid-size retailers

- The study found a negative relationship between the rate of changes for the number of retail trade establishments and the square foot of mega-stores. The strong decline of establishment at group I is clearly not to be correlated with the level of square foot of mega retailer stores, because such municipalities have virtually no square foot from mega stores.
- Nonetheless, other population groups such as III, IV and VI have establishment losses over global average. The study demonstrates that there does exist and negative correlation between the level of square foot per 1,000 inhabitant and the establishment losses of 1 to 19 employees. The evidence suggests that a higher level of square foot of mega retailers, is associated with a stronger decline in the mid-sized establishments.
- A simulation model stated that the level of s.f. mega stores and the employee losses for 35 municipalities implies an employee losses of 115 persons due to 100,000 s.f. of mega retailers. Meanwhile, an increase of one million of s.f. of mega stores implies a small and mid-size's employee losses of 1,100 with near 110 stores closed.
- An assessment by Metropolitan Statistical Areas (MSAs) were also undertaken. In Puerto Rico, OBM defined seven MSAs and one micro-areas by 2011. The analysis depicts that the population size and the total amount of square foot of mega retailers. MSAs of Fajardo, Guayama and Mayaguez depicted the higher level of square foot per capita (over the general average); 5,846; 4,680; and 4,278. Meanwhile, Ponce portrays 3,358 s.f. per capita.
- When considered the brand-name of mega retailers by MSAs, the Combined MSA of San Juan-Caguas-Guaynabo accounted for 70.3% of total s.f. of mega stores. Ponce and Mayaguez combined 12.8% of total s.f., therefore, these three MSAs, accounted for 83% of total square foot of mega stores. Meanwhile, Walgreens exhibit a more spread-out pattern as compare to CostCo, and CVS, for instance.

END
July 30, 2014
Mayaguez, Puerto Rico

I. INTRODUCTION

A. Objectives

The following study constitutes a comprehensive diagnosis that will serve as a base to prepare the Economic Development Plan for the Industrial Sectors in Puerto Rico (EDSP). The three sectors included in this study are Retail Trade, Wholesale Trade, and Transportation and Warehousing. The Puerto Rico Planning Board hired the consulting services from the José I. Alameda-Lozada, Ph.D., economist and planner, to prepare the Economic Development Plan for the three aforementioned sectors.

As envisioned by the Puerto Rico Planning Board, the plan will consist on five chapters in which the main objectives will be: (a), a general but comprehensive diagnosis of these sectors accomplished with proper measurement instruments and tools; (b), the mission, goals, and objectives which are going to guide the future development within those sectors; and (c), the design of potential strategies to achieve goals and objectives. Needless to say, the Plan shall be a comprehensive assessment of these sectors as part of a general economy and within (each sectors). The plan would also provide a general framework to guide the future of the aforementioned sectors, and therefore enhance the sectors and subsectors competitiveness. This study correspond to the phase A, operationalized as the diagnosis and SWOT.

It is important to respect planning hierarchies and boundaries, previous planning processes and the will of the people, expressed in plans. The Municipal Growth Management Plans (Planes de ordenación territorial –POT), the Puerto Rico Land Use Plan (Plan de uso de terrenos – PUT) and EDSP should be aligned and framed in a participatory process. The expert knowledge generated by this study will and should serve as input for participatory process and should be available to all participants.

B. Sources of Information

The main sources of information or the raw data to perform the diagnosis were the County Business Patterns, the US Decennial Census, and the Puerto Rico Planning Board. Secondary data for previous studies were also used. Information also has been gathered from Federal sources such as U.S. Department of Commerce, U.S. Census of Population; U.S. Retail and Wholesale Trade Census; Bureau of Labor Statistics and Energy Information Administration, among others.

Commonwealth Planning Board, Department of Labor and Human Resources, Government Development Bank, University of Puerto Rico; and private associations of Bankers, Small Businesses, consulting firm Estudios Técnicos, among others, were other paramount important information sources.

CHAPTER I:

DIAGNOSIS ANALYSIS FOR THE RETAIL, WHOLESALE AND TRANSPORTATION AND WAREHOUSING SECTORS

I. PUERTO RICO DIAGNOSIS

A. General Overview

The Retail Trade Sector is a service sector compromised with buying goods from manufacturers, dealers or producers and selling them in smaller quantities by retailers. The Wholesale Trade Sector is a main service sector compromised with buying goods from manufacturers, dealers or producers and selling them in smaller quantities by others who called retailers. The Transportation and Warehousing Sector connects wholesalers, retailers and consumers, bringing mobility to intermediate and final goods by water, air and/or land.

In recent years, the scale and scope of multinational retailing had become substantial. Most of the leading transnational retailers had experienced a rise in their international sales. Technological progress, changes in consumer behavior, and the growth of online trade are at the heart of a profound transformation within the Retail and Wholesale sectors, changing the way businesses operate and consumers interact, generating new challenges and opportunities.

The economic contribution of the Retail, Wholesale, and Transportation and Warehousing sectors go beyond their value added, GDP share, and employment. It also concerned about the competitiveness of the economy, technological innovations and consumer welfare. These sectors have demonstrated a great diversity and multiplicity of business formats – from global business leaders to a myriad of small local or international businesses. It shows the extreme dynamism and innovation of sectors driven by intense competition as well as by the ever changing and diverse consumer needs and wants.

Overview of the sectors in the economy of Puerto Rico

Economic Sector Conceptualization (Definition)

In order to conceptualize the three economic sectors, the definitions used for the purposes of this study are the formal definitions as in the North American Industrial Classification System (NAICS). Following NAICS classification, the formal Retail Trade sector definition is as follows:

The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and non-store retailers.

1. *Store retailers operate fixed point-of-sale locations, located and designed to attract a high volume of walk-in customers. In general, retail stores have extensive displays of merchandise and use mass-media advertising to attract customers. They typically sell merchandise to the general public for personal or household consumption, but some also serve business and institutional clients. In addition to retailing merchandise, some types of store retailers are also engaged in the provision of after-sales services, such as repair and installation.*

2. Non-store retailers, like store retailers, are organized to serve the general public, but their retailing methods differ. The establishments of this subsector reach customers and market merchandise with methods, such as the broadcasting of “infomercials,” the broadcasting and publishing of direct-response advertising, the publishing of paper and electronic catalogs, door-to-door solicitation, in-home demonstration, selling from portable stalls (street vendors, except food), and distribution through vending machines.

Following NAICS classification, the formal Wholesale Trade sector definition is as follows:

The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The wholesaling process is an intermediate step in the distribution of merchandise. Wholesalers are organized to sell or arrange the purchase or sale of goods for resale (i.e., goods sold to other wholesalers or retailers), capital or durable non-consumer goods, or raw and intermediate materials and supplies used in production

Following NAICS classification, the formal Transportation and Warehousing sector definition is as follows:

The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation are air, rail, water, road, and pipeline.

The Transportation and Warehousing sector distinguishes three basic types of activities: subsectors for each mode of transportation, a subsector for warehousing and storage, and a subsector for establishments providing support activities for transportation. In addition, there are subsectors for establishments that provide passenger transportation for scenic and sightseeing purposes, postal services, and courier services.

A separate subsector for support activities is established in the sector because, first, support activities for transportation are inherently multimodal, such as freight transportation arrangement, or have multimodal aspects. Secondly, there are production process similarities among the support activity industries.

General Overview of the Sectors

Table 1.1 depicts the basic variables describing economic performance: employment, payroll, and establishments. The data is for the years of 2006 and 2011. In terms of employment the three sectors compromised 26.7% of total private employees by 2011 but 24.9% for 2006. The retail trade sector was the strongest industrial sector, by far. At 2006, this sector represented 17.9% of total private employment, augmenting to 19.5% in 2011.

However, the employee’s absolute values of the three sectors reduced from 190,000 to 131,560 sector’s employment. The largest decline was observed at the Retail Sector. The sector loss 4,942 of its employment in the time period. The Wholesale Sector experienced a decline of 4,438 employees, and Transportation and Warehousing sector loss 993 employees in the same period.

Table 1.1
General Information of the sectors

Industry code	2006 Paid employees	2006 Annual payroll in dollars (000)	2006 Total establishments
Total	762,730	16,439,908	46,300
Forestry, Fishing, Hunting, and Agriculture	44	696	17
Mining	936	22,208	45
Utilities	370	17,766	23
Construction	61,751	1,009,598	2,956
Manufacturing	110,050	3,585,032	2,118
Wholesale Trade	37,187	1,169,744	2,303
Retail Trade	136,502	2,035,162	10,851
Transportation and Warehousing	16,369	394,958	1,062
Information	20,477	734,955	491
Finance and Insurance	40,304	1,406,578	1,934
Real Estate and Rental and Leasing	16,353	316,635	1,771
Professional, Scientific, and Technical Services	29,835	902,536	4,196
Management of Companies and Enterprises	6,039	251,495	106
Administrative and Support and Waste Management and Remediation Services	70,491	1,095,409	1,780
Educational Services	33,800	627,355	741
Health Care and Social Assistance	73,877	1,412,039	6,649
Arts, Entertainment, and Recreation	4,330	65,182	453
Accommodation and Food Services	76,317	914,442	4,033
Other Services (except Public Administration)	26,251	444,228	3,672
Unclassified	1,447	33,890	1,099

Table 1.1
Continuation……….

Industry code	2011 Paid employees	2011 Annual payroll in dollars (000)	2011 Total establishments
Total	673,677	16,484,993	44,056
Forestry, Fishing, Hunting, and Agriculture	B	723	8
Mining	731	14,573	48
Utilities	333	18,283	25
Construction	29,663	625,110	2,130
Manufacturing	83,712	2,970,240	1,829
Wholesale Trade	32,749	1,137,830	2,166
Retail Trade	131,560	2,283,871	10,255
Transportation and Warehousing	15,376	420,142	1,001
Information	18,739	712,574	555
Finance and Insurance	34,633	1,457,813	1,897
Real Estate and Rental and Leasing	11,131	252,098	1,554
Professional, Scientific, and Technical Services	26,352	878,631	4,206
Management of Companies and Enterprises	4,224	229,952	90
Administrative and Support and Waste Management and Remediation Services	72,513	1,371,925	1,807
Educational Services	38,132	820,348	830
Health Care and Social Assistance	80,391	1,845,972	7,293
Arts, Entertainment, and Recreation	3,002	63,778	390
Accommodation and Food Services	70,173	1,004,152	4,354
Other Services (except Public Administration)	19,798	368,296	3,378
Unclassified	414	8,682	240

Table 1.1
Continuation……….

Industry code	2011/2006 Paid employees	2011/2006 Annual payroll in dollars (000)	2011/2006 Total establishments
Total	-89,053	45,085	-2,244
Forestry, Fishing, Hunting, and Agriculture	ND	27	-9
Mining	-205	-7,635	3
Utilities	-37	517	2
Construction	-32,088	-384,488	-826
Manufacturing	-26,338	-614,792	-289
Wholesale Trade	-4,438	-31,914	-137
Retail Trade	-4,942	248,709	-596
Transportation and Warehousing	-993	25,184	-61
Information	-1,738	-22,381	64
Finance and Insurance	-5,671	51,235	-37
Real Estate and Rental and Leasing	-5,222	-64,537	-217
Professional, Scientific, and Technical Services	-3,483	-23,905	10
Management of Companies and Enterprises	-1,815	-21,543	-16
Administrative and Support and Waste Management and Remediation Services	2,022	276,516	27
Educational Services	4,332	192,993	89
Health Care and Social Assistance	6,514	433,933	644
Arts, Entertainment, and Recreation	-1,328	-1,404	-63
Accommodation and Food Services	-6,144	89,710	321
Other Services (except Public Administration)	-6,453	-75,932	-294
Unclassified	-1,033	-25,208	-859

Table 1.1
Continuation……….

Industry code	2006 Employees	2006 Payroll (000,000)	2006 Establishments	2011 Employees	2011 Payroll (000,000)	2011 Establishments	2011/2006 Employees	2011/2006 Payroll (000,000)	2011/2006 Establishments
Total	762,730	$16,440	46,300	673,677	$16,485	44,056	-89,053	$45.10	-2,244
Wholesale Trade	37,187	$1,170	2,303	32,749	$1,138	2,166	-4,438	($31.90)	-137
Retail Trade	136,502	$2,035	10,851	131,560	$2,284	10,255	-4,942	$248.70	-596
Transportation and Warehousing	16,369	$395.00	1,062	15,376	$420.10	1,001	-993	$25.20	-61
Sub-total	190,058	3,600	14,216	179,685	3,842	13,422	-10,373	242	-794

Share (percent)	2006 Employees	2006 Payroll (000)	2006 Establishments	2011 Employees	2011 Payroll (000)	2011 Establish-ments	2011/2006 Employees	2011/2006 Payroll (000)	2011/2006 Establishments
Wholesale Trade	4.90%	7.10%	5.00%	4.90%	6.90%	4.90%	5.00%	-70.80%	6.10%
Retail Trade	17.90%	12.40%	23.40%	19.50%	13.90%	23.30%	5.50%	551.60%	26.60%
Transportation and Warehousing	2.10%	2.40%	2.30%	2.30%	2.50%	2.30%	1.10%	55.90%	2.70%
Sub-total	24.90%	21.90%	30.70%	26.70%	23.30%	30.50%	11.60%	536.70%	35.40%

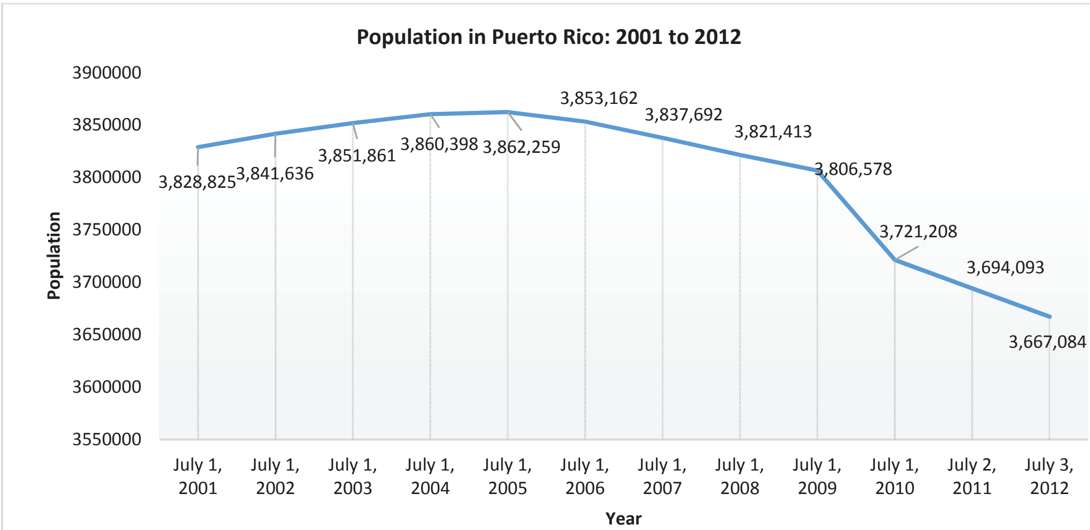
Diagnosis by sector

The historical level of population and the demographic transition

The population level of Puerto Rico has been steadily declining since the mid-2000. In 2006, the population level was 3.86 million while at 2012, the level declined to 3.667 million (See figure 1.2). That is, population dropped by 193,300 persons. From 2010 to 2012, population went down by 27,062. Two trends are determinant factors of such downsizing: (a) lower fertility rates coupled with a steady state of mortality rates; and, (b) higher out-migration rates, a continuation since the mid-2000. According to the Instituto de Estadísticas de Puerto Rico, for the year 2010, the median age of out-migrants was 28.0 years old, very similar for those in-migrant persons (28.1). However, the median age for all inhabitants was 37.2 years old.

As can be seen from Table 1.2, the higher level of population declines are experienced at the first five cohorts from 0 to 19 years old, but also at the 25 to 29 years old cohort. Conversely, a tremendous increase is observed for those segments 65 years old and ahead. The demographic consequences of this pattern are clearly significant: (1) migration had been accelerating the aging of Puerto Rico's population, and (2) people who left Puerto Rico had a greater level of educational achievement than those who arrived. In fact, for the first-time ever in modern history, Puerto Rico's population actually declined between the 2000 and 2010 Census. Despite such declining fertility rates, it is now clear migration was the main cause--but not the only one, of the overall population decrease.

Figure 1.2



Source: U.S. Bureau of the Census, http://www.census.gov/popest/data/index.html.

Given such trends, the population forecast for years 2015, 2020 and 2025 is been performed using the method of cohorts (See Table 1.3). Total population by 2015 is expected to be 3.5 million; by year 2020 is expected to amount 3.24 million, and by 2025, 3.036 million. Notwithstanding, the 65-74 years old is expected to decline due to current trends in lower population level at previous cohorts. Conversely, paramount increases were observed at the 75 years old and more. The better health technology and medical –clinical expenditures by private sector and government will drive the society to a higher level of life expectancy. Meanwhile, one can expect higher level of legal drugs, expenditures for medical and clinical conditions. These demographic changes will have a tremendous impact over the medical and clinical conditions, technology and equipment and even to the infrastructure investment. Even though population tends to exhibit a better level of health and/or general standard of living, the segment cohorts over 65 years old, is exposed to a higher level of sickness and/or prevalence rates.

Table 1.2 Population by age groups in Puerto Rico: 2010, 2011 and 2012.

Age groups	2010	2011	2012	2011-10	2012-11
Less than 18 years old	896,946	872,861	849,363	-24,085	-23,498
18-44 years old	1,348,146	1,332,021	1,317,229	-16,125	-14,792
45-64 years old	929,406	925,510	918,456	-3,896	-7,054
65-74 years old	314,277	324,590	335,504	10,313	10,914
75+ years old	232,433	239,111	246,532	6,678	7,421
Total Population	3,721,208	3,694,093	3,667,084	-27,115	-27,009

Source: U.S. Bureau of the Census, http://www.census.gov/popest/data/index.html.

Table 1.3 Population by age groups in Puerto Rico: 2013, 2015, 2020 and 2025.

YEARS	Less 18 years old	18-44 years old	45-64 years old	65-74 years old	75+ years old	Total Population
2010	896,946	1,348,146	929,406	314,277	232,433	3,721,208
2011	872,861	1,332,021	925,510	324,590	239,111	3,694,093
2012	849,363	1,317,229	918,456	335,504	246,532	3,667,084
2013	825,865	1,302,437	911,402	346,418	251,042	3,637,164
2014	811,139	1,300,744	888,077	333,273	231,292	3,564,525
2015	797,160	1,296,296	870,178	318,626	217,313	3,499,572
2016	782,644	1,288,446	853,927	307,975	207,624	3,440,615
2017	768,535	1,281,920	840,614	295,948	198,196	3,385,213
2018	756,185	1,276,189	825,432	283,468	192,917	3,334,191
2019	737,537	1,277,726	809,188	272,696	188,810	3,285,956
2020	724,005	1,272,274	794,425	263,874	185,601	3,240,180
2021	714,912	1,260,343	780,930	256,145	183,790	3,196,120
2022	704,553	1,250,496	767,913	247,355	183,673	3,153,990
2023	692,830	1,240,647	757,434	239,211	183,257	3,113,380
2024	678,892	1,233,136	748,298	231,820	181,899	3,074,044
2025	665,912	1,225,773	737,290	226,989	179,932	3,035,896

Note: The projections done by author were produced using a cohort-component method. The estimates are based on the 2010 Census and reflect changes to the April 1, 2010 population due to the Count Question Resolution program and geographic program revisions. U.S. Department of Commerce, U.S. Bureau of the Census. Forecast by author.

Retail Sales in Puerto Rico

The retail sales pictured the economic path in any society at a given period of time. Although is a heterogeneous group of establishments running from automobiles, food, beverages and clothing, retail spending can trigger a recession by lowering receipts and forcing companies to lower the head count employees. In general terms, retail sales in Puerto Rico increased at a 4% from 2006 to 2013 (see Table 1.3). Nonetheless, per capita sales increased at 9.4% because total population declined since 2006 at 5.0%.

Notwithstanding, retail sales per industrial sectors shown a different picture (Table 1.4). Five retailer sectors have portray rate of changes higher than 10%; (1) Gas stations (84%); Furniture stores (27%); New and used car dealers (15%); other retailers (14.5%), and Food stores (10.1%). Conversely, hardware stores, clothing, jewelry, music stores, and building materials have suffered strongly due to the economy stagnation. This is so because the demand of these items are relatively elastic to respect income.

Geographical distribution

Table 1.6 describes the pattern of retail sales by geographical area. According to the Commonwealth Department of Commerce, there are nine (9) regions; San Juan, Bayamon, Caguas, Humacao, Fajardo, Aguadilla, Ponce, Arecibo y Mayaguez. From Table 1.6 is observed a changing patterns of retail sales; (a) regions from Caguas, Fajardo, Guayama y Aguadilla, have gained a strong market shares while Mayaguez, San Juan and Arecibo has been loosed ground. Ponce and Bayamón regions have been growing at 5% to 6%, respectively. No doubts, even the nominal value of the retail trade figures have been highly stable, the geographical composition have been changed for the East side (See Figure 1.2).

Table 1.4 Retail Sales in Puerto Rico-- nominal prices $

	2006	2007	2008	2009	2010	2011	2012	2013	Rate chg
Total Sales (millions $)	$34,808	$35,046	$35,208	$34,929	$34,381	$35,312	$36,197	$36,185	4.00%
Sales (excl. motor vehicles and auto parts)	$29,951	$30,556	$30,950	$30,954	$30,256	$30,568	$30,804	$30,894	3.10%
Population (000)	3,805	3,783	3,761	3,740	3,721	3,687	3,652	3,615	-5.00%
Total Sales per capita	$9,148	$9,264	$9,362	$9,338	$9,239	$9,578	$9,913	$10,009	9.40%
Net Sales p.c.	$7,871	$8,077	$8,229	$8,276	$8,131	$8,292	$8,436	$8,546	8.60%

Source: Department of Commerce and Export, Puerto Rico. http://www.comercioyexportacion.com/

Table 1.5 Sales per industrial sector (millions $) at four digit SIC

SIC	Description	2006	2007	2008	2009	2010	2011	2012	2013	Rate chg
5231	Gasoline stations	$2,143	$2,606	$3,002	$3,006	$3,240	$3,459	$3,686	$3,943	84.00%
5251	Furniture stores	$616	$651	$759	$699	$692	$741	$765	$782	26.90%
5311	New & used car dealers	$3,199	$2,871	$2,720	$2,431	$2,544	$3,138	$3,734	$3,678	15.00%
5331	Others	$2,157	$2,294	$2,229	$2,216	$2,119	$2,181	$2,358	$2,470	14.50%
5399	Food stores	$4,886	$5,401	$5,704	$5,720	$5,261	$5,312	$5,223	$5,378	10.10%
5411	Variety stores	$114	$128	$120	$111	$106	$92	$98	$118	3.90%
5421	Shoe stores	$399	$368	$367	$356	$361	$378	$390	$393	-1.50%
5511	Autos supply stores	$1,658	$1,620	$1,538	$1,544	$1,581	$1,606	$1,660	$1,613	-2.70%
5531	General merchandise stores	$6,350	$6,166	$6,392	$6,553	$6,515	$6,520	$6,415	$6,160	-3.00%
5541	Eating places--cafeteria and restaurants	$4,110	$4,027	$3,913	$3,970	$3,929	$3,905	$3,936	$3,900	-5.10%
5611	Drug stores	$3,956	$4,071	$3,820	$4,087	$3,911	$3,907	$3,841	$3,742	-5.40%
5621	Misc. general merchandise	$672	$645	$612	$614	$639	$581	$570	$599	-10.90%
5661	Women's clothing	$280	$274	$265	$220	$232	$287	$223	$247	-11.70%
5712	Men's & boy's clothing & acc.	$158	$166	$162	$158	$127	$111	$120	$127	-19.80%
5730[1]	Hardware stores	$946	$908	$899	$814	$746	$701	$712	$739	-21.80%
5211	Building matrl & garden supp.	$1,128	$1,036	$937	$844	$858	$871	$908	$877	-22.30%
5812	Paint, glass, & wallpaper	$138	$124	$116	$113	$110	$111	$113	$102	-26.20%
5912	Misc shopping goods stores	$371	$414	$368	$305	$286	$287	$289	$263	-29.00%
5940[2]	Radio/TV/computer/music store	$1,201	$985	$1,014	$927	$887	$900	$953	$851	-29.10%
5944	Meat and fish market	$16	$17	$11	$11	$7	$7	$10	$10	-33.40%
5944	Jewelry stores	$312	$275	$260	$230	$230	$220	$195	$192	-38.40%

Source: Department of Commerce and Export, Puerto Rico. http://www.comercioyexportacion.com/

Table 1.6 Sales per regions in Puerto Rico: 2006 to 2013.

Region	2006	2007	2008	2009	2010	2011	2012	2013	Rate of chg
Caguas	$5,043	$5,192	$5,150	$5,154	$5,246	$5,890	$6,295	$6,137	21.7%
Fajardo	$675	$746	$774	$788	$766	$780	$795	$814	20.5%
Güayama	$543	$586	$637	$584	$568	$574	$609	$613	13.0%
Aguadilla	$1,181	$1,289	$1,401	$1,427	$1,359	$1,352	$1,316	$1,321	11.8%
Ponce	$3,266	$3,369	$3,313	$3,334	$3,454	$3,454	$3,529	$3,471	6.3%
Bayamón	$6,634	$6,844	$7,072	$7,081	$6,936	$7,071	$7,004	$6,975	5.1%
Arecibo	$3,279	$3,247	$3,257	$3,251	$3,203	$3,190	$3,184	$3,214	-2.0%
Mayagüez	$2,324	$2,277	$2,257	$2,263	$2,256	$2,242	$2,240	$2,267	-2.5%
San Juan	$11,862	$11,496	$11,347	$10,709	$10,597	$10,759	$11,225	$11,374	-4.1%
Total	$34,808	$35,046	$35,208	$34,591	$34,384	$35,312	$36,197	$36,185	4.0%

Source: Department of Commerce and Export, Puerto Rico. http://www.comercioyexportacion.com/

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Fajardo	$675	$746	$774	$788	$766	$780	$795	$814	20.5%
Güayama	$543	$586	$637	$584	$568	$574	$609	$613	13.0%
Aguadilla	$1,181	$1,289	$1,401	$1,427	$1,359	$1,352	$1,316	$1,321	11.8%
Ponce	$3,266	$3,369	$3,313	$3,334	$3,454	$3,454	$3,529	$3,471	6.3%
Bayamón	$6,634	$6,844	$7,072	$7,081	$6,936	$7,071	$7,004	$6,975	5.1%
Arecibo	$3,279	$3,247	$3,257	$3,251	$3,203	$3,190	$3,184	$3,214	-2.0%
Mayagüez	$2,324	$2,277	$2,257	$2,263	$2,256	$2,242	$2,240	$2,267	-2.5%
San Juan	$11,862	$11,496	$11,347	$10,709	$10,597	$10,759	$11,225	$11,374	-4.1%
Total	$34,808	$35,046	$35,208	$34,591	$34,384	$35,312	$36,197	$36,185	4.0%

Source: Department of Commerce and Export, Puerto Rico. http://www.comercioyexportacion.com/

Figure 1.2
Commercial Regions in Puerto Rico

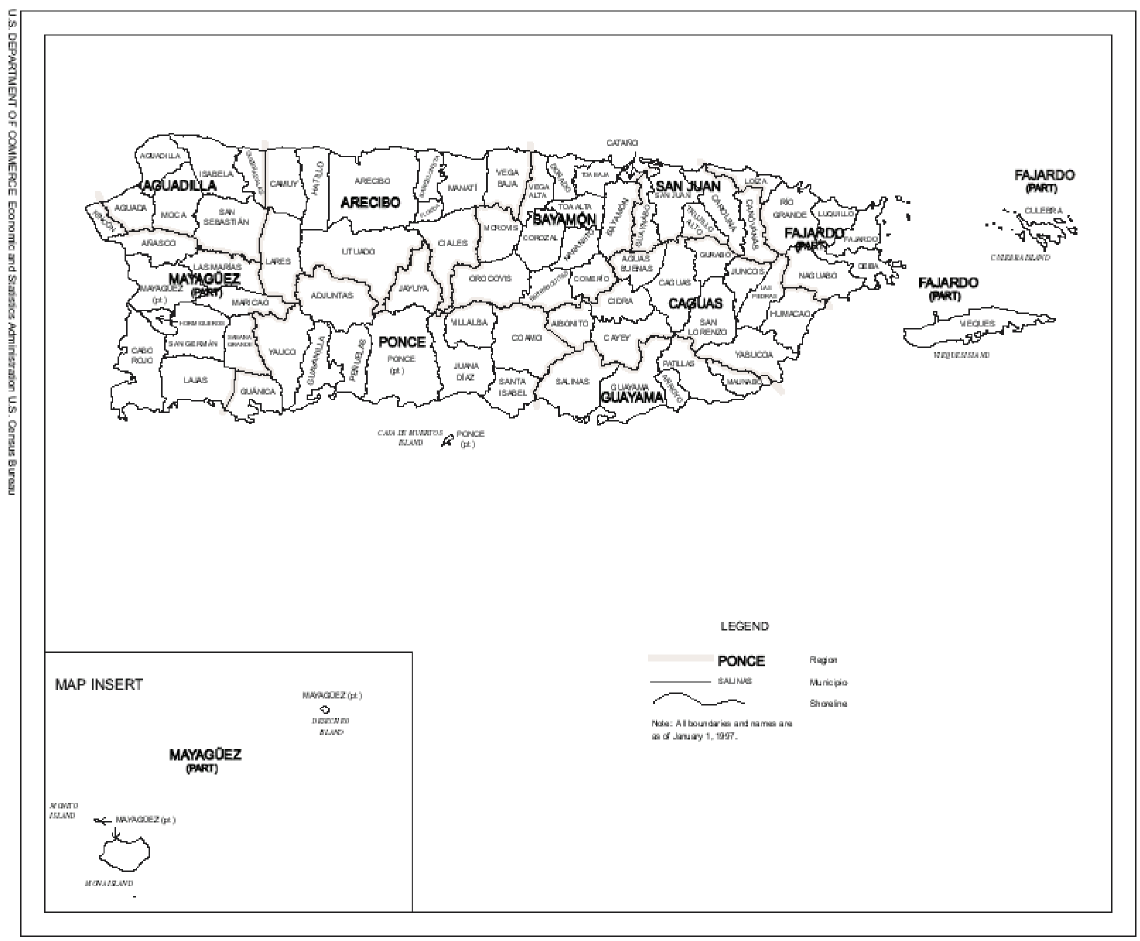


Table 1.7 International Comparison of Retail Sales: 2011

Country	Retail Sales as percent of GDP 2011	Retail Sales as percent of consumption 2011
Israel	13.6	23.8
Ireland	18.5	40.6
Singapore	8.2	22.1
Germany	15.5	28.1
Japan	21.6	36.8
United States	17.6	25.4
Puerto Rico	35.2	60.7

Source: Euromonitor International, *World Retail Data Statistics*,. 7th Edition; and Department of Commerce and Export, Puerto Rico

Transportation and Warehousing Sector general economic performance

At the two digit NAICS level, the transportation and warehousing sector decreased from 2006 to 2011. From the 12 subsectors (3 digit NAICS level) only ten were considered (rail and USPS were not considered). The data used were from the County Business Patterns, as registered is their webpage.

The subsectors that evidenced growth from 2006 to 2011 were 483 (water transportation), 485 (transit), 486 (pipelines), and 492 (couriers and delivery).

The subsectors that evidenced shrinking from 2006 to 2011 were 481 (air transportation), 487 (scenic and views – highly associated with tourism), 488 (support to the system), and 493 (warehousing). Subsector 484 (trucks) remained stable.

Transportation sector diagnosis

As we already shown, the economy of Puerto Rico is losing population at a 1% annually. The traditional urban centers are losing population too. One of the most notable impact of this situation is the diminishing economic activity in general. Urban (suburban) sprawl, or the car oriented low density growth, and the segregation of the activities within the urban (suburban) scope characterized the way of buildup and living In Puerto Rico. One of the consequences of the aforementioned patterns is the displacement for the last forty years of many commercial activities from the traditional urban centers to the single use, segregated peripheral commercial centers localized in main transportation highways and connectors. This patterns changed the form to perceive the cities, providing a potential for functional regionalization.

If compared with other sectors, the transportation and warehousing sector is relatively small in terms of employment, but with many opportunities and potential. The sector urgently needs change, and investment.

One way or the other, the transportation and warehousing sector interacts with all the other economic sectors, providing mobility, connectivity, and accessibility. From home to work, to industrial parks, commerce (both local and regional), education centers (schools, universities), health services (hospitals, medical offices, labs), farms, leisure and recreation places (natural and human made tourist places), sport facilities, fine arts centers, and of course, traditional urban centers. The transportation system provides connection from centers to their peripheries. In many ways transportation systems (rail, roads) guide urban growth, because of the accessibility the system itself provide in a territory. The system is characterized by flows. Human flows and material (products, cargo) flows.

The location of transportation and warehousing infrastructure is very important to other sectors, especially manufacture, wholesale trade and therefore, retail trade. Those sectors are directly affected by transportation costs. Typically the preferred location for activities related to the aforementioned sectors is near airports, seaports, and warehouses (to achieve savings related to land transportation).

"Spontaneous TOD's (transit oriented development)" are occurring around traditional residential post WWII single family housing suburbs. Thru the years this type of neighborhood became surrounded by pharmacies, grocery stores, liquor stores, gas stations, bakeries, cafeterias, restaurants, bars, medical offices, dentists' offices, medical labs, car repair and maintenance facilities, hardware stores, cyber cafés, etc. All at waking distances from home in many first and second ring suburbs. There is an opportunity related to urban reform to improve the sidewalks, connectivity, accessibility, illumination, safety, and so on.

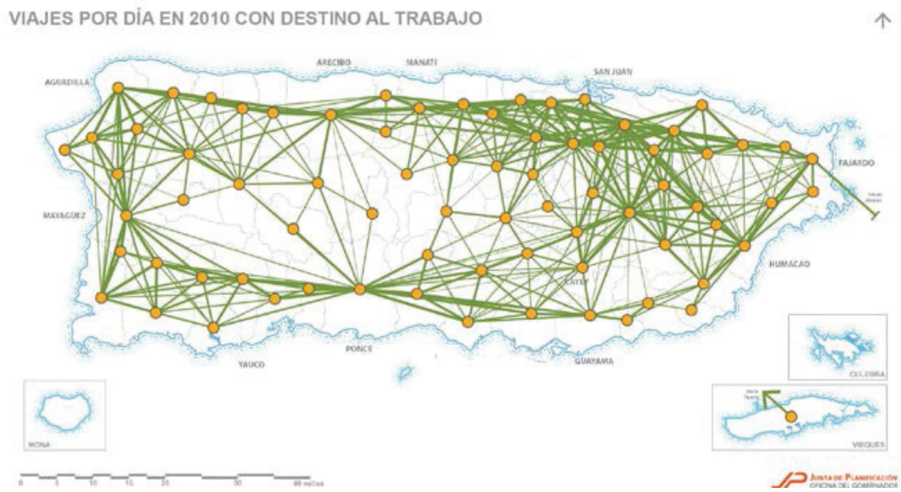
Because of the territory island condition (or an archipelago), One of the main economic challenges of Puerto Rico is that all international trade, exchange and migrations (people or cargo) is trough sea or air. In other words everything that goes in and out of Puerto Rico is by plane or ship. The availability of this kind of infrastructure provides comparative advantages to the municipalities in which are located. On the other hand, the movement within the territory is mainly by roads, in private vehicles. The last decade evidenced a modest movement to the use of collective transportation within the traditional urban centers. By the year 2012, 65 out of the 78 municipalities in Puerto Rico had a trolley system.

To be in accordance with the information compiled by the Puerto Rico Planning Board, the next maps were incorporated to this study. The maps, prepared by the Puerto Rico Planning Board itself as part of the Puerto Rico Land Use Plan, bring a macro perspective of the transportation system in Puerto Rico. The maps are as follows:

Figure Map 1.3 Puerto Rico's transportation system

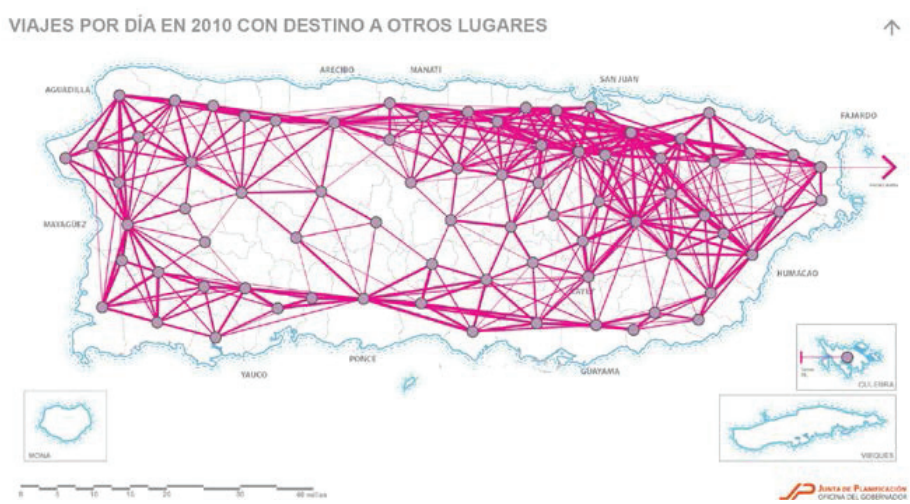
Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Figure Map 1.4 Home to work (origin – destination) trips 2010



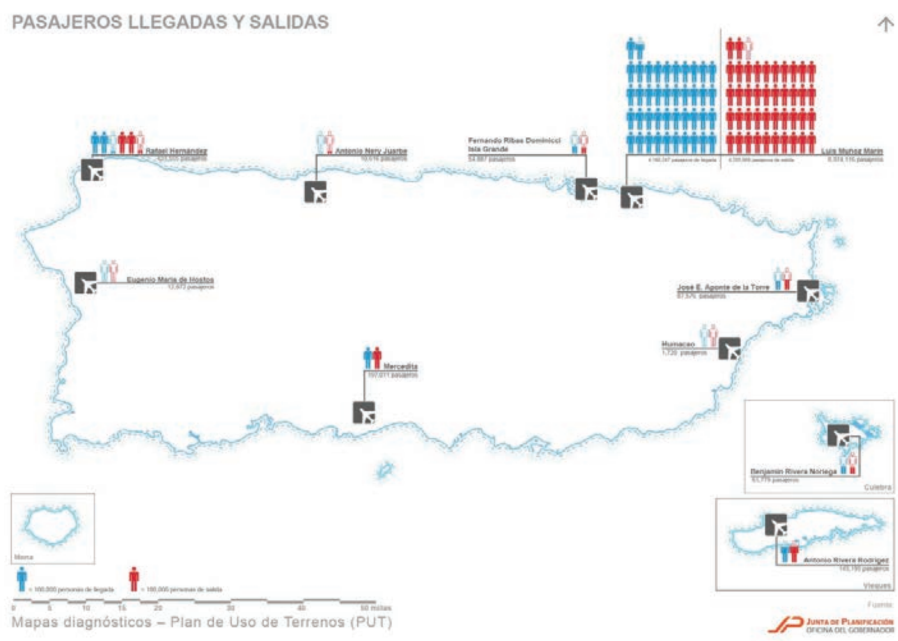
Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Figure Map 1.5 Home to other place trips (no work) 2010



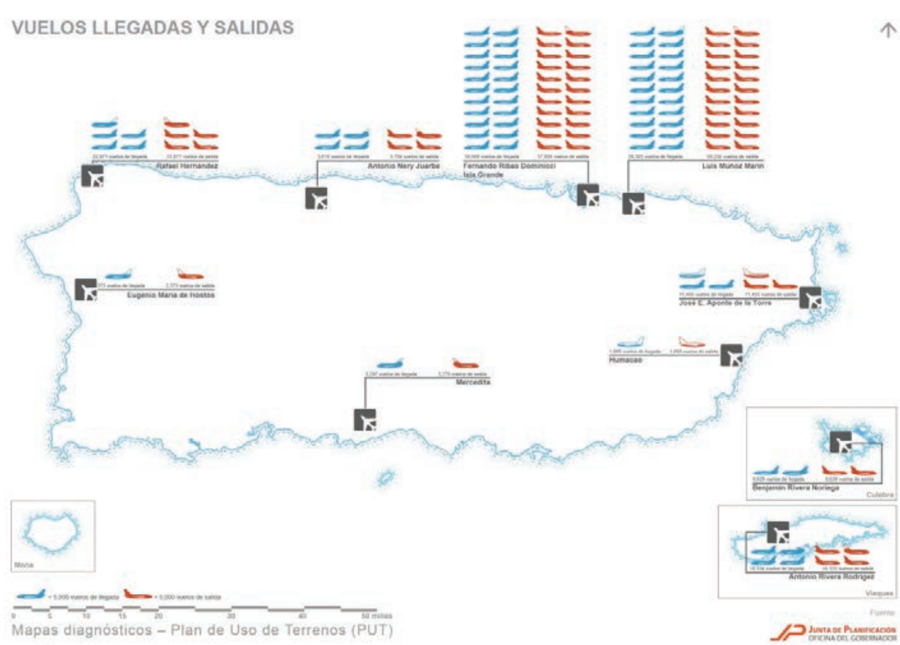
Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Figure Map 1.6 Passengers arrivals and departures



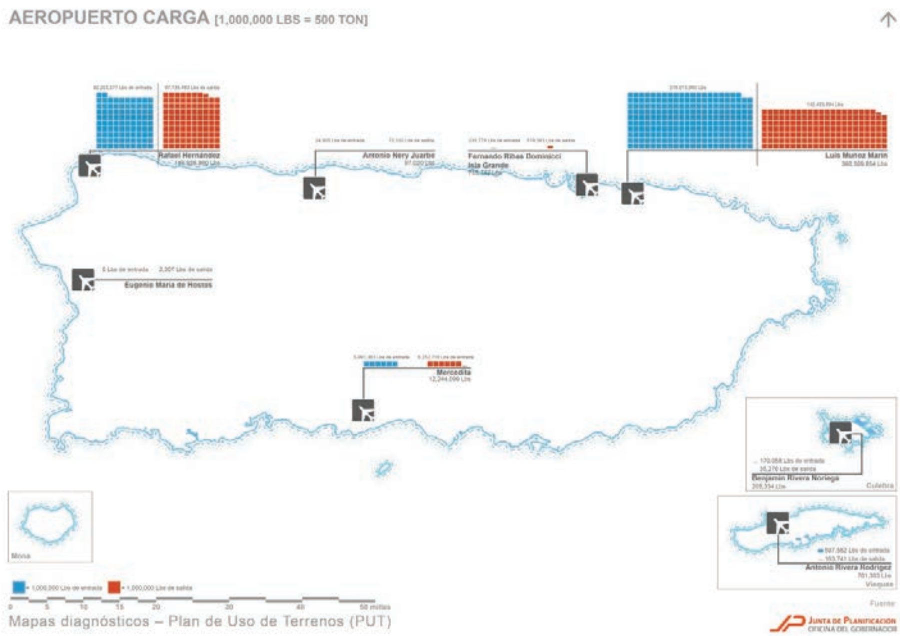
Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Figure 1.7 Map Flights- arrivals and departures



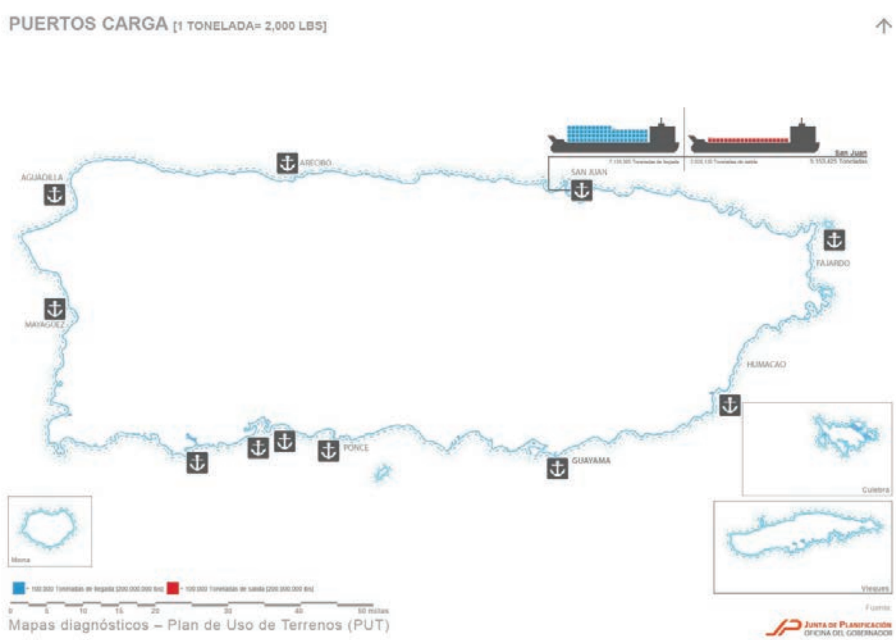
Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Figure 1.8 Map Air cargo arrivals and departures



Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Figure 1.9 Map Sea port cargo arrivals and departures



Source: Puerto Rico Planning Board, Puerto Rico Land Use Plan (draft).

Historical review

The Puerto Rico Planning Board prepared a summary of strategies and recommendations from previous planning efforts. The summary is as follows:

Wholesale Trade (NAICS - 42), Retail Trade (NAICS -44)

1975 - Puerto Rico's Economic Development: A Strategy for the Next Decade (Informe Echenique)	
• Import substitution to create more opportunities for industrial investment and agricultural production.	12
• Increase private savings and expand the financial flow to local businesses.	141
• Intensify the efforts of local market promotions.	69
• Evaluate the faculties of the Commercial Administration and prioritize their improvement plans.	78
• Increase tariffs over automobiles, durable goods, and luxury products.	139, 146
• Grant the autonomy to impose tariffs over imports and use the income as subsidies for the local production.	33, 68
• Replace exemptions for contribution credit over investment that allows businesses to reduce their future contributions.	35, 37
• Increase gasoline taxes to reduce consumption.	110, 139
1979 - Economic Study of Puerto Rico (Informe Kreps)	
• **Urban Concentration of Tourism -** Increased demand has facilitated private refurbishing of many tourism facilities and the opening of closed retail establishments and hotels;	343
• **Production and Productivity -** Identify, produce, and market those commodities which have the greatest economic comparative advantage for mainland and export markets and domestic consumption.	290
• **Food Prices and Nutrition -** Improving island food production and marketing efficiency to competitively provide cheaper and more nutritious diets.	291
1994 - New Model of Economic Development	

2003 - Towards a Feasible Economy	
• Recognize the importance of supply chains, promote technology transfers, and the migration from exogenous to endogenous models.	49
2004 - Project Puerto Rico 2025	
• Promote deeper linkages between multinational firms and local firms, and develop an entrepreneurial environment in large firms	24
2005 - Cepal Study - Globalization and Development	
• Move as many productive units from the informal sector and black markets to the formal economic sector.	232
• Harmonize government support mechanisms applied to agriculture with restrictions and agreements of free commerce.	231
2006 – Restoring Growth—Brooking Institution and New Economy Group	
• Create and sustain a comprehensive program to promote the development of island-based businesses.	576
• Reform regulatory environment surrounding the entry of new business firms and development.	576
• Combine broad tax base with low rates.	583
2006 -Economic Development And Government Transformation Plan For Puerto Rico	
• Promote local businesses by providing support to local business owners in the form of financing alternatives, and access to internal and external markets.	8
2009 - Strategies of a Strategic Model	
• Promote entrepreneurship and improve value offers for consumers with a focus on diversification and competition.	26
2012 - Report on the Competitiveness of Puerto Rico's Economy	
• Reducing the Costs of Doing Business	21

Transportation and Warehousing (NAICS - 48)

1975 - Puerto Rico’s Economic Development: A Strategy for the Next Decade (Informe Echenique)

Strategy or Recommendation	Page/Slide
• Establish a fleet policy for naval traffic traveling to Puerto Rico.	68
• Establish an efficient and viable transportation system for the metropolitan area and explore an underground system.	113
• Reduce tariffs and costs associated to air travel and accommodations.	102
• Increase gasoline taxes to reduce consumption.	110, 139

1979 - Economic Study of Puerto Rico (Informe Kreps)	
• Air Transportation - New gateways to the U.S. mainland providing additional nonstop service between San Juan and its major U.S. markets.	343

2004 - Project Puerto Rico 2025	
• Expand the capacity of passenger air terminals	82
• Expand capacity of existing air cargo facilities	82
• Encourage reduction in car use	82
• Expand the capacity of existing sea ports for cargo services	83
• Increase the number and frequency of air connections for passengers	83
• Increase the number and frequency of maritime connections for passengers	83
• Expand capacity of passenger sea terminals	83
• Improve the productivity of land freight services	83
• Invest in new land freight systems	84
• Transform small and military airports into new airports for cargo services	84
• Transform small and military sea ports into new ports for shipping services	84
• Create and promote efficient and reliable collective transport	79
• Complete the road and highway network	80
• Improve the productivity and competitiveness of existing ports and airports	80
• Ensure that the land-use plan reduces the need for transport	81
• Increase the efficiency and capacity of existing roads	81
• Promote clean fuels and advanced technology for transportation	82

2006 - Restoring Growth	
• Create new mechanisms to incorporate the community in transportation planning and communication process	83
• Improve quality of transportation and water and sewer systems.	581

The main premises for all these previous studies have been concerned about find a formula in which the economic development and growth will be sound and sustainable. Puerto Rico has redirected its long term vision of growth. The consensus is focused to design and implement a new economic strategy which facilitate: (a) economic growth; (b) economic sustainable growth; (c) reduce dependency, poverty, and unemployment; (d) enhance the quality of education, health and security; (e) reduce vulnerability of infrastructure and food supply; (f) encourage sustainable development by sustain natural resources and endangers species, and so on.

Concentration by NAICS Code—Herfindahl-Hirschman Index

This section measures the concentration index for four and five NAICS Code in the retail sectors. Concentration index is the Herfindahl –Hirschman in which (Index H or HHI). Since 1982, the U.S. Department of Justice (DOJ), the Federal Trade Commission (FTC), and state attorneys general have used the Herfindahl-Hirschman Index (HHI) to measure market concentration for purposes of antitrust enforcement. The HHI of a market is calculated by summing the squares of the percentage market shares held by the respective firms.

According to the DOJ-FTC 2010 Horizontal Merger Guidelines, the agencies will regard a market in which the post-merger HHI is:

o below 1,500 as “unconcentrated,”
o between 1,500 and 2,500 as “moderately concentrated,” and
o above 2,500 as “highly concentrated.”

In this section we calculate the HHI but instead of using firms, we use establishments. Thereby, we are totally awareness that previous parameters might not applied straight forward to this analysis. The data comes from U.S. County Business Patterns of U.S. Department of Commerce, for year 2006 and 2011.

The classification used for this section, is shown at Table for Retail Trade sector. The Table shows five categories of establishments (measure as employees per establishment): from 1 to 4 (micro size); 5 to 19 (small size); 20-49 (medium size); ‘50-99’ (big size), and 100 or more (mega-big). The following conclusions are derived from Table :

(a) In the Retail Trade sector, near 65% of establishments lost are from 1 to 4 employees;
(b) In the Retail Trade sector, 90.3% of establishments closed are from 1 to 19 employees;
(c) Then, most of lost establishments (90%) are from small and medium sized establishments;
(d) At the Wholesale sector, 83 establishment lost (61%) are from 1 to 19 employees, once again, from the small and medium sized firms;
(e) In the Transportation and Warehousing sector, 52 establishments from 1 to 19 employees were closed (85%);
(f) Therefore, the vast majority of the closed establishments belong to the small and medium sized establishments; 90% for retailers, 61% for wholesalers and 85% for transportation.

Table 1.8 Retail, Wholesale and Transportation employees by size: 2006 and 2011

Retail Trade employees	2006	2011	Change	% Change
Total establishments	10,851	10,255	-596	-5.50%
1-4' (micro size)	5,412	5,024	-388	-7.20%
5 a 19 (small size)	4,113	3,963	-150	-3.60%
'20-49'(medium size)	777	794	17	2.20%
'50-99' (big size)	329	276	-53	-16.10%
100 or more' (mega-big)	220	198	-22	-10.00%

Wholesale Trade employees	2006	2011	Change	% Change
Total establishments	2,303	2,166	-137	-5.90%
1-4' (micro size)	1,096	1066	-30	-2.70%
5 a 19 (small size)	786	733	-53	-6.70%
'20-49'(medium size)	247	230	-17	-6.90%
'50-99' (big size)	118	78	-40	-33.90%
100 or more' (mega-big)	56	59	3	5.40%

Transportation & Warehousing employees	2006	2011	Change	% Change
Total establishments	1,062	1,001	-61	-5.70%
1-4' (micro size)	581	538	-43	-7.40%
5 a 19 (small size)	319	310	-9	-2.80%
'20-49'(medium size)	107	98	-9	-8.40%
'50-99' (big size)	28	27	-1	-3.60%
100 or more' (mega-big)	27	28	1	-5.70%

Source: U.S. County Business Patterns, and author's calculations. 2006 y 2011, U.S. Department of Commerce

The Concentration Index for Sectors

Table 1.9 until Table 1.16 depict concentration index for the Retail Sector for various NAICS digits. It been used the Herfindalh-Hirschman index of concentration for establishments. The tables are shown as follow:

Table 1.9: Concentration Herfindalh-Hirschman, Retail Sector-- three digits

3 digit NAICS Code	Category	HHI 2006	'1-4'	5 a 19	'20-49'	'50-99'	100 or more'	Employment	Small, Medium Sized Businesses	Big & Mega box
441	Motor Vehicle and Parts Dealers	2,127	11.6%	25.2%	23.9%	22.2%	17.1%	17,433	60.7%	39.3%
442	Furniture and Home Furnishings Stores	3,557	13.4%	54.1%	17.8%	10.5%	4.1%	11,498	85.4%	14.6%
443	Electronics and Appliance Stores	2,454	12.2%	37.3%	18.8%	10.5%	21.2%	2,130	68.3%	31.7%
444	Building Material and Garden Equipment and Supplies Dealers	2,407	13.1%	32.0%	29.9%	10.5%	14.6%	304	74.9%	25.1%
445	Food and Beverage Stores	3,145	5.9%	10.4%	9.9%	27.1%	46.5%	2,634	26.3%	73.7%
446	Health and Personal Care Stores	2,574	8.1%	37.8%	24.7%	19.0%	10.4%	6,640	70.6%	29.4%
447	Gasoline Stations	4,033	16.5%	59.0%	15.5%	4.6%	4.4%	197	91.0%	9.0%
448	Clothing and Clothing Accessories Stores	3,793	6.6%	57.4%	16.1%	10.8%	9.1%	312	80.0%	20.0%
451	Sporting Goods, Hobby, Book, and Music Stores	3,527	18.3%	53.9%	11.1%	12.0%	4.7%	769	83.3%	16.7%
452	General Merchandise Stores	4,632	1.3%	10.7%	12.5%	10.3%	65.2%	703	24.5%	75.5%
453	Miscellaneous Store Retailers	2,860	22.5%	42.5%	20.4%	11.0%	3.7%	2,400	85.3%	14.7%
454	Nonstore Retailers	2,294	16.7%	29.0%	19.5%	7.7%	27.0%	6,599	65.3%	34.7%

Source: U.S. County Business Patterns, and author's calculations

Table 1.10: Concentration Herfindalh-Hirschman, Retail Sector-- four digits

4 digit NAICS Code	Category	HHI 2006	'1-4'	5 a 19	'20-49'	'50-99'	100 or more'	Employment	Small, Medium Sized Businesses	Big & Mega box
4411	Automobile Dealers	2,513	5.8%	13.6%	18.4%	28.1%	34.2%	4,255	37.7%	62.3%
4412	Other Motor Vehicle Dealers	3,465	19.0%	51.6%	17.1%	12.3%	0.0%	8,015	87.7%	12.3%
4413	Automotive Parts, Accessories, and Tire Stores	2,539	16.0%	33.2%	29.1%	17.9%	3.8%	605	78.2%	21.8%
4421	Furniture Stores	3,776	13.5%	57.3%	12.6%	11.3%	5.3%	517	83.4%	16.6%
4422	Home Furnishings Stores	3,403	13.0%	43.5%	35.8%	7.7%	0.0%	548	92.3%	7.7%
4431	Electronics and Appliance Stores	2,454	12.2%	37.3%	18.8%	10.5%	21.2%	1,590	68.3%	31.7%
4441	Building Material and Supplies Dealers	2,408	11.9%	31.5%	30.3%	11.0%	15.2%	1,405	73.8%	26.2%
4442	Lawn and Garden Equipment and Supplies Stores	3,606	38.2%	41.8%	20.0%	0.0%	0.0%	128	100.0%	0.0%
4451	Grocery Stores	3,513	4.5%	7.5%	8.7%	29.1%	50.1%	470	20.8%	79.2%
4452	Specialty Food Stores	3,523	20.3%	50.9%	21.6%	7.2%	0.0%	27,931	92.8%	7.2%
4453	Beer, Wine, and Liquor Stores	2,788	25.6%	11.0%	31.5%	0.0%	32.0%	5,616	68.0%	32.0%
4461	Health and Personal Care Stores	2,574	8.1%	37.8%	24.7%	19.0%	10.4%	1,000	70.6%	29.4%
4471	Gasoline Stations	4,033	16.5%	59.0%	15.5%	4.6%	4.4%	870	91.0%	9.0%
4481	Clothing Stores	3,164	5.0%	49.1%	19.6%	14.2%	12.1%	1,816	73.7%	26.3%
4482	Shoe Stores	6,978	6.1%	83.1%	4.6%	2.8%	3.3%	300	93.8%	6.2%
4483	Jewelry, Luggage, and Leather Goods Stores	4,789	18.2%	65.3%	13.9%	2.7%	0.0%	8,521	97.3%	2.7%
4511	Sporting Goods, Hobby, and Musical Instrument Stores	4,174	20.1%	59.7%	9.7%	10.5%	0.0%	457	89.5%	10.5%
4512	Book, Periodical, and Music Stores	2,860	15.9%	46.0%	13.0%	14.1%	11.0%	420	74.9%	25.1%
4521	Department Stores	4,595	0.8%	7.7%	11.7%	15.2%	64.6%	281	20.3%	79.7%
4529	Other General Merchandise Stores	4,768	1.9%	14.3%	13.4%	4.4%	66.0%	1,511	29.6%	70.4%
4531	Florists	5,028	53.8%	46.2%	0.0%	0.0%	0.0%	3,168	100.0%	0.0%
4532	Office Supplies, Stationery, and Gift Stores	2,989	15.7%	41.6%	28.5%	14.2%	0.0%	6,197	85.8%	14.2%
4533	Used Merchandise Stores	5,617	67.6%	32.4%	0.0%	0.0%	0.0%	90	100.0%	0.0%
4539	Other Miscellaneous Store Retailers	3,134	30.2%	44.2%	5.5%	6.0%	14.0%	461	80.0%	20.0%
4541	Electronic Shopping and Mail-Order Houses	5,948	9.6%	15.4%	0.0%	0.0%	74.9%	312	25.1%	74.9%
4542	Vending Machine Operators	4,348	18.1%	59.2%	22.7%	0.0%	0.0%	392	100.0%	0.0%
4543	Direct Selling Establishments	2,146	17.7%	24.8%	22.1%	10.6%	24.9%	575	64.5%	35.5%

Source: U.S. County Business Patterns, and author's calculations

Table 1.11 Concentration Herfindalh-Hirschman, Retail Sector-- five digits

5 digit NAICS Code	Category	HHI 2006	'1-4'	5 a 19	'20-49'	'50-99'	100 or more'	Employment	Small, Medium Sized Businesses	Big & Mega box
44111	New Car Dealers	2,847	2.3%	9.7%	19.1%	32.3%	36.6%	4,954	31.1%	68.9%
44112	Used Car Dealers	2,912	28.9%	39.7%	13.8%	0.0%	17.6%	31,585	82.4%	17.6%
44121	Recreational Vehicle Dealers	4,769	13.9%	22.2%	63.9%	0.0%	0.0%	26,820	100.0%	0.0%
44122	Motorcycle, Boat, and Other Motor Vehicle Dealers	3,685	19.5%	54.4%	12.5%	13.5%	0.0%	18,782	86.5%	13.5%
44131	Automotive Parts and Accessories Stores	2,557	13.8%	32.5%	30.4%	19.2%	4.1%	9,142	76.7%	23.3%
44132	Tire Dealers	4,081	46.3%	42.5%	11.1%	0.0%	0.0%	965	100.0%	0.0%
44211	Furniture Stores	3,776	13.5%	57.3%	12.6%	11.3%	5.3%	28,964	83.4%	16.6%
44221	Floor Covering Stores	4,037	17.6%	28.2%	54.1%	0.0%	0.0%	18,440	100.0%	0.0%
44229	Other Home Furnishings Stores	3,421	12.2%	45.9%	33.0%	8.9%	0.0%	18,836	91.1%	8.9%
44311	Appliance, Television, and Other Electronics Stores	2,522	11.1%	37.8%	24.9%	14.7%	11.5%	10,302	73.8%	26.2%
44312	Computer and Software Stores	3,021	12.0%	35.8%	9.5%	4.1%	38.6%	3,147	57.3%	42.7%
44313	Camera and Photographic Supplies Stores	5,000	49.7%	50.3%	0.0%	0.0%	0.0%	1,248	100.0%	0.0%
44411	Home Centers	4,135	1.8%	6.8%	35.4%	2.8%	53.2%		44.0%	56.0%
44412	Paint and Wallpaper Stores	3,924	36.7%	48.6%	14.7%	0.0%	0.0%	997	100.0%	0.0%
44413	Hardware Stores	2,708	16.0%	36.3%	30.6%	13.5%	3.5%	551	82.9%	17.1%
44419	Other Building Material Dealers	2,851	10.5%	41.2%	28.1%	15.2%	5.1%	621	79.7%	20.3%
44421	Outdoor Power Equipment Stores	3,912	15.4%	49.2%	35.4%	0.0%	0.0%	837	100.0%	0.0%
44422	Nursery, Garden Center, and Farm Supply Stores	3,767	43.5%	40.0%	16.4%	0.0%	0.0%	1,813	100.0%	0.0%
44511	Supermarkets and Other Grocery (except Convenience) Stores	3,548	4.3%	6.9%	8.8%	29.9%	50.1%	4,956	20.0%	80.0%
44512	Convenience Stores	3,393	10.9%	24.4%	6.7%	7.2%	50.8%	98	42.0%	58.0%
44521	Meat Markets	3,348	31.7%	31.7%	36.5%	0.0%	0.0%	1,033	100.0%	0.0%
44522	Fish and Seafood Markets	5,174	59.3%	40.7%	0.0%	0.0%	0.0%	30	100.0%	0.0%
44523	Fruit and Vegetable Markets	5,041	45.5%	54.5%	0.0%	0.0%	0.0%	1,745	100.0%	0.0%
44529	Other Specialty Food Stores	3,631	16.8%	53.0%	21.7%	8.5%	0.0%	14,131	91.5%	8.5%
44531	Beer, Wine, and Liquor Stores	2,788	25.6%	11.0%	31.5%	0.0%	32.0%	2,400	68.0%	32.0%
44611	Pharmacies and Drug Stores	2,578	4.1%	32.9%	28.1%	23.7%	11.1%	6,197	65.1%	34.9%
44612	Cosmetics, Beauty Supplies, and Perfume Stores	3,776	12.6%	57.2%	13.7%	4.9%	11.6%	916	83.5%	16.5%
44613	Optical Goods Stores	3,572	23.1%	50.9%	20.5%	5.5%	0.0%	2,650	94.5%	5.5%
44619	Other Health and Personal Care Stores	3,771	28.0%	52.8%	7.1%	0.0%	12.0%	312	88.0%	12.0%
44711	Gasoline Stations with Convenience Stores	4,012	12.1%	59.2%	17.2%	5.3%	6.2%	721	88.5%	11.5%
44719	Other Gasoline Stations	4,288	26.9%	58.5%	11.5%	3.1%	0.0%	1,882	96.9%	3.1%
44811	Men's Clothing Stores	3,565	3.2%	52.7%	17.4%	21.2%	5.5%	1,332	73.3%	26.7%
44812	Women's Clothing Stores	4,738	4.0%	63.3%	26.0%	6.7%	0.0%	392	93.3%	6.7%
44813	Children's and Infants' Clothing Stores	2,682	9.0%	38.4%	27.6%	7.5%	17.5%	641	75.0%	25.0%
44814	Family Clothing Stores	2,562	3.7%	34.7%	13.4%	22.8%	25.4%	304	51.7%	48.3%
44815	Clothing Accessories Stores	3,171	11.7%	49.8%	11.3%	8.1%	19.1%	688	72.8%	27.2%
44819	Other Clothing Stores	2,901	16.4%	41.9%	22.6%	0.0%	19.1%	997	80.9%	19.1%
44821	Shoe Stores	6,978	6.1%	83.1%	4.6%	2.8%	3.3%	198	93.8%	6.2%
44831	Jewelry Stores	4,734	18.1%	64.8%	14.3%	2.8%	0.0%	621	97.2%	2.8%
44832	Luggage and Leather Goods Stores	6,854	19.6%	80.4%	0.0%	0.0%	0.0%	128	100.0%	0.0%
45111	Sporting Goods Stores	5,028	53.8%	46.2%	0.0%	0.0%	0.0%	2,589	100.0%	0.0%
45112	Hobby, Toy, and Game Stores	5,056	4.1%	68.2%	14.9%	12.8%	0.0%	96	87.2%	12.8%
45113	Sewing, Needlework, and Piece Goods Stores	5,315	37.5%	62.5%	0.0%	0.0%	0.0%	470	100.0%	0.0%
45114	Musical Instrument and Supplies Stores	2,743	20.3%	24.4%	17.5%	37.8%	0.0%	3,439	62.2%	37.8%
45121	Book Stores and News Dealers	2,266	17.3%	29.0%	7.9%	25.7%	20.1%	27,931	54.2%	45.8%
45122	Prerecorded Tape, Compact Disc, and Record Stores	5,008	14.2%	66.6%	19.2%	0.0%	0.0%	30	100.0%	0.0%
45211	Department Stores	4,595	0.8%	7.7%	11.7%	15.2%	64.6%	762	20.3%	79.7%
45291	Warehouse Clubs and Supercenters	7,156	0.7%	1.9%	1.8%	11.9%	83.7%	1,345	4.4%	95.6%
45299	All Other General Merchandise Stores	4,328	2.2%	17.8%	16.7%	2.3%	61.0%	643	36.7%	63.3%
45311	Florists	5,028	53.8%	46.2%	0.0%	0.0%	0.0%	6,640	100.0%	0.0%
45321	Office Supplies and Stationery Stores	2,923	10.3%	33.0%	36.1%	20.5%	0.0%	917	79.5%	20.5%
45322	Gift, Novelty, and Souvenir Stores	3,721	23.1%	53.2%	18.1%	5.6%	0.0%	5,244	94.4%	5.6%
45331	Used Merchandise Stores	5,617	67.6%	32.4%	0.0%	0.0%	0.0%	312	100.0%	0.0%
45391	Pet and Pet Supplies Stores	3,700	35.1%	45.9%	0.0%	19.0%	0.0%	197	81.0%	19.0%
45392	Art Dealers	3,386	29.0%	39.0%	32.0%	0.0%	0.0%	36	100.0%	0.0%
45399	All Other Miscellaneous Store Retailers	3,536	27.7%	45.0%	0.0%	0.0%	27.3%	5,665	72.7%	27.3%
45411	Electronic Shopping and Mail-Order Houses	5,948	9.6%	15.4%	0.0%	0.0%	74.9%	1,816	25.1%	74.9%
45421	Vending Machine Operators	4,348	18.1%	59.2%	22.7%	0.0%	0.0%	216	100.0%	0.0%
45431	Fuel Dealers	2,816	25.8%	30.1%	33.7%	10.4%	0.0%	200	89.6%	10.4%
45439	Other Direct Selling Establishments	3,258	9.2%	19.2%	10.0%	10.8%	50.9%	681	38.4%	61.7%

Source: U.S. County Business Patterns, and author's calculations

Table 1.12 Concentration Herfindalh-Hirschman, Retail Sector-- six digits

6 digit NAICS Code	Category	HHI 2006	'1-4'	5 a 19	'20-49'	'50-99'	100 or more'	Employ ment	Small, Medium Sized Businesses	Big & Mega box
441110	New Car Dealers	2,847	2.3%	9.7%	19.1%	32.3%	36.6%	12,015	31.1%	68.9%
441120	Used Car Dealers	2,912	28.9%	39.7%	13.8%	0.0%	17.6%	18,440	82.4%	17.6%
441210	Recreational Vehicle Dealers	4,769	13.9%	22.2%	63.9%	0.0%	0.0%	3,720	100.0%	0.0%
441221	Motorcycle Dealers	3,858	25.0%	52.0%	23.0%	0.0%	0.0%	4,744	100.0%	0.0%
441222	Boat Dealers	3,959	13.9%	48.5%	0.0%	37.6%	0.0%	1,943	62.4%	37.6%
441229	All Other Motor Vehicle Dealers	8,291	9.4%	90.6%	0.0%	0.0%	0.0%	7,687	100.0%	0.0%
441310	Automotive Parts and Accessories Stores	2,557	13.8%	32.5%	30.4%	19.2%	4.1%	3,291	76.7%	23.3%
441320	Tire Dealers	4,081	46.3%	42.5%	11.1%	0.0%	0.0%	4,954	100.0%	0.0%
442110	Furniture Stores	3,776	13.5%	57.3%	12.6%	11.3%	5.3%	2,074	83.4%	16.6%
442210	Floor Covering Stores	4,037	17.6%	28.2%	54.1%	0.0%	0.0%	8,015	100.0%	0.0%
442291	Window Treatment Stores	5,848	29.4%	70.6%	0.0%	0.0%	0.0%	5,244	100.0%	0.0%
442299	All Other Home Furnishings Stores	3,406	10.7%	43.7%	35.9%	9.7%	0.0%	2,740	90.3%	9.7%
443111	Household Appliance Stores	3,642	23.5%	52.6%	7.6%	16.3%	0.0%	8,481	83.7%	16.3%
443112	Radio, Television, and Other Electronics Stores	2,493	8.9%	35.2%	28.0%	14.4%	13.5%	312	72.1%	27.9%
443120	Computer and Software Stores	3,021	12.0%	35.8%	9.5%	4.1%	38.6%	37	57.3%	42.7%
443130	Camera and Photographic Supplies Stores	5,000	49.7%	50.3%	0.0%	0.0%	0.0%	234	100.0%	0.0%
444110	Home Centers	4,135	1.8%	6.8%	35.4%	2.8%	53.2%	6,690	44.0%	56.0%
444120	Paint and Wallpaper Stores	3,924	36.7%	48.6%	14.7%	0.0%	0.0%	54	100.0%	0.0%
444130	Hardware Stores	2,708	16.0%	36.3%	30.6%	13.5%	3.5%	8,521	82.9%	17.1%
444190	Other Building Material Dealers	2,851	10.5%	41.2%	28.1%	15.2%	5.1%	3,291	79.7%	20.3%
444210	Outdoor Power Equipment Stores	3,912	15.4%	49.2%	35.4%	0.0%	0.0%	3,046	100.0%	0.0%
444220	Nursery, Garden Center, and Farm Supply Stores	3,767	43.5%	40.0%	16.4%	0.0%	0.0%	96	100.0%	0.0%
445110	Supermarkets and Other Grocery (except Convenience) Stores	3,548	4.3%	6.9%	8.8%	29.9%	50.1%	3,439	20.0%	80.0%
445120	Convenience Stores	3,393	10.9%	24.4%	6.7%	7.2%	50.8%	420	42.0%	58.0%
445210	Meat Markets	3,348	31.7%	31.7%	36.5%	0.0%	0.0%	189	100.0%	0.0%
445220	Fish and Seafood Markets	5,174	59.3%	40.7%	0.0%	0.0%	0.0%	110	100.0%	0.0%
445230	Fruit and Vegetable Markets	5,041	45.5%	54.5%	0.0%	0.0%	0.0%	548	100.0%	0.0%
445291	Baked Goods Stores	3,502	23.5%	51.2%	14.7%	10.6%	0.0%	1,511	89.4%	10.6%
445292	Confectionery and Nut Stores	3,833	16.0%	47.1%	36.9%	0.0%	0.0%	1,345	100.0%	0.0%
445299	All Other Specialty Food Stores	3,945	10.8%	56.7%	22.7%	9.8%	0.0%	1,454	90.2%	9.8%
445310	Beer, Wine, and Liquor Stores	2,788	25.6%	11.0%	31.5%	0.0%	32.0%	3,168	68.0%	32.0%
446110	Pharmacies and Drug Stores	2,578	4.1%	32.9%	28.1%	23.7%	11.1%	917	65.1%	34.9%
446120	Cosmetics, Beauty Supplies, and Perfume Stores	3,776	12.6%	57.2%	13.7%	4.9%	11.6%	5,244	83.5%	16.5%
446130	Optical Goods Stores	3,572	23.1%	50.9%	20.5%	5.5%	0.0%	90	94.5%	5.5%
446191	Food (Health) Supplement Stores	3,756	20.9%	53.2%	4.3%	0.0%	21.6%	1,161	78.4%	21.6%
446199	All Other Health and Personal Care Stores	4,217	37.0%	52.3%	10.7%	0.0%	0.0%	461	100.0%	0.0%
447110	Gasoline Stations with Convenience Stores	4,012	12.1%	59.2%	17.2%	5.3%	6.2%	10,302	88.5%	11.5%
447190	Other Gasoline Stations	4,288	26.9%	58.5%	11.5%	3.1%	0.0%	6,599	96.9%	3.1%
448110	Men's Clothing Stores	3,565	3.2%	52.7%	17.4%	21.2%	5.5%	37	73.3%	26.7%
448120	Women's Clothing Stores	4,738	4.0%	63.3%	26.0%	6.7%	0.0%	216	93.3%	6.7%
448130	Children's and Infants' Clothing Stores	2,682	9.0%	38.4%	27.6%	7.5%	17.5%	234	75.0%	25.0%
448140	Family Clothing Stores	2,562	3.7%	34.7%	13.4%	22.8%	25.4%	717	51.7%	48.3%
448150	Clothing Accessories Stores	3,171	11.7%	49.8%	11.3%	8.1%	19.1%	6,690	72.8%	27.2%
448190	Other Clothing Stores	2,901	16.4%	41.9%	22.6%	0.0%	19.1%	54	80.9%	19.1%
448210	Shoe Stores	6,978	6.1%	83.1%	4.6%	2.8%	3.3%	53	93.8%	6.2%
448310	Jewelry Stores	4,734	18.1%	64.8%	14.3%	2.8%	0.0%	3,291	97.2%	2.8%
448320	Luggage and Leather Goods Stores	6,854	19.6%	80.4%	0.0%	0.0%	0.0%	68	100.0%	0.0%
451110	Sporting Goods Stores	5,028	53.8%	46.2%	0.0%	0.0%	0.0%	1,813	100.0%	0.0%
451120	Hobby, Toy, and Game Stores	5,056	4.1%	68.2%	14.9%	12.8%	0.0%	2,634	87.2%	12.8%
451130	Sewing, Needlework, and Piece Goods Stores	5,315	37.5%	62.5%	0.0%	0.0%	0.0%	4,956	100.0%	0.0%
451140	Musical Instrument and Supplies Stores	2,743	20.3%	24.4%	17.5%	37.8%	0.0%	98	62.2%	37.8%
451211	Book Stores	2,224	18.0%	25.9%	8.3%	26.8%	21.0%	1,033	52.2%	47.8%
451212	News Dealers and Newsstands	10,000	0.0%	100.0%	0.0%	0.0%	0.0%	189	100.0%	0.0%
451220	Prerecorded Tape, Compact Disc, and Record Stores	5,008	14.2%	66.6%	19.2%	0.0%	0.0%	110	100.0%	0.0%
452111	Department Stores (except Discount Department Stores)	5,526	0.3%	2.1%	5.5%	21.0%	71.1%	548	7.9%	92.1%
452112	Discount Department Stores	3,857	1.5%	14.5%	19.3%	8.0%	56.6%	14,131	35.3%	64.7%
452910	Warehouse Clubs and Supercenters	7,156	0.7%	1.9%	1.8%	11.9%	83.7%	812	4.4%	95.6%
452990	All Other General Merchandise Stores	4,328	2.2%	17.8%	16.7%	2.3%	61.0%	5,616	36.7%	63.3%
453110	Florists	5,028	53.8%	46.2%	0.0%	0.0%	0.0%	1,000	100.0%	0.0%
453210	Office Supplies and Stationery Stores	2,923	10.3%	33.0%	36.1%	20.5%	0.0%	916	79.5%	20.5%
453220	Gift, Novelty, and Souvenir Stores	3,721	23.1%	53.2%	18.1%	5.6%	0.0%	2,650	94.4%	5.6%
453310	Used Merchandise Stores	5,617	67.6%	32.4%	0.0%	0.0%	0.0%	1,161	100.0%	0.0%
453910	Pet and Pet Supplies Stores	3,700	35.1%	45.9%	0.0%	19.0%	0.0%	834	81.0%	19.0%
453920	Art Dealers	3,386	29.0%	39.0%	32.0%	0.0%	0.0%	721	100.0%	0.0%
453991	Tobacco Stores	6,084	26.7%	73.3%	0.0%	0.0%	0.0%	4,637	100.0%	0.0%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	3,443	27.8%	41.7%	0.0%	0.0%	30.4%	1,882	69.6%	30.4%
454111	Electronic Shopping	7,770	6.3%	6.0%	0.0%	0.0%	87.7%	1,332	12.3%	87.7%
454113	Mail-Order Houses	5,848	29.4%	70.6%	0.0%	0.0%	0.0%	37	100.0%	0.0%
454210	Vending Machine Operators	4,348	18.1%	59.2%	22.7%	0.0%	0.0%	66	100.0%	0.0%
454311	Heating Oil Dealers	5,848	29.4%	70.6%	0.0%	0.0%	0.0%	34	100.0%	0.0%
454312	Liquefied Petroleum Gas (Bottled Gas) Dealers	2,822	25.4%	28.2%	35.5%	10.9%	0.0%	304	89.1%	10.9%
454319	Other Fuel Dealers	10,000	100.0%	0.0%	0.0%	0.0%	0.0%	3	100.0%	0.0%

Source: U.S. County Business Patterns, and author's calculations

Table 1.13 Concentration Herfindalh-Hirschman, Wholesale Sector—four digits

4 digit NAICS code	Industrial Sector	HHI 2011	Micro '1-4'	Small 5-19'	Medium '20-49'	Big '50-99'	Mega -big 100 or more'
4453	Beer, wine, and liquor stores	2,307	23.6%	26.6%	4.8%	20.7%	24.3%
4441	Building material and supplies dealers	2,513	12.5%	34.0%	28.1%	6.0%	19.4%
4411	Automobile dealers	2,577	4.9%	13.8%	25.9%	36.6%	18.8%
4543	Direct selling establishments	2,603	23.6%	29.7%	29.4%	17.3%	0.0%
4511	Sporting goods, hobby, and musical instrument stores	2,765	18.0%	43.7%	17.1%	13.4%	7.9%
4481	Clothing stores	2,876	5.6%	44.2%	22.4%	14.6%	13.2%
4431	Electronics and appliance stores	2,898	12.8%	45.2%	21.5%	13.5%	7.0%
4413	Automotive parts, accessories, and tire stores	3,055	18.1%	39.0%	34.0%	6.7%	2.2%
4452	Specialty food stores	3,134	17.5%	49.3%	15.4%	10.0%	7.8%
4461	Health and personal care stores	3,175	7.2%	41.2%	34.4%	15.5%	1.8%
4421	Furniture stores	3,340	14.8%	47.7%	27.1%	10.3%	0.0%
4532	Office supplies, stationery, and gift stores	3,446	12.4%	40.0%	40.5%	7.1%	0.0%
4512	Book, periodical, and music stores	3,456	22.5%	50.0%	7.8%	0.0%	19.7%
4542	Vending machine operators	3,537	24.7%	30.9%	44.4%	0.0%	0.0%
4451	Grocery stores	3,704	5.2%	7.4%	6.5%	28.0%	52.9%
4442	Lawn and garden equipment and supplies stores	3,836	38.0%	46.3%	15.7%	0.0%	0.0%
4422	Home furnishings stores	4,076	11.3%	47.3%	41.4%	0.0%	0.0%
4539	Other miscellaneous store retailers	4,232	28.0%	56.7%	0.0%	0.0%	15.3%
4471	Gasoline stations	4,355	16.0%	62.6%	10.5%	3.2%	7.6%
4483	Jewelry, luggage, and leather goods stores	4,528	20.7%	62.6%	13.2%	3.6%	0.0%
4412	Other motor vehicle dealers	4,663	31.3%	60.1%	8.6%	0.0%	0.0%
4521	Department stores	5,183	0.4%	11.0%	11.1%	7.7%	69.9%
4531	Florists	5,337	63.0%	37.0%	0.0%	0.0%	0.0%
4533	Used merchandise stores	5,496	34.2%	65.8%	0.0%	0.0%	0.0%
4541	Electronic shopping and mail-order houses	5,581	18.4%	9.8%	0.0%	0.0%	71.7%
4529	Other general merchandise stores	7,342	1.2%	6.6%	3.1%	3.8%	85.3%
4482	Shoe stores	7,412	3.5%	85.7%	5.5%	5.3%	0.0%

Source: U.S. County Business Patterns, and author's calculations

Table 1.14 Concentration Herfindalh-Hirschman, Retail Sector—five digits

5 digit NAICS code	Industrial Sector	HHI 2011	Micro '1-4'	Small 5-19'	Medium '20-49'	Big '50-99'	Mega -big 100 or more'
44531	Beer, wine, and liquor stores	2,307	23.6%	26.6%	4.8%	20.7%	24.3%
44814	Family clothing stores	2,439	5.1%	26.9%	12.9%	29.0%	26.2%
45112	Hobby, toy, and game stores	2,635	6.0%	40.4%	18.3%	19.8%	15.5%
45431	Fuel dealers	2,637	25.0%	32.6%	26.2%	16.2%	0.0%
45439	Other direct selling establishments	2,701	20.2%	22.6%	37.1%	20.1%	0.0%
44311	Appliance, television, and other electronics stores	2,774	11.5%	42.6%	24.3%	12.1%	9.5%
44111	New car dealers	2,816	2.3%	10.1%	27.9%	38.5%	21.1%
44419	Other building material dealers	2,891	13.8%	46.0%	15.6%	16.8%	7.9%
44811	Men's clothing stores	2,957	4.8%	46.1%	17.6%	15.7%	15.8%
44131	Automotive parts and accessories stores	3,077	15.7%	38.5%	35.9%	7.4%	2.5%
45111	Sporting goods stores	3,086	34.9%	39.1%	12.5%	13.5%	0.0%
44112	Used car dealers	3,101	25.9%	43.6%	9.7%	20.8%	0.0%
44413	Hardware stores	3,278	12.3%	38.0%	40.4%	2.8%	6.5%
44211	Furniture stores	3,340	14.8%	47.7%	27.1%	10.3%	0.0%
44512	Convenience stores	3,364	14.8%	25.9%	3.2%	7.0%	49.2%
44611	Pharmacies and drug stores	3,366	3.3%	35.7%	41.9%	17.9%	1.2%
45322	Gift, novelty, and souvenir stores	3,437	15.0%	50.1%	24.4%	10.5%	0.0%
44312	Computer and software stores	3,482	14.4%	52.0%	14.6%	19.0%	0.0%
44523	Fruit and vegetable markets	3,491	34.6%	41.5%	23.9%	0.0%	0.0%
45121	Book stores and news dealers	3,492	14.1%	50.5%	10.0%	0.0%	25.4%
45114	Musical instrument and supplies stores	3,502	32.3%	43.0%	24.7%	0.0%	0.0%
44421	Outdoor power equipment stores	3,524	22.1%	39.8%	38.1%	0.0%	0.0%
45421	Vending machine operators	3,537	24.7%	30.9%	44.4%	0.0%	0.0%
44132	Tire dealers	3,728	38.8%	43.9%	17.4%	0.0%	0.0%
44613	Optical goods stores	3,748	29.9%	49.1%	20.9%	0.0%	0.0%
44511	Supermarkets and other grocery (except convenience) stores	3,756	4.8%	6.7%	6.6%	28.9%	53.0%
44529	Other specialty food stores	3,790	15.5%	56.0%	15.7%	12.7%	0.0%
44521	Meat markets	3,804	17.6%	15.4%	11.0%	0.0%	56.0%
44412	Paint and wallpaper stores	3,877	52.4%	24.3%	23.3%	0.0%	0.0%
45399	All other miscellaneous store retailers	3,898	21.1%	52.5%	0.0%	0.0%	26.4%
45321	Office supplies and stationery stores	4,016	10.2%	31.8%	53.7%	4.3%	0.0%
44612	Cosmetics, beauty supplies, and perfume stores	4,073	9.4%	60.2%	5.5%	15.7%	9.2%
44229	Other home furnishings stores	4,085	11.0%	46.0%	43.0%	0.0%	0.0%
44815	Clothing accessories stores	4,122	13.0%	60.6%	5.7%	6.2%	14.5%
44719	Other gasoline stations	4,169	26.2%	57.8%	10.4%	5.6%	0.0%
44422	Nursery, garden center, and farm supply stores	4,177	42.1%	48.0%	9.9%	0.0%	0.0%
44812	Women's clothing stores	4,265	4.5%	52.6%	38.3%	2.1%	2.5%
44221	Floor covering stores	4,345	14.1%	58.1%	27.8%	0.0%	0.0%
45113	Sewing, needlework, and piece goods stores	4,374	23.5%	59.4%	17.1%	0.0%	0.0%
44711	Gasoline stations with convenience stores	4,456	13.6%	63.7%	10.6%	2.7%	9.5%
44831	Jewelry stores	4,534	20.0%	62.7%	13.6%	3.7%	0.0%
44122	Motorcycle, boat, and other motor vehicle dealers	4,541	31.1%	59.0%	10.0%	0.0%	0.0%
44819	Other clothing stores	4,573	17.4%	62.0%	20.6%	0.0%	0.0%
44813	Children's and infants' clothing stores	4,608	4.4%	63.6%	12.2%	19.8%	0.0%
44619	Other health and personal care stores	4,742	22.1%	64.5%	8.7%	4.7%	0.0%
45122	Prerecorded tape, compact disc, and record stores	5,005	51.6%	48.4%	0.0%	0.0%	0.0%
44522	Fish and seafood markets	5,062	55.6%	44.4%	0.0%	0.0%	0.0%
44832	Luggage and leather goods stores	5,090	43.3%	56.7%	0.0%	0.0%	0.0%
45211	Department stores	5,183	0.4%	11.0%	11.1%	7.7%	69.9%
44313	Camera and photographic supplies stores	5,200	40.0%	60.0%	0.0%	0.0%	0.0%
45391	Pet and pet supplies stores	5,248	38.9%	61.1%	0.0%	0.0%	0.0%
45311	Florists	5,337	63.0%	37.0%	0.0%	0.0%	0.0%
45392	Art dealers	5,346	36.8%	63.2%	0.0%	0.0%	0.0%
45331	Used merchandise stores	5,496	34.2%	65.8%	0.0%	0.0%	0.0%
45411	Electronic shopping and mail-order houses	5,581	18.4%	9.8%	0.0%	0.0%	71.7%
44121	Recreational vehicle dealers	5,598	32.7%	67.3%	0.0%	0.0%	0.0%
44411	Home centers	5,686	2.2%	10.8%	9.1%	3.9%	73.9%
45299	All other general merchandise stores	6,918	1.7%	10.1%	4.2%	1.5%	82.4%
44821	Shoe stores	7,412	3.5%	85.7%	5.5%	5.3%	0.0%
45291	Warehouse clubs and supercenters	8,173	0.3%	0.8%	1.2%	7.7%	90.1%
45393	Manufactured (mobile) home dealers	10,000	0.0%	100.0%	0.0%	0.0%	0.0%

Source: U.S. County Business Patterns, and author's calculations

Table 1.15 Concentration Herfindalh-Hirschman, Retail Sector—four digits

4 digit NAICS code	Industrial Sectors	HHI, 2006	HHI, 2011	Changes
4529	Other General Merchandise Stores	4,768	7,342	2,574
4412	Other Motor Vehicle Dealers	3,465	4,663	1,197
4539	Other Miscellaneous Store Retailers	3,134	4,232	1,098
4422	Home Furnishings Stores	3,403	4,076	672
4461	Health and Personal Care Stores	2,574	3,175	601
4512	Book, Periodical, and Music Stores	2,860	3,456	596
4521	Department Stores	4,595	5,183	588
4413	Automotive Parts, Accessories, and Tire Stores	2,539	3,055	516
4532	Office Supplies, Stationery, and Gift Stores	2,989	3,446	457
4543	Direct Selling Establishments	2,146	2,603	456
4431	Electronics and Appliance Stores	2,454	2,898	444
4482	Shoe Stores	6,978	7,412	434
4471	Gasoline Stations	4,033	4,355	322
4531	Florists	5,028	5,337	309
4442	Lawn and Garden Equipment and Supplies Stores	3,606	3,836	230
4451	Grocery Stores	3,513	3,704	191
4441	Building Material and Supplies Dealers	2,408	2,513	106
4411	Automobile Dealers	2,513	2,577	65
4533	Used Merchandise Stores	5,617	5,496	-121
4483	Jewelry, Luggage, and Leather Goods Stores	4,789	4,528	-261
4481	Clothing Stores	3,164	2,876	-288
4541	Electronic Shopping and Mail-Order Houses	5,948	5,581	-367
4452	Specialty Food Stores	3,523	3,134	-390
4421	Furniture Stores	3,776	3,340	-436
4453	Beer, Wine, and Liquor Stores	2,788	2,307	-481
4542	Vending Machine Operators	4,348	3,537	-811
4511	Sporting Goods, Hobby, and Musical Instrument Stores	4,174	2,765	-1,409

Source: U.S. County Business Patterns, and author's calculations

Table 1.16 Concentration Herfindalh-Hirschman, Retail Sector—four digits

5 digit NAICS code	Industrial Sectors	HHI, 2006	HHI, 2011	Changes
45299	All Other General Merchandise Stores	4,328	6,918	2,590
45392	Art Dealers	3,386	5,346	1,961
44813	Children's and Infants' Clothing Stores	2,682	4,608	1,926
44819	Other Clothing Stores	2,901	4,573	1,672
44411	Home Centers	4,135	5,686	1,551
45391	Pet and Pet Supplies Stores	3,700	5,248	1,548
45121	Book Stores and News Dealers	2,266	3,492	1,225
45321	Office Supplies and Stationery Stores	2,923	4,016	1,092
45291	Warehouse Clubs and Supercenters	7,156	8,173	1,017
44619	Other Health and Personal Care Stores	3,771	4,742	971
44815	Clothing Accessories Stores	3,171	4,122	951
44122	Motorcycle, Boat, and Other Motor Vehicle Dealers	3,685	4,541	856
44121	Recreational Vehicle Dealers	4,769	5,598	829
44611	Pharmacies and Drug Stores	2,578	3,366	788
45114	Musical Instrument and Supplies Stores	2,743	3,502	759
44229	Other Home Furnishings Stores	3,421	4,085	663
45211	Department Stores	4,595	5,183	588
44413	Hardware Stores	2,708	3,278	569
44131	Automotive Parts and Accessories Stores	2,557	3,077	520
44312	Computer and Software Stores	3,021	3,482	461
44521	Meat Markets	3,348	3,804	455
44711	Gasoline Stations with Convenience Stores	4,012	4,456	443
44821	Shoe Stores	6,978	7,412	434
44422	Nursery, Garden Center, and Farm Supply Stores	3,767	4,177	410
45311	Florists	5,028	5,337	309
44221	Floor Covering Stores	4,037	4,345	307
44612	Cosmetics, Beauty Supplies, and Perfume Stores	3,776	4,073	297
44311	Appliance, Television, and Other Electronics Stores	2,522	2,774	251
44511	Supermarkets and Other Grocery (except Convenience) Stores	3,548	3,756	208
44313	Camera and Photographic Supplies Stores	5,000	5,200	200
44112	Used Car Dealers	2,912	3,101	189
44613	Optical Goods Stores	3,572	3,748	176
44529	Other Specialty Food Stores	3,631	3,790	159
44419	Other Building Material Dealers	2,851	2,891	41
45122	Prerecorded Tape, Compact Disc, and Record Stores	5,008	5,005	-2
44512	Convenience Stores	3,393	3,364	-29
44111	New Car Dealers	2,847	2,816	-31
44412	Paint and Wallpaper Stores	3,924	3,877	-47
44522	Fish and Seafood Markets	5,174	5,062	-112
44719	Other Gasoline Stations	4,288	4,169	-120
45331	Used Merchandise Stores	5,617	5,496	-121
44814	Family Clothing Stores	2,562	2,439	-123
45431	Fuel Dealers	2,816	2,637	-179
44831	Jewelry Stores	4,734	4,534	-200
45322	Gift, Novelty, and Souvenir Stores	3,721	3,437	-284
44132	Tire Dealers	4,081	3,728	-353
45411	Electronic Shopping and Mail-Order Houses	5,948	5,581	-367
44421	Outdoor Power Equipment Stores	3,912	3,524	-388
44211	Furniture Stores	3,776	3,340	-436
44812	Women's Clothing Stores	4,738	4,265	-473
44531	Beer, Wine, and Liquor Stores	2,788	2,307	-481
45439	Other Direct Selling Establishments	3,258	2,701	-557
44811	Men's Clothing Stores	3,565	2,957	-608
45421	Vending Machine Operators	4,348	3,537	-811
45113	Sewing, Needlework, and Piece Goods Stores	5,315	4,374	-941
44523	Fruit and Vegetable Markets	5,041	3,491	-1,550
44832	Luggage and Leather Goods Stores	6,854	5,090	-1,764
45111	Sporting Goods Stores	5,028	3,086	-1,943
45112	Hobby, Toy, and Game Stores	5,056	2,635	-2,420

Source: U.S. County Business Patterns, and author's calculations

Regional Trends

There are two relevant indicators to measure regional economic performance: (1) Pull Factor (PF) and (2) Location Quotient (LQ). In this section, we explore the PF and LQ for United States and Puerto Rico. The comparison will be performed between Puerto Rico and some selected states; but also, to independent countries. Let us start with the definition of PF and then examine the Retail, Wholesale and Transportation sectors.

Pull Factors

Pull Factor Analysis is used to estimate the proportion of local sales (or employees) that is captured by the community as compared to the state or nation. A pull factor greater than one indicates that the local capture of expenditures exceeds the state or national average, while a pull factor less than one indicates that a lower percentage of local dollars are captured. The formula for calculating pull factors is:

$$\text{Pull Factor} = \frac{\dfrac{\text{State sales or Employees}}{\text{State population}}}{\dfrac{\text{National Sales or Employees}}{\text{National population}}}$$

The pull factor for any specific time period may be influenced by temporary distortions of the local economy such as relocations or strikes by a major employer, among other factors. For these reasons, it may be more advisable to collect data for several years, calculate the factors for each year and look for long-term trends.

Pull factors increasing over time would indicate that the local area is becoming more efficient at competing for local retail sales. Decreasing pull factors would indicate that the local business community is losing sales to outside areas. A community with a low pull factor could analyze reasons for the low purchases of its citizens and make a conscious effort to attract additional retailers to its area. It will also consider its degree of specialization of the regions; whether or not its trade relationship with another regions or national. Table depicts PF for the states and Puerto Rico, ranked from highest to lowest ratio. Rather than used employees, it been used sales. As can be seen, New Hampshire ranked at first place with 1.54; that is, retail sales per capita is 54% higher that national average. Meanwhile, Wyoming and North Dakota exhibited high PF, 1.37 and 1.32, respectively.

The main reasons explaining this New Hampshire's Pull Factor are: (a) Food and Beverage retail industry is national and internationally well-known; (b) External Trade supports jobs tied to wholesale, retail and manufacturing; near 181,000 employees (22% of total) is related to external trade; (c) New Hampshire does not levy a broad-based sales tax which creates a significant incentive for cross-border residents to shop at New Hampshire. The sales tax savings would enjoy by cross-border shopping equals the amount to be spent multiplied by 5 to 6 percent.[1]

[1] *Cross-border's sales taxes are Vermont, 6%; Maine, 5.5%; and Massachusetts, 6.25%. New Hampshire is zero.*

Table 1.17 Pull Factors by states and Puerto Rico

Rank	State	Retail Sales per capita	Pull Factors
1	New Hampshire	$19,246	1.54
2	Wyoming	$17,114	1.37
3	North Dakota	$16,495	1.32
4	Delaware	$16,421	1.32
5	Maine	$15,520	1.24
6	South Dakota	$15,390	1.23
7	Montana	$15,343	1.22
8	Vermont	$15,005	1.2
9	Nebraska	$14,965	1.19
10	Connecticut	$14,953	1.19
11	Nevada	$14,579	1.17
12	New Jersey	$14,453	1.16
13	Washington	$14,380	1.15
14	Florida	$14,353	1.15
15	Hawaii	$13,793	1.11
16	Minnesota	$13,751	1.10
17	Utah	$13,730	1.10
18	Idaho	$13,691	1.097
19	Virginia	$13,687	1.097
20	Arizona	$13,637	1.093
21	Alaska	$13,635	1.093
22	Colorado	$13,609	1.09
23	Massachusetts	$13,553	1.086
24	Oregon	$13,494	1.081
25	Maryland	$13,429	1.076
26	Pennsylvania	$13,323	1.068

Table 1.17 Pull Factors by states and Puerto Rico (cont.)

Rank	State	Retail Sales per capita	Pull Factors
27	Iowa	$13,172	1.055
28	Texas	$13,061	1.047
29	Missouri	$12,957	1.038
30	Illinois	$12,947	1.037
31	Louisiana	$12,921	1.035
32	Wisconsin	$12,904	1.034
33	North Carolina	$12,641	1.013
34	Tennessee	$12,563	1.007
35	California	$12,561	1.006
36	Kansas	$12,444	0.997
37	New México	$12,429	0.996
38	Indiana	$12,408	0.994
39	Alabama	$12,364	0.991
40	Georgia	$12,326	0.988
41	South Carolina	$12,273	0.983
42	Ohio	$12,049	0.965
43	Oklahoma	$11,931	0.956
44	New York	$11,879	0.952
45	Kentucky	$11,843	0.949
46	Rhode Island	$11,646	0.933
47	Arkansas	$11,602	0.929
48	Mississippi	$11,552	0.926
49	West Virginia	$11,340	0.909
50	Michigan	$10,855	0.867
XX	PUERTO RICO	$9,670	0.775
51	District of Columbia	$6,555	0.525
XX	United States	$12,480	1

Source: http://www.biggestuscities.com/demographics/us/business-retail-sales-per-capita-by-state.

On the other hand, North Dakota was the least-stressed state during the 2007 national recession, as evidenced in the Associated Press' Stress Index (AP-SI). North Dakota was followed by Nebraska, South Dakota, New Hampshire, and Vermont. These states, even under the national recession, performed quite well. North Dakota, had the lowest unemployment rate and the fastest job growth rate in the country. According to new data of the Bureau of Labor Statistics, North Dakota had an unemployment of 3.0 percent under the national recession, when the national average was 9.1%.

North Dakota, is nowadays a rich natural gas state, due to Bakken drilling and production of gas. The Bakken has emerged in recent years as one of the most important sources of oil in the United States. Most new Bakken drilling and production has been in North Dakota, although the play also extends into Montana, Saskatchewan, and Manitoba. As of 2013, the Bakken produced more than ten percent of all US oil production. In November 2013, the U.S. Energy Information Administration projected that Bakken production in North Dakota and Montana would exceed one million barrels per day in December 2013. As a result of the Bakken, North Dakota as of 2013 is the second largest oil-producing state in the US, behind only Texas in volume of oil produced.

The rich-mineral states such as Montana, South Dakota, and Wyoming also have all benefited from a boom in energy prices, with Montana and Wyoming extracting much more gas than North Dakota has. The Bakken oil field stretches across Montana as well as North Dakota, with the greatest Bakken oil production coming from Elm Coulee Oil Field in Montana.

North Dakota is also the only state to run a continuous budget surplus since the banking crisis of 2008. Its balance sheet is so strong that it recently reduced individual income taxes and property taxes by a combined $400 million, and is debating further cuts, because, mineral and oil activities generated government revenues.

Also, North Dakota has its own- state bank-- the Bank of North Dakota (BND). The bank does not compete with local banks but partners them, and also help communities with capital and liquidity requirements. It participates in loans, provides guarantees, and acts as a sort of mini-Fed for the state.

Comparison among states and Puerto Rico

As evidenced, Puerto Rico's pull factor is 0.775, ranked at 52th position. Comparing with selected states (Figure 1.10), Puerto Rico retail sales per capita is lower than states with similar population size or dimension.

Source: U.S. County Business Patterns, 2012, and Department of Trade and Exports, Commonwealth of Puerto Rico

Pull Factors using employees

In this section, a Pull Factor (PF) analysis was performed using employee figures instead of sales figures, for the three sectors, for the years 2006 and 2011.

Table 1.18 depicts the PF for the retail sector. New Hampshire ranked at the top among all states; and North Dakota ranked at second place. For both states, the PF increased for 2006 to 2011. Puerto Rico and D.C. ranked at the bottom; 51 ad 52, respectively.

Table 1.19 shown the PF for Wholesale Trade. The top four states for year 2006 and 2011 are New Jersey, North Dakota, Minnesota and Illinois. New Jersey is a state leader the New England region on finance, insurance and real estate combined with commercial real estate --office buildings and factories--and large insurance company headquarters. It also a leader on trade group such as center for wholesale trade of chemicals and machinery, and discount stores, service stations, and trade group.

U.S. Commerce Department Bureau ranked both Minnesota and California in fifth place in GDP growth in 2013. Both states economies are based upon durable-goods manufacturing, construction, mining, agriculture, wholesale trade, and finance and insurance activities.

Table 1.20 analyses the PF for Transportation and Warehousing. The top four states are Alaska, North Dakota, Nebraska and Hawaii. According to economist Scott Goldsmith from the University of Alaska, Anchorage, Alaska is a “three-legged stool”. One leg being the petroleum and gas industry, the second leg being the federal government and the third one the other industries and services. Employment is primarily at the government and industries such as natural resource extraction, shipping, and transportation. Transportation and warehousing is a crucial sector for the industrial productions of crude petroleum, natural gas, coal, gold, precious metals, zinc and other mining, seafood processing, timber and wood products. The state also has recently supported a growing service and tourism sector which is also highly related to the transportation sector. Meanwhile, food imports to Alaska is transported into the state from “outside”, and shipping costs make food highly expensive to the residents.

Table 1.18

Retail Trade --Pull Factors by state, D.C. and Puerto Rico: 2006 and 2011
Ranking for the biggest to lowest

	Pull Factors 2006		Pull Factors 2011
New Hampshire	1.451	New Hampshire	1.518
North Dakota	1.332	North Dakota	1.448
Vermont	1.254	Vermont	1.331
Delaware	1.252	South Dakota	1.286
South Dakota	1.239	Maine	1.282
Maine	1.224	Nebraska	1.239
Wyoming	1.17	Delaware	1.217
Nebraska	1.17	Iowa	1.215
Montana	1.159	Montana	1.192
Iowa	1.158	Wyoming	1.157
Minnesota	1.151	Minnesota	1.139
Florida	1.107	Massachusetts	1.114
Virginia	1.094	Wisconsin	1.10
Wisconsin	1.093	Kansas	1.085
Connecticut	1.091	Connecticut	1.083
Nevada	1.086	Pennsylvania	1.083
Hawaii	1.082	Hawaii	1.081
Massachusetts	1.077	Virginia	1.075
Oregon	1.071	Missouri	1.074
Missouri	1.055	Florida	1.054
Indiana	1.053	Louisiana	1.053
Idaho	1.045	New Jersey	1.051
Maryland	1.037	Kentucky	1.05
Kansas	1.036	Nevada	1.022
Tennessee	1.035	Maryland	1.021
Pennsylvania	1.031	Tennessee	1.014
Louisiana	1.028	Indiana	1.009
Colorado	1.024	Ohio	1.008
Kentucky	1.023	Alabama	1.007
Utah	1.02	Oregon	1.005
Alabama	1.018	South Carolina	1.002
New Jersey	1.014	Total United States	1.00
Arizona	1.013	West Virginia	0.997
Ohio	1.003	Utah	0.995
Total United States	1.00	Colorado	0.994
West Virginia	1.00	Arkansas	0.99
South Carolina	0.999	North Carolina	0.99
Rhode Island	0.999	Mississippi	0.988
North Carolina	0.999	New Mexico	0.981
Alaska	0.991	Illinois	0.974
New Mexico	0.979	Idaho	0.973
Washington	0.977	Rhode Island	0.965
Arkansas	0.975	Arizona	0.964
Mississippi	0.974	Oklahoma	0.963
Georgia	0.971	Alaska	0.961
Illinois	0.971	New York	0.953

Oklahoma	0.931	Texas	0.952
Michigan	0.918	Washington	0.946
Texas	0.914	Michigan	0.946
California	0.895	Georgia	0.926
New York	0.882	California	0.854
Puerto Rico	0.67	Puerto Rico	0.754
District of Columbia	0.653	District of Columbia	0.671

Table 1.19 Retail Trade --Pull Factors by state, D.C. and Puerto Rico: 2006 and 2011 In selected states

State	Pull Factor, 2006	State	Pull Factor, 2011	change
Puerto Rico	0.6705	Puerto Rico	0.7543	0.0838
Florida	1.1066	Florida	1.0544	-0.0522
Mississippi	0.9738	Mississippi	0.9878	0.014
South Carolina	0.9995	North Carolina	0.9896	-0.0098
Hawaii	1.0823	Hawaii	1.0806	-0.0017
Massachusetts	1.0772	Massachusetts	1.1139	0.0367
Connecticut	1.09	Connecticut	1.08	-0. 0100

Source:

Table 1.20

Wholesale Trade Pull Factor

Wholesale Trade	Pull factor 2006	Wholesale Trade	Pull factor 2011
New Jersey	1.557	North Dakota	1.68
North Dakota	1.336	New Jersey	1.578
Minnesota	1.315	Minnesota	1.311
Illinois	1.228	Illinois	1.29
Delaware	1.169	Nebraska	1.218
Connecticut	1.141	Kansas	1.182
California	1.137	Iowa	1.177
Massachusetts	1.107	California	1.162
Georgia	1.1	Oregon	1.138
Missouri	1.079	South Dakota	1.131
Iowa	1.076	Connecticut	1.114
Nebraska	1.065	Missouri	1.102
Colorado	1.043	Wisconsin	1.059
Oregon	1.042	Massachusetts	1.051
New York	1.036	Pennsylvania	1.031
Ohio	1.027	Ohio	1.031
Kansas	1.025	Georgia	1.022
Wisconsin	1.017	Utah	1.009
Washington	1.011	Delaware	1.007
Total United States	1	Total United States	1
Texas	0.982	New York	0.992
Tennessee	0.98	Texas	0.988

Pennsylvania	0.96	New Hampshire	0.978
North Carolina	0.952	Washington	0.977
New Hampshire	0.939	Rhode Island	0.977
Indiana	0.93	Colorado	0.969
South Dakota	0.925	Tennessee	0.966
Utah	0.912	North Carolina	0.952
Rhode Island	0.878	Vermont	0.944
Florida	0.876	Indiana	0.925
Maryland	0.868	Louisiana	0.91
Arkansas	0.858	Kentucky	0.858
Alabama	0.856	Michigan	0.854
Vermont	0.852	Oklahoma	0.845
Michigan	0.852	Idaho	0.838
Oklahoma	0.845	Arkansas	0.822
Louisiana	0.841	Florida	0.817
Kentucky	0.811	Alabama	0.815
Hawaii	0.811	Maryland	0.807
Idaho	0.805	Montana	0.789
Virginia	0.786	Wyoming	0.786
Arizona	0.775	Hawaii	0.779
South Carolina	0.775	Arizona	0.748
Nevada	0.774	South Carolina	0.746
Montana	0.766	Nevada	0.71
Maine	0.722	Maine	0.703
Wyoming	0.679	Virginia	0.692
Mississippi	0.647	Alaska	0.667
Alaska	0.629	Mississippi	0.644
West Virginia	0.561	West Virginia	0.574
New Mexico	0.557	New Mexico	0.543
District of Columbia	0.507	Puerto Rico	0.491
Puerto Rico	0.478	District of Columbia	0.385

Table 1.21 Transportation and Warehousing

Transportation & warehouse	Pull factor 2006	Transportation & warehouse	Pull factor 2011
Alaska	1.950	Alaska	1.872
Hawaii	1.637	North Dakota	1.580
Arkansas	1.550	Nebraska	1.573
New Jersey	1.373	Hawaii	1.513
Tennessee	1.371	Kentucky	1.454
Kentucky	1.323	Tennessee	1.442
Wisconsin	1.282	Wyoming	1.391
Indiana	1.247	New Jersey	1.348
Nevada	1.243	Iowa	1.328
Iowa	1.230	Illinois	1.302
Utah	1.229	Indiana	1.292
Wyoming	1.227	Arkansas	1.282
Illinois	1.226	Wisconsin	1.264
Georgia	1.219	Utah	1.228
Delaware	1.210	Kansas	1.225
Pennsylvania	1.157	Pennsylvania	1.179
Nebraska	1.155	Georgia	1.165
Kansas	1.117	Nevada	1.152
North Dakota	1.088	Louisiana	1.087
Ohio	1.051	Minnesota	1.069
Minnesota	1.049	Texas	1.059
Texas	1.046	Total United States	1.000
Missouri	1.042	Ohio	0.987
Oregon	1.034	Oregon	0.986
Louisiana	1.031	Missouri	0.986
Total United States	1.000	Washington	0.928
Virginia	0.957	Delaware	0.915
North Carolina	0.925	Alabama	0.886
Washington	0.911	Colorado	0.880
Colorado	0.893	New York	0.869
Alabama	0.893	Virginia	0.860
South Carolina	0.884	California	0.856
Arizona	0.875	Oklahoma	0.855
California	0.874	Maine	0.852
Florida	0.852	Massachusetts	0.847
Maryland	0.842	Arizona	0.844
New York	0.840	North Carolina	0.840
Massachusetts	0.831	South Dakota	0.835
Mississippi	0.790	Mississippi	0.834
Connecticut	0.787	Connecticut	0.833
Maine	0.764	Montana	0.826
Oklahoma	0.763	Maryland	0.825
Idaho	0.760	Florida	0.822
Montana	0.757	South Carolina	0.806
South Dakota	0.748	Idaho	0.769
Michigan	0.724	Michigan	0.745
Vermont	0.688	New Hampshire	0.699
New Hampshire	0.660	Vermont	0.695
Rhode Island	0.638	Rhode Island	0.685

West Virginia	0.626	West Virginia	0.600
New Mexico	0.567	New Mexico	0.599
District of Columbia	0.438	District of Columbia	0.542
Puerto Rico	0.294	Puerto Rico	0.316

Table 1.22 Retail Trade by Selected States: 2006

RETAIL TRADE NAICS 44-45 State	2006 Paid employees	2006 Annual payroll ($1,000)	2006 Total Establishments	2006 Population	2006 Employees per 1K population	2006 Payroll per employees	2006 Employees x establishment
Connecticut	200,828	$5,312,658	13,752	3,484,531	58	$26,454	14.6
Florida	1,056,865	$25,287,461	72,986	18,076,361	58	$23,927	14.5
Hawaii	72,579	$1,770,009	5,045	1,269,228	57	$24,387	14.4
Massachusetts	368,028	$9,263,247	25,625	6,466,069	57	$25,170	14.4
Mississippi	149,045	$2,974,920	12,248	2,896,691	51	$19,960	12.2
South Carolina	228,874	$4,859,578	18,598	4,334,146	53	$21,233	12.3
Puerto Rico	136,502	$2,035,162	10851	3,853,162	35	$14,909	12.6

Table 1.23 Retail Trade by Selected States: 2011

RETAIL TRADE NAICS 44-45 State	2011 Paid employees	2011 Annual payroll ($1,000)	2011 Total Establishments	2011 Population	2011 Employees per 1K population	2011 Payroll per employees	2011 Employees x establishment
Connecticut	180,535	$5,119,030	12,738	3,484,531	52	$28,355	14.2
Florida	940,764	$23,542,688	70,955	18,076,361	52	$25,025	13.3
Hawaii	66,913	$1,798,780	4,678	1,269,228	53	$26,882	14.3
Massachusetts	350,448	$9,518,096	24,367	6,466,069	54	$27,160	14.4
Mississippi	138,471	$2,984,323	11,543	2,896,691	48	$21,552	12
South Carolina	219,433	$4,937,487	17,553	4,334,146	51	$22,501	12.5
Puerto Rico	131,560	$2,283,871	10,255	3,694,093	36	$17,360	12.8

Table 1.24 Wholesale Trade by Selected States: 2006

WHOLESALE TRADE NAICS 42 State	2006 Paid employees	2006 Annual payroll ($1,000)	2006 Total Establishments	2006 Population	2006 Employees per 1K population	2006 Payroll per employees	2006 Employees x establishment
Connecticut	80,323	$5,242,926	4,687	3,484,531	23	$65,273	17.1
Florida	319,971	$15,022,725	31,567	18,076,361	18	$46,950	10.1
Hawaii	20,799	$818,908	1,873	1,269,228	16	$39,372	11.1
Massachusetts	144,638	$9,924,237	8,655	6,466,069	22	$68,614	16.7
Mississippi	37,852	$1,476,862	2,918	2,896,691	13	$39,017	13
South Carolina	67,865	$3,071,330	4,808	4,334,146	16	$45,256	14.1
Puerto Rico	37,187	$1,169,744	2303	3,853,162	10	$31,456	16.1

Table 1.25 Wholesale Trade by Selected States: 2011

WHOLESALE TRADE NAICS 42 State	2011 Paid employees	2011 Annual payroll ($1,000)	2011 Total Establishments	2011 Population	2011 Employees per 1K population	2011 Payroll per employees	2011 Employees x establishment
Connecticut	71,127	$5,240,744	4,383	3,484,531	20	$73,681	16.2
Florida	279,174	$14,741,724	30,193	18,076,361	15	$52,805	9.2
Hawaii	18,471	$814,026	1,732	1,269,228	15	$44,070	10.7
Massachusetts	126,596	$9,798,304	8,068	6,466,069	20	$77,398	15.7
Mississippi	34,535	$1,521,148	2,789	2,896,691	12	$44,047	12.4
South Carolina	62,547	$3,257,200	4,812	4,334,146	14	$52,076	13
Puerto Rico	32,749	$1,137,830	2,166	3,694,093	9	$34,744	15.1

Table 1.26 Wholesale Trade by Selected States: 2011

TRANSPORTATION AND WAREHOUSING NAICS 48 State	2006 Paid employees	2006 Annual payroll ($1,000)	2006 Total Establishments	2006 Population	2006 Employees per 1K population	2006 Payroll per employees	2006 Employees x establishment
Connecticut	39,581	$1,547,668	1,688	3,484,531	11	$39,101	23.4
Florida	222,194	$8,525,328	13,213	18,076,361	12	$38,369	16.8
Hawaii	29,976	$1,031,257	877	1,269,228	24	$34,403	34.2
Massachusetts	77,550	$2,970,141	3,729	6,466,069	12	$38,300	20.8
Mississippi	33,031	$1,136,284	2,352	2,896,691	11	$34,401	14
South Carolina	55,271	$1,962,816	2,715	4,334,146	13	$35,513	20.4
Puerto Rico	16,369	$394,958	1,062	3,853,162	4	$24,128	15.4

Table 1.27 Wholesale Trade by Selected States: 2011

TRANSPORTATION AND WAREHOUSING NAICS 48 State	2011 Paid employees	2011 Annual payroll ($1,000)	2011 Total Establishments	2011 Population	2011 Employees per 1K population	2011 Payroll per employees	2011 Employees x establishment
Connecticut	38,802	1,656,303	1,638	3,484,531	11	$42,686	23.7
Florida	204,981	8,688,831	12,789	18,076,361	11	$42,388	16
Hawaii	26,167	1,080,242	832	1,269,228	21	$41,283	31.5
Massachusetts	74,457	3,149,443	3,534	6,466,069	12	$42,299	21.1
Mississippi	32,653	1,208,747	2,098	2,896,691	11	$37,018	15.6
South Carolina	49,348	1,850,266	2,506	4,334,146	11	$37,494	19.7
Puerto Rico	15,376	$420,142	1,001	3,694,093	4	$27,325	15.4

Location Quotients

Location Quotients (LQs) are ratios allowing a given distribution of employment by industry in a state o region to be compared to a reference distribution of, say, and nation. The reference is usually based upon national but it can also be a state or a metropolitan area. The reference or base industry is usually the total industry. Indeed, an LQ is computed as an industry's share of a regional total for some economic statistic--earnings, GDP by metropolitan area, employment, etc.) divided by the industry's share of the national total for the same statistic.

The LQ formula is:

$$LQ = \frac{\dfrac{\text{Employment in the state at industry i}}{\text{Total employment the state}}}{\dfrac{\text{Employment in the nation at industry i}}{\text{Total Employment of nation}}}$$

If an LQ is equal to 1, then the industry has the same share of its area employment as it does in the reference area. An LQ greater than 1 indicates an industry with a greater share of the local area employment than is the case in the reference area. For example, an LQ of 1.0 in retail means that the region and the nation are equally specialized in that industry; while an LQ over 1 means that the region has a higher concentration in such industry than the nation.

Another way to look is using regional data (numerator) versus state data (denominator). Then LQ focuses the exporting potentiality of the region and also for the particular industrial sector.

LQ for Retail Sector

Table 1.28 depicts the LQ for Puerto Rico, Connecticut, Florida, Hawaii, Massachusetts, Mississippi, New York and South Carolina. Puerto Rico showe high LQ for all retail sectors; followed by Mississippi and South Carolina. Meanwhile, LQ over two were found at Automotive parts, Specialty Food, Shoe Stores, Health and personal care and Jewerly, luggage and leathers. Mississippi shows two sub-sectors with a LQ over 2; other merchandise stores and gasoline stations. Hawaii also with Jewerly, luggage and leather, and Office supplies, stationery and gift stores. Jewerly, luggage and leather were found a LQ over two in Puerto Rico and Hawaii.

Table 1.29 Location Quotient for Retailing sector: Puerto Rico and selected states 2011

Retail Industry	Puerto Rico	Connecticut	Florida	Hawaii	Massachusetts	Mississippi	New York	South Carolina
All Sectors	1.54	0.987	1.102	1.087	0.934	1.230	0.947	1.138
Automobile dealers	0.94	1.075	1.108	0.867	0.812	1.042	0.713	1.097
Other motor vehicle dealers	0.38	0.671	1.533	0.575	0.575	1.341	0.575	1.150
Automotive parts, accessories, and tire stores	2.27	0.811	0.978	0.787	0.644	1.551	0.573	1.288
Furniture stores	1.53	0.942	1.177	0.530	0.765	1.354	0.883	1.236
Home furnishings stores	0.77	1.224	1.122	0.918	1.122	0.816	1.122	1.020
Electronics and appliance stores	1.55	0.908	1.175	0.828	0.854	0.828	1.041	0.828
Building material and supplies dealers	1.36	0.999	1.032	0.965	0.877	1.320	0.843	1.254
Lawn and garden equipment and supplies stores	0.39	0.929	0.542	0.464	0.464	1.780	0.542	1.084
Grocery stores	1.72	1.186	1.149	1.154	1.336	0.871	1.108	1.140
Specialty food stores	2.06	0.764	0.841	1.452	1.223	0.459	1.681	0.611
Beer, wine, and liquor stores	ND	1.557	0.701	0.234	2.180	0.856	1.168	0.623
Health and personal care stores	2.87	1.105	1.211	1.070	0.964	1.235	1.223	1.105
Gasoline stations	1.07	0.588	0.752	0.821	0.588	2.038	0.588	1.491
Clothing stores	2.21	1.191	1.348	1.672	1.208	0.972	1.348	1.164
Shoe stores	3.03	0.896	1.345	1.064	0.896	1.289	1.289	1.233
Jewelry, luggage, and leather goods stores	2.08	1.174	1.355	3.793	0.993	0.813	1.264	0.993
Sporting goods, hobby, and musical instrument stores	0.68	1.048	0.878	1.020	0.935	0.765	0.850	0.850
Book, periodical, and music stores	0.88	1.055	0.879	1.318	1.143	0.879	1.230	0.967
Department stores	ND	1.137	1.002	1.696	0.925	ND	1.041	0.896
Other general merchandise stores	1.02	0.375	ND	0.608	0.318	2.368	0.452	1.541
Florists	0.35	1.051	0.701	1.577	0.876	1.402	1.051	0.876
Office supplies, stationery, and gift stores	1.69	1.066	1.332	2.398	1.110	1.021	1.066	1.021
Used merchandise stores	0.00	0.906	0.906	0.982	0.529	0.831	0.604	1.057
Other miscellaneous store retailers	ND	0.884	1.277	1.326	0.786	1.228	1.080	0.933
Electronic shopping and mail-order houses	0.11	1.010	1.370	0.180	0.938	0.216	0.938	0.361
Vending machine operators	0.98	0.657	0.657	0.328	0.657	1.313	0.657	1.970
Direct selling establishments	0.93	2.169	0.744	0.496	1.612	0.992	1.364	0.806

Source: U.S. County Business Patterns, and author's calculations

LQ for Wholesale Trade Sector

In the Wholesale sector, Puerto Rico showed the higher LQ at NAICS 4242, Drugs and druggists sundries merchants with a LQ of 2.721. Paper and paper products as well as Hardware and plumbing exhibits LA ratio over the unity. New York has a 3.2 level is apparel, piece goods and notions merchant.

Table 1.30 Location Quotient for Wholesale sector: Puerto Rico and selected states 2011

All Sectors	Puerto Rico	Connecticut	Florida	Hawaii	Massachusetts	Mississippi	New York	South Carolina
42 - Wholesale trade	0.975	0.990	0.833	0.763	0.859	0.781	0.959	0.825
4231 - Motor vehicle and motor vehicle parts and supplies merchant wholesalers	0.822	0.727	0.822	0.506	0.695	1.169	0.569	0.695
4232 - Furniture and home furnishing merchant wholesalers	0.326	0.734	0.734	0.571	0.734	0.815	1.468	0.652
4233 - Lumber and other construction materials merchant wholesalers	0.491	1.105	0.982	1.043	0.798	0.982	0.798	1.043
4234 - Professional and commercial equipment and supplies merchant wholesalers	0.760	1.375	0.832	0.507	1.267	0.543	1.050	0.832
4235 - Metal and mineral (except petroleum) merchant wholesalers	0.527	1.130	0.603	0.226	0.603	0.603	0.527	0.979
4236 - Electrical and electronic goods merchant wholesalers	0.586	0.654	0.676	0.361	1.195	0.338	0.789	0.586
4237 - Hardware, plumbing and heating equipment and supplies merchant wholesalers	1.394	1.291	0.826	0.568	0.775	0.568	0.775	0.930
4238 - Machinery, equipment, and supplies merchant wholesalers	0.432	0.798	0.715	0.316	0.598	0.947	0.465	0.881
4239 - Miscellaneous durable goods merchant wholesalers	0.674	1.044	0.775	0.909	0.640	0.707	1.415	0.876
4241 - Paper and paper product merchant wholesalers	1.557	1.168	0.778	1.090	1.246	0.545	0.934	0.701
4242 - Drugs and druggists' sundries merchant wholesalers	2.721	1.005	0.712	0.670	0.879	0.419	1.088	0.460
4243 - Apparel, piece goods, and notions merchant wholesalers	0.846	0.605	0.605	0.846	0.725	0.907	3.204	1.149
4244 - Grocery and related product merchant wholesalers	1.841	1.105	0.982	1.780	0.921	0.982	1.136	1.028
4245 - Farm product raw material merchant wholesalers	0.378	0.000	0.189	ND	0.000	1.133	0.378	0.189
4246 - Chemical and allied products merchant wholesalers	1.000	1.077	0.616	0.385	0.693	0.539	0.770	0.846
4247 - Petroleum and petroleum products merchant wholesalers	1.348	1.685	0.674	0.562	0.674	1.685	0.562	0.899
4248 - Beer, wine, and distilled alcoholic beverage merchant wholesalers	1.262	1.010	1.136	1.578	0.821	0.884	1.262	1.199
4249 - Miscellaneous nondurable goods merchant wholesalers	0.896	0.448	1.137	0.965	0.655	1.034	0.793	0.551
4251 - Wholesale electronic markets and agents and brokers	0.354	1.496	1.338	0.551	1.142	0.709	0.787	0.787

Source: U.S. County Business Patterns, and author's calculations

LQ for Transportation and Warehousing

Puerto Rico shows high level at support activities for water transportation, NAICS 4883, with a LQ of 3. 5. High values of LQ in this sector were also found in Hawaii (3.951) and South Carolina (1.788). Scenic and Sightseeing activities were found extraordinary high LQ value in Hawaii (NAICS 4871, 4872 and 4879), basically because the tourist industry of Hawaii.

Table 1.31 Location Quotient for Transportation and Warehousing sector: Puerto Rico and selected states 2011

		Connecticut	Florida	Hawaii	Massachusetts	Mississippi	New York	South Carolina	Puerto Rico
48----	Transportation and warehousing	0.71	0.792	1.425	0.657	0.977	0.798	0.854	0.612
4811	Scheduled air transportation	0.33	0.800	4.279	0.686	0.000	1.138	0.000	0.000
4812	Nonscheduled air transportation	0.87	1.462	0.476	0.316	0.310	0.728	0.000	0.000
4831	Deep sea, coastal, and great lakes water transportatior	1.05	4.696	0.000	0.435	0.338	0.775	0.000	0.000
4832	Inland water transportation	0.00	0.141	0.000	0.202	4.987	0.453	0.078	0.618
4841	General freight trucking	0.29	0.510	0.295	0.374	1.279	0.379	0.881	0.540
4842	Specialized freight trucking	0.45	0.571	1.156	0.504	1.457	0.560	1.029	0.193
4851	Urban transit systems	2.00	0.000	0.000	2.260	0.000	1.725	0.745	0.000
4852	Interurban and rural bus transportation	0.00	0.652	0.000	1.390	0.000	1.211	0.000	0.376
4853	Taxi and limousine service	2.37	0.453	1.313	1.861	0.295	2.135	0.294	0.000
4854	School and employee bus transportation	3.02	0.113	1.338	1.616	0.341	2.730	0.000	0.980
4855	Charter bus industry	1.23	1.171	0.000	0.862	0.000	0.895	0.557	0.000
4859	Other transit and ground passenger transportation	0.86	0.894	2.421	2.202	1.055	2.010	0.524	0.411
4861	Pipeline transportation of crude oil	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4862	Pipeline transportation of natural gas	0.36	0.000	0.000	0.000	2.891	0.000	0.000	0.000
4869	Other pipeline transportation	0.00	0.000	0.000	0.000	0.000	0.361	0.000	0.000
4871	Scenic and sightseeing transportation, land	0.00	0.337	46.260	1.137	0.000	2.479	1.365	0.000
4872	Scenic and sightseeing transportation, water	0.34	2.562	34.018	1.460	0.000	0.887	0.987	0.000
4879	Scenic and sightseeing transportation, other	0.00	0.000	37.064	ND	0.000	0.318	0.000	0.000
4881	Support activities for air transportation	0.41	1.996	2.720	0.385	0.666	0.820	0.283	0.943
4882	Support activities for rail transportation	0.00	0.390	0.000	0.274	0.000	0.112	0.000	0.000
4883	Support activities for water transportation	0.14	1.748	3.951	0.156	0.553	0.316	1.788	3.502
4884	Support activities for road transportation	0.40	0.762	0.359	0.675	0.574	0.446	0.878	0.364
4885	Freight transportation arrangement	0.39	0.995	0.561	0.447	0.264	0.966	1.006	0.749
4889	Other support activities for transportation	1.00	0.887	0.000	0.404	0.000	0.408	0.901	0.173
4921	Couriers and express delivery services	0.93	0.837	0.604	0.773	0.887	0.836	0.823	0.473
4922	Local messengers and local delivery	0.72	0.000	0.000	0.922	0.232	2.082	0.528	0.590
4931	Warehousing and storage	0.82	0.000	0.232	0.000	1.502	0.403	1.646	0.358

Source: U.S. County Business Patterns, and author's calculations

Impact of Mega-Box retail stores

This section investigates the impact of mega-stores over the small and medium size retail stores in Puerto Rico from 2006 to 2011. The analysis was performed considering the main mega-boxes stores located in Puerto Rico: WalMart (discount and supercenters); Amigo, Sam's Club, Kmart, CostCo, Walgreens and CVS Pharmacy.

There is plenty information concerning the impact of mega stores in local communities. The Sierra Club believes that these retailers leave a large footprint on the environment and the community. Wal-Mart and other big box stores should not necessarily fulfill all environmental laws and/or meet community standards including:

- Respect the wishes of local communities;
- Do not seek or accept public subsidies or zoning waivers;
- Fully disclose the environmental impact of stores and products;
- Fully disclose all environmental and labor conditions of factories or sub-contractors;
- Do not locate stores in wetlands, floodplains or other sensitive areas or in places that would exacerbate traffic, increase air pollution, or contribute to scattered sprawl development;
- Provide infrastructure for bicycles, pedestrians and transit-users at all stores;
- Reduce energy consumption through green building standards;
- Restore or remove empty, abandoned stores within one year of closure; and,
- Reduce storm water pollution by designing parking that does not rely on large lots with impermeable surfaces

In the United States, "big box" stores like Wal-Mart, Kmart, CostCo, and so on, have been accused of threaten the landscape, communities and the environment by building on the fringe of town, paving vast areas for stores and parking lots, and undermining the economic health of existing downtown shopping areas. Needless to say, mega-stores are proliferating at an alarming rate, not only in the United States but worldwide, while Wal-Mart is being the most outstanding example of Big Box developments that contribute to sprawl in communities and harmful small businesses. Wal-Mart and other Big Box retailers, also typically develop stores at the fringes of towns, which are accessible mainly by driving and often result in increased traffic. The huge service area for a supercenter draws customers from long distances, and places significant stress on regional road and freeway systems. More traffic on the road contributes to air pollution, water contamination, and the demand for more roads and development.

In 2013, Wal-Mart was the leading American retailer based on U.S. retail sales of about 334.3 billion U.S. dollars. Wal-Mart --founded by Samuel Moore Walton (1918-1992) in 1962---located headquarters at Bentonville, Arkansas and operates worldwide under different names--Walmex in Mexico and Best Price in India.

Mega Box Stores in Puerto Rico

Total Sales and square foot

Table 1.32 depicts the estimated sales of these mega stores in Puerto Rico. The total estimated sales amounted to $5,325.5 million and accounted for 18.6% of total retail sales in Puerto Rico, excluding motor vehicles and gasoline. The main mega-store in WalMart and its business lines. Total estimated sales for WalMart is $2,919 million near 55% of total mega stores, whereas supercenters accounted for 20.3% of total mega stores sales. Walgreens and Kmart represented near $1,000 million and $880 respectively, combined 35.3% of total sales from mega stores. In term of square foot (sf), mega stores accounted for 10,662,500 sf, while WalMart controlled 6,059,000 for a 57.2% of total sf of total mega stores.

Table 1.32 Estimated Sales and Total Sales of Puerto Rico (000,000)

Mega-Boxes	Estimated Sales 2014 (millions)	Share
WalMart	$2,919	54.80%
Supercenters	$1,080	20.30%
Discount Stores	$390	7.30%
Neighboorhood (Amigo)	$459	8.60%
Sam's Club	$990	18.60%
Kmart	$880	16.50%
Walgreens	$1,003	18.80%
CVS	$123.50	2.30%
CostCo	$400	7.50%
Sub-total	$5,325.50	100.00%
Sales (excl., motor vehicles and gasoline) 2013	$28,563.70	18.60%

Source: estimated by author using data from mega stores Annual Reports. We use sales per unit or establishment showed at each stores Annual Reports.

Table 1.33

Walmart Establishments and Average Square Foot

Walmart business brands	Establishments			Average Square Foot		
	2006	2014		2006	2014	Changes
Total Wal Mart stores	54	56	-----	4,960,000	6,059,000	1,099,000
Supercenters	5	12	197,000	985,000	2,364,000	1,379,000
Discount Stores	9	6	102,000	918,000	612,000	-306,000
Neighborhood (plus 24 Amigo)	31	27	60,000	1,860,000	1,620,000	-240,000
Sam's Club	9	11	133,000	1,197,000	1,463,000	266,000

Source: estimated by author using data from mega stores Annual Reports from WalMart.

Concentration by population size

Puerto Rico is not a homogeneous land in which each municipality share the same physical and geographical features. Puerto Rico compromises 78 municipalities in which population size and distribution can be causes and effects from an uneven economic development process. Table 1.34 shows six groups or clusters. Group I is composed by the less populated municipalities, 1,000 to 15,000 residents; Group II, is composed by municipalities with populations of 15,001 to 35,000; Group III, 35,001 to 45,000; Group IV, 45,001 to 75,000; Group V, 75,001 to 100,000; and Group IV, 100,001 and over (See Table 1.35). There is evidence to conclude that those municipalities with bigger population are also the wealthiest ones. For instance, wealthiest municipalities at Group VI (over 100,001 residents) are Bayamon, Caguas, Carolina, Ponce and San Juan.

Table 1.36 showed that near 46% (92 of 202) of total establishments of mega stores are located at those five municipalities—Bayamon, From those 92 establishments, 47 are from Walgreens (51%), and 20 units (22%) are from Wal Mart, Sam's and Amigos. Conversely, municipalities grouped at first three clusters, compromises only 55 units (27.2%) of total mega-stores. Cost Co for instance, has only four establishments, all of them located in wealthiest municipalities of Group VI.

Table 1.37 shows sales from mega retailers by municipalities. Bayamon ranked at first place with $ 639.3 million (12.5%) followed by San Juan, $550.5 million (10.7%), and Caguas, $429.3 million (8.4%). Together, these three municipalities accounted for almost a third of total mega retailers' sales (31.6%), despite they accounted only for 20% of total Island's residents.

Table 1.34
Population Clusters: Puerto Rico

Group I: 1,000 to 15,000	Group II: 15,001 to 35,000	Group III: 35,001 to 45,000	Group IV: 45,001 to 75,000	Group V: 75,001 to 100,000	Group VI: 100,001 and over
Culebra	Jayuya	Fajardo	Isabela	Toa Alta	Caguas
Maricao	Hormigueros	Corozal	Gurabo	Mayagüez	Ponce
Vieques	Ciales	Yabucoa	Cayey	Toa Baja	Carolina
Las Marías	Guánica	Dorado	Canóvanas	Arecibo	Bayamón
Maunabo	Patillas	Las Piedras	Juana Díaz	Guaynabo	San Juan
Florida	Adjuntas	Moca	Cabo Rojo		
Ceiba	Arroyo	Vega Alta	Río Grande		
Rincón	Luquillo	San Lorenzo	Humacao		
	Comerío	Yauco	Vega Baja		
	Guayanilla	Juncos	Aguadilla		
	Orocovis	Coamo	Trujillo Alto		
	Santa Isabel	Aguada			
	Peñuelas	San Sebastián			
	Sabana Grande	Hatillo			
	Barceloneta	Cidra			
	Lajas	Manatí			
	Villalba	Guayama			
	Aibonito				

Source: American Fact Finder http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

Table 1.35
Population by Size

Population size group	Municipalities	Population, 2012	Population average per municipality	Share
1,000 a 15,000	8	79,770	9,971	2.20%
15,001 a 35,000	32	808,846	25,276	22.10%
35,001 a 45,000	17	732,159	43,068	20.00%
45001 to 75,000	11	547,309	49,755	14.90%
75,001 to 100,000	5	439,934	87,987	12.00%
100,001 plus	5	1,059,066	211,813	28.90%
Total	78	3,667,084	47,014	100.00%

Source: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

Table 1.36

Total Mega Stores' Establishments by Population Size Groups

Population Groups	Walgreens	CVS	K Mart	Wal-Mart	Sam's Club	Amigo	CostCo	Sum Units	Share
I	0	0	0	0	0	1	0	1	0.50%
II	11	0	0	2	1	2	0	16	7.90%
III	18	4	5	4	1	6	0	38	18.80%
IV	14	1	5	3	2	3	0	28	13.90%
V	16	3	3	1	1	3	0	27	13.40%
VI	47	11	10	5	6	9	4	92	45.50%
Total	106 a/	19	23	15	11	24	4	202	100.00%

a/ According to Walgreens' Web page the number is 118 units. However, local Web page exhibits only 106 units.

Source: Annual Reports for many mega retailers.

Table 1.37

Sales of Mega Retailers by municipalities in Puerto Rico

Municipalities	Estimated Sales of mega retailers	Share %
Bayamón	639,305,000	12.50%
San Juan	550,507,000	10.70%
Caguas	429,287,000	8.40%
Ponce	377,913,500	7.40%
Carolina	301,513,000	5.90%
Mayagüez	228,679,500	4.50%
Hatillo	193,154,500	3.80%
Guayama	177,842,500	3.50%
Canóvanas	173,797,000	3.40%
Manatí	173,695,500	3.40%
Barceloneta	165,314,500	3.20%
Fajardo	165,213,000	3.20%
Cayey	158,485,000	3.10%
Guaynabo	151,220,500	2.90%
Isabela	103,602,500	2.00%
Aguadilla	99,687,500	1.90%
Santa Isabel	95,120,000	1.90%
Trujillo Alto	91,205,000	1.80%
Humacao	70,194,500	1.40%
Arecibo	70,093,000	1.40%
Vega Baja	70,093,000	1.40%
Yauco	63,365,000	1.20%
Vega Alta	61,610,500	1.20%
Dorado	51,533,000	1.00%
Juana Díaz	46,400,000	0.90%
Toa Alta	44,805,000	0.90%
Toa Baja	40,658,000	0.80%
San Lorenzo	36,322,500	0.70%
Luquillo	27,840,000	0.50%
Ceiba	27,840,000	0.50%
Corozal	27,840,000	0.50%
Juncos	27,840,000	0.50%
Río Grande	27,840,000	0.50%
Salinas	27,840,000	0.50%
16 municipalities each with 0.20% of total sales	135,720,000	2.64%
Total	5,133,377,000	100.00%

Source: Annual Report and American Fact Finder,
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

Table 1.38 depicts mega stores square foot (s.f.) by population group. Once again, near 45% of total s.f. are located at municipality over 100,000 population. Municipalities with residents between 1,000 and 35,000 accounted only with 8.3%. Clearly, mega-stores pursued municipalities with higher population density and thereby, with stronger purchasing power.

Impact on small and mid-size retailers

Table 1.39 depicts the rate of changes of retail employees for two categories—total establishments and those with 1 to 19 employees. The latter group has been called as small and mid-size enterprises. As can be seen at Table the total establishment by employee losses at Group I is over 11%. The average rate is -7.5% for total retail employees and -7.8% for establishments with 1 to 19 employees.

Table 1.40 shows the relationship between the rate of changes for the number of retail trade establishments and the square foot of mega-stores by 1,000 residents. The strong decline of establishment at group I is clearly not to be correlated with the level of square foot of mega retailer stores, because such municipalities have virtually no square foot from mega stores. Nonetheless, other population groups such as III, IV and VI have establishment losses over global average. Figure 1.11 demonstrates that there does exist and negative correlation between the level of square foot per 1,000 inhabitant and the establishment losses of 1 to 19 employees. The analysis was performed without Group I, because it has no virtually square foot of mega stores. The evidence suggests that a higher level of square foot of mega retailers, is associated with a stronger decline in the mid-sized establishments.

Table 1.38

Total Mega Store Establishments by Square Foot (sf) and Population Size Groups (000)

Population Group	Walgreens	CVS	K Mart	WalMart	Sam's Club	Amigo	CostCo	Total Square Foot	% of Total
1,000 a 15,000	0	0	0	0	0	60.0	0	60.0	0.6%
15,001 a 35,000	159.5	0	0	410.0	133.0	120.0	0	822.5	7.7%
35,001 a 45,000	261.0	58.0	500.0	820.0	133.0	360.0	0	2,132.0	20.0%
45001 to 75,000	203.0	14.5	500.0	615.0	266.0	180.0	0	1,778.5	16.7%
75,001 to 100,000	232.0	43.5	300.0	205.0	133.0	180.0	0	1,093.5	10.3%
100,001 plus	681.5	159.5	1,000.0	1,025.0	798.0	540.0	572.0	4,776.0	44.8%
Total	1,537.0	275.5	2,300.0	3,075.0	1,463.0	1,440.0	572.0	10,662.5	100.0%

Source: Annual Report and American Fact Finder,
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

Table 1.39 Total Establishments by employee's size and the Population Size Groups

Population Categories	Total Retail Trade-number of establishments--changes % 2011-05 -Median	Total Retail Trade-number of establishments--1 to 19 employees Changes % 2011-05 -Median	Establish.1-19 employees Divided by Total Establishments
I	-11.2%	-11.2%	1.00
II	-1.4%	-3.6%	2.57
III	-7.2%	-7.7%	1.07
IV	-6.3%	-4.8%	0.76
V	-9.8%	-8.7%	0.89
VI	-9.4%	-10.9%	1.16
Average	-7.5%	-7.8%	1.04
St deviation	3.5%	3.1%	NA

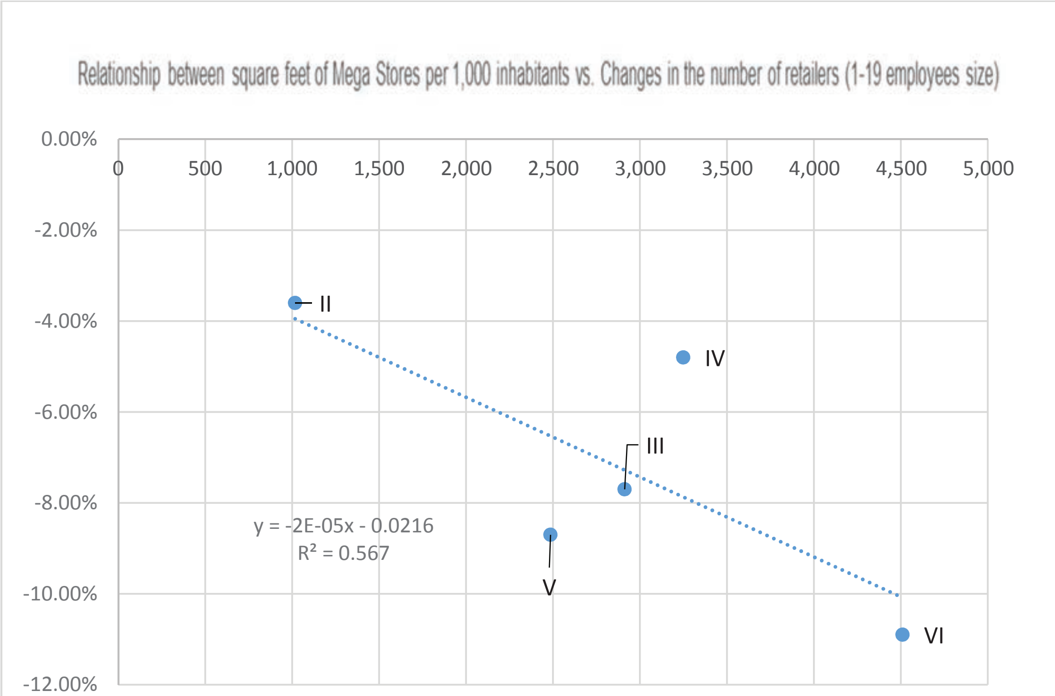
Source: U.S. County Business Patterns, Puerto Rico, 2005 and 2011. U.S. Department of Commerce.

Table 1.40 Total Mega Store Square Foot per 1,000 inhabitant and Total Retail Trade-number of establishments 1 to 19 employees - changes %: 2011-05.

Population Categories	Total Retail Trade-number of establishments 1 to 19 employees changes %: 2011-05	Square foot per 1,000 inhabitant (Mega retailer stores) Median value
I	-11.15%	752
II	-3.6%	1,017
III	-7.7%	2,912
IV	-4.8%	3,250
V	-8.7%	2,486
VI	-10.9%	4,510
Average	-7.8%	2,908

Source: U.S. County Business Patterns, 2006 and 2011. U.S. Department of Commerce.

Figure 1.11



Source: U.S. County Business Patterns, 2006 and 2011. U.S. Department of Commerce. Group I is excluded because it has virtually no square foot of mega stores.

Table 1.41 is summarized the impact of the level of mega-stores' square foot to the seventy-eight (78) municipalities in Puerto Rico. This matrix crosses the changes in the number of establishments of one to 19 employees between the levels of s.f. There are 24 municipalities in which the number of establishments increased from 2005 to 2011; 15 of them crossed by high level of s.f., and nine (9) had none level of s.f. Conversely, 54 municipalities experienced declines of the number of establishments; 35 with high levels of s.f. and 19 with none level (See Table 1.42).

The target group should be focused in those 35 municipalities in which exist a negative correlation of the number of establishments of small & medium with the level of s.f. of mega stores. The Figure 1.12 depicts the coefficient of determination for these 35 municipalities, R2 = 0.5276, and a regression equation equals to

y = -0.0011x -5.3363.
y = employee losses; while x = square foot of mega stores

Table 1.41

Classification of mega retailers' impact

Classification	High level of s.f. of mega box stores	None s.f. mega Box stores	Total
Increase small & medium size	15	9	24
Decrease small & medium size	35	19	54
Total	50	28	78

Source: the author

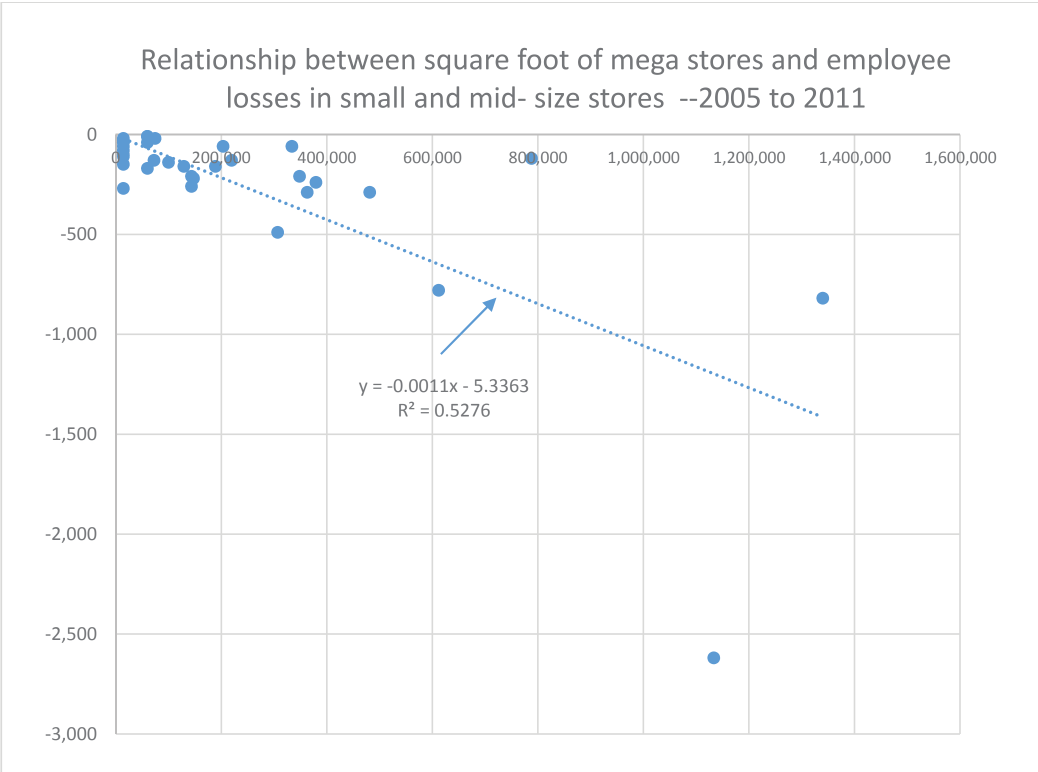
Table 1.42

Decrease small & medium size & high level of sf of mega boxes
(35 municipalities)

Municipality	Group	Municipality	Group
Guayama	III	San Lorenzo	III
Manatí	III	Corozal	III
Cayey	IV	Aibonito	II
Bayamón	VI	Juncos	III
Mayagüez	V	Río Grande	IV
Ponce	VI	Toa Baja	V
Isabela	IV	Arroyo	II
Ceiba	I	Aguas Buenas	II
Carolina	VI	Lares	II
Aguadilla	IV	Utuado	II
Guaynabo	V	San Germán	II
Yauco	III	Yabucoa	III
Luquillo	II	Las Piedras	III
San Juan	VI	Coamo	III
Trujillo Alto	IV	San Sebastián	III
Humacao	IV	Cabo Rojo	IV
Vega Baja	IV		

Source: the author

Figure 1.12



Source: the author

Table 1.43 simulates the level of s.f. mega stores and the employee losses for these 35 municipalities. The simulation was constructed using the previous regression equation. For instance, a supercenter from WalMart implies an employee losses of 115 persons in a given municipality. Meanwhile, an increase of one million of s.f. of mega stores implies a small and mid-size's employee losses of 1,100 with near 110 stores closed.

Table 1.43

Simulation of Mega retailers' impact on small and mid-size firms

Square foot of mega stores	Employee losses small at mid-size retailers
100,000	-115
500,000	-555
1,000,000	-1,105
1,100,000	-1,215

The Impact of Mega retailers and the MSAs

In this section the impact of mega retailers within the framework of Metropolitan Statistical Areas MSAs is assessed. The MSAs were defined by the Office of Management and Budget (OMB) and used by the Census Bureau and other federal government agencies for many purposes related to demographic, consumption, and production (income), among others. A MSA is as a geographical region with a relatively high population density at its core, but is also from the economic standpoint, closely tied throughout their components (counties and/or municipalities). Despite, MSAs are not political definitions such as a county and/or a state. Nonetheless, there components share substantially social and economic influences over the region and among themselves. A typical metropolitan area is centered on a single large city that wields substantial, but non-traditional metropolitan area contains more than one large city with no single municipality holding a substantially dominant position.

In Puerto Rico, OBM defined seven MSAs and one micro-areas by 2011. Table 1.44 depicts the population size and the total amount of square foot of mega retailers. The overall s.f. per capita is 2,907. Fajardo, Guayama and Mayaguez depicted the higher level of square foot per capita (over general average); 5,846; 4,680; and 4,278. Meanwhile, Ponce portrays 3,358 s.f. per capita.

When considered the brand-name of mega retailers by MSAs, the Combined MSA of San Juan-Caguas-Guaynabo accounted for 70.3% of total s.f. of mega stores (See Table 1.47). Ponce and Mayaguez combined 12.8% of total s.f., therefore, these three MSAs, accounted for 83% of total square foot of mega stores. Meanwhile, Walgreens exhibit a more spread-out pattern as compare to CostCo, for example.

Table 1.44

Population and Square Foot of Mega retailers by MSAs

Metropolitan Statistical Areas (MSAs)	Population 2011	Total square foot of Mega retailers, 2014	Square foot per capita
Aguadilla- Isabela- San Sebastian	330,291	466,500	1,412
Fajardo	80,138	468,500	5,846
Guayama	84,180	394,000	4,680
Mayaguez	112,545	481,500	4,278
Ponce	264,433	888,000	3,358
San Germán-Cabo Rojo	143,429	29,000	202
San Juan-Caguas-Guaynabo	2,579,799	7,497,500	2,906
Micro-areas	317,239	437,500	1,379
Total	3,667,084	10,662,500	2,907

Employee losses and mega retailers

For a given pattern of geographically concentration of mega retailers, there are consequences for small and mid-size establishments and employees. Table 1.45 depicts the employee losses of establishments with 19 employees or less, for each MSAs.

Table 1.45 Total Square Foot of mega retailers by MSAs (000)

MSAs	Walgreens	CVS	K Mart	Wal-Mart	Sam's Club	Amigo	Cost Co	TOTAL	Share
Aguadilla –Isabela- San Sebastián	101.5	0	100	205	0	60	0	466.5	4.40%
Fajardo	29	14.5	100	205	0	120	0	468.5	4.40%
Guayama	29	0	100	205	0	60	0	394	3.70%
Mayaguez	43.5	0	100	205	133	0	0	481.5	4.50%
Ponce	101.5	43.5	200	410	133	0	0	888	8.30%
San Germán-Cabo Rojo	29	0	0	0	0	0	0	29	0.30%
San Juan-Caguas-Guaynabo	1,131.00	217.5	1,600.00	1,640.00	1,197.00	1,140.00	572	7,497.50	70.30%
Micro-areas	72.5	0	100	205	0	60	0	437.5	4.10%
Total	1,537.00	275.5	2,300.00	3,075.00	1,463.00	1,440.00	572	10,662.50	100.00%

Table 1.46 Employees of Retailers (1 to 19 employees by establishments)

MSA's	2005	2011	Change	% Change
Guayama	2,110	1,750	-360	-17.06%
Fajardo	1,730	1,500	-230	-13.29%
San Juan-Caguas-Guaynabo	67,400	61,530	-5,870	-8.71%
San Germán-Cabo Rojo	3,000	2,740	-260	-8.67%
Mayaguez	3,680	3,380	-300	-8.15%
Aguadilla –Isabela- San Sebastián	8,560	7,980	-580	-6.78%
Ponce	5,930	5,580	-350	-5.90%
Micro-areas	5,540	5,380	-160	-2.89%
Total	97,950	89,840	-8,110	-8.28%

Source: the author and U.S. Census

Table 1.47 Estimated Sales by MSA's

MSAs	Estimated Sales (million $)	% of total
Aguadilla- Isabela- San Sebastian	228.7	4.5%
Fajardo	220.9	4.3%
Guayama	186.3	3.6%
Mayagüez	228.7	4.5%
Ponce	424.3	8.3%
San Germán-Cabo Rojo	17.0	0.3%
San Juan-Caguas-Guaynabo	3,615.7	70.4%
Micro-areas	211.8	4.1%
Total	$ 5,133.4	100.0%

Source: the author and U.S. Census

Table 1.48 depicts total square-foot and employees losses. Apart of MSA of San Germán and Cabo Rojo as an outlier, the experience demonstrated a correlation between mega retailers and employees losses of small and mid-sized firms. The MSAs of Aguadilla-Isabela- San Sebastián and Guayama were found as the two main employee losses per square foot. Table 1.49 shows the same logical approach but using sales. The results are quite similar.

Table 1.50 shows mega retailers' sales per MSA. San Juan- Guaynabo-Caguas controls over 70% of total sales.

Table 1.48

Total Square Foot and Employees losses.

MSAs	Total Square foot of Mega -Box Stores	Employee Losses (establishments 19 employees and less) 2005 to 2011	Employee Losses per 1,000,000 sf
Aguadilla- Isabela –San Sebastian	466,500	-580	-1,243
Fajardo MSA	468,500	-230	-491
Guayama, MSA	394,000	-360	-914
Mayaguez, MSA	481,500	-300	-623
Ponce MSA	888,000	-350	-394
San Germán-Cabo Rojo, MSA	29,000	-260	-8,966
San Juan-Caguas-Guaynabo,	7,497,500	-5,870	-783
Microareas	437,500	-160	-366
Total Puerto Rico	10,662,500	-8,110	-761

Source: the author and U.S. Census

Table 1.49

Total Square Foot and Employees losses by Sales.

MSA	Sales (millions $)	Employee Losses (establishments with 19 employees and less) 2005 to 2011	Employee Losses per 10 million of sales
Aguadilla Isabela San Sebastían	$ 228.7	-580	-25
Fajardo MSA	220.9	-230	-10
Guayama, MSA	186.3	-360	-19
Mayagüez, MSA	228.7	-300	-13
Ponce MSA	424.3	-350	-8
San Germán-Cabo Rojo, MSA	17.0	-260	-153
San Juan-Caguas-Guaynabo, MSA	3,615.7	-5,870	-16
Microareas	211.8	-160	-8
Total Puerto Rico	$ 5,133.4	-8,110	-16

Source: the author and U.S. Census

Table 1.50

Estimated Sales of Mega Retailers by MSAs

MSAs	Estimated Sales	Share (percent)
Aguadilla Isabela San Sebastían	228,737,500	4.5%
Fajardo MSA	220,893,000	4.3%
Guayama, MSA	186,325,000	3.6%
Mayaguez, MSA	228,679,500	4.5%
Ponce MSA	424,313,500	8.3%
San Germán-Cabo Rojo, MSA	16,965,000	0.3%
San Juan-Caguas-Guaynabo, PR	3,615,691,000	70.4%
Microareas	211,772,500	4.1%
Total	5,133,377,000	100.0%

Source: the author and U.S. Census

Impact of mega-retailers

Using regression analysis and cross correlation matrices, we were able to estimate the impact mega retailers to employee losses of small and mid-size establishments. The regression analysis was performed by all seven MSAs. There are a couple of limitations of this regression model applied for this study: (a) supposed a priori linear relationship among the variables; (b) the analysis was performed using square foot rather than sales; (c) did not consider commuting sales, that is, consumers residing at town A but buying merchandises at town B, or viceversa; and (d) did not capture the number of items to be sold by mega retailers.

The first regression includes all the municipalities including those with zero square foot (s.f.), a sample size of 78 observations. Therefore, at regression 1 we have:

D(ER) = (ER 2011-ER 2005) = f (COSTO, AMIGO, SAMS, CVS, WMART, KMART, WALG).

Whereas:

D(ER) = (ER 2011-ER2005) = change in employees of small and mid-size retailers (19 employees or less),

COSTO = square foot (s.f.) of CostCo,

AMIGO = s.f. of Amigo,

SAMS = s.f. of Sams,

CVS = s.f. of CVS,

WMART = s.f. of Wal Mart discounts and supercenters,

KMART = s.f. of K Mart; and,

WALG = s.f. of Walgreens.

Table 1.51

Regression Analysis for MSAs

Dependent Variable: D(RE) = (ER2011-ER2005)
Method: Least Squares
Sample: 1 78
Included observations: 78

Independent Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	30.47915	22.97664	1.326528	0.1890
AMIGO	-0.000459	0.000751	-0.610376	0.5440
COSTCO	0.000274	0.000964	0.284476	0.7770
CVS	0.009057	0.003569	2.537541	0.013 b/
KMART	-0.001764	0.000596	-2.960032	0.004 a/
WMART	0.000995	0.000319	3.122061	0.003 a/
WALG	-0.007253	0.001391	-5.212918	0.000 a/
SAMS	-0.000227	0.000706	-0.321212	0.7490

a/ significant at 1% level; b/ significant at 5% level.

R-squared	0.778767	Mean dependent variable	-103.9744
Adjusted R-squared	0.756644	S.D. dependent variable	332.9457
S.E. of regression	164.2458	Akaike info criterion	13.13752
Sum squared residual	1888368.	Schwarz criterion	13.37923
Log likelihood	-504.3633	Hannan-Quinn criteria.	13.23428
F-statistic	35.20130	Durbin-Watson stat	1.814775
Prob (F-statistic)	0.000000		

The adjusted R2 means that 75.7% of employee losses of small and mid-size establishments of retail trade is explained by municipalities' variation of square foot of mega retailers (Table 1.51). The F-statistic is significant at 1% level implies that independent variables selected together explain well dependent variable variations. Durbin Watson implies no autoregressive residuals, or independent variables behaved independently. Independent variables such as Walgreens, Kmart and WMart are significant at 1% level, while CVS at 5%. A relevant conclusions is that WALG was found the most significant variable to explain employee losses, based upon its p-value. The following analysis depicts the relationship of Walgreens expansion and employee losses. For instance, Walgreens had 73 stores by 2006, but 119 stores by 2014. This implies a square foot expansion to 1,725,500 from 1,058,500, for a change of 667,000 s.f. This increase explains 4,838 direct additional employee losses of small and mid-size establishments. Therefore an additional of a million of s.f., means an employee declining of 7,253 persons.

Table 1.52 portrays the correlation matrix for all variables together, including SFTOTAL, the sum of all s.f. of mega stores. As can be seen, all variables are negatively correlated with employee decline. Once again, Walgreens appeared with the highest correlation coefficient of -0.785; Kmart follows with -0.778. Meanwhile, cross correlations are positive for all businesses. Walgreens for example has a strong correlation with CVS (0.762) and Kmart (0.832); Sams and CostCo (0.67); and Kmart versus Amigo (0.678), and CostCo vs Amigo (0.72). It is clear, as soon as Walgreens increases it square foot, CVS follows the same expansion patterns. A positive and high correlation coefficient means a strong expansion path and competition between the firms.

Table 1.52
Correlation matrix

	ER2011-ER2005	AMIGO	COSTCO	CVS	KMART	SAMS	WALG	WMART	SFTOTAL
ER2011-ER2005	1	-0.654	-0.538	-0.417	-0.778	-0.42	-0.785	-0.085	-0.627
AMIGO		1	0.72	0.416	0.678	0.457	0.653	0.102	0.682
COSTCO			1	0.64	0.646	0.667	0.667	0.247	0.773
CVS				1	0.583	0.621	0.762	0.515	0.761
KMART					1	0.508	0.832	0.355	0.827
SAMS						1	0.687	0.62	0.84
WALG							1	0.44	0.879
WMART								1	0.694
SFTOTAL									1

Impact on San Juan-Caguas-Guaynabo

The adjusted R2 means that 82.7% of employee losses of small and mid-size establishments of retail trade is explained by municipalities' variation of square foot of mega retailers. The F-statistic is significant at 1% level implies that independent variables selected together explain well dependent variable variations. Durbin Watson implies no autoregressive residuals, or independent variables behaved independently. Independent variables such as Walgreens, Kmart and WMart are significant at 1% level, while CVS at 5%, just like the previous analysis. A relevant conclusions is also that WALG was found the most significant variable to explain employee losses, judging about its p-values. The following analysis depicts the relationship of Walgreens expansion and employee losses. Walgreens expanded near 434,000 s.f. from 2006 to 2014, but an employees decreased by 3,364 direct workers of small and mid-size retailers.

Table 1.53

Regression Analysis

Dependent Variable: ER2011-ER2005 San Juan-Caguas-Guaynabo

Method: Least Squares

Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CONSTANT	58.80677	38.75022	1.517585	0.1386
COSTCO	0.001113	0.001340	0.830602	0.4122
CVS	0.009491	0.005097	1.862125	0.0715
KMART	-0.002113	0.000864	-2.446758	0.0199 b/
SAMS	-0.001453	0.001001	-1.451194	0.1562
WALG	-0.007750	0.001881	-4.119477	0.0002 a/
WMART	0.001978	0.000543	3.639628	0.0009 a/
AMIGO	-0.000298	0.001064	-0.279614	0.7815

a/ significant at 1% level; b/ significant at 5% level.

R-squared	0.856985	Mean dependent var	-143.1707
Adjusted R-squared	0.826648	S.D. dependent var	448.4219
S.E. of regression	186.7029	Akaike info criterion	13.47009
Sum squared resid	1150313.	Schwarz criterion	13.80445
Log likelihood	-268.1369	Hannan-Quinn criter.	13.59185
F-statistic	28.24924	Durbin-Watson stat	1.783017
Prob(F-statistic)	0.000000		

Table 1.54 Correlation matrix

	ER2011-ER2005	COSTCO	CVS	KMART	SAMS	WALG	WMART	AMIGO
ER2011-ER2005	1	-0.54	-0.47	-0.82	-0.42	-0.83	-0.06	-0.7
COSTCO		1	0.74	0.7	0.72	0.71	0.37	0.75
CVS			1	0.62	0.6	0.75	0.41	0.51
KMART				1	0.49	0.86	0.3	0.75
SAMS					1	0.65	0.69	0.52
WALG						1	0.4	0.73
WMART							1	0.16
AMIGO								1

Table 1.54 portrays the correlation matrix for all variables together, including SFTOTAL, the sum of all s.f. of mega stores. As can be seen, all variables are negatively correlated with employee decline. Once again, Walgreens appeared with the highest correlation coefficient of -0.83; Kmart follows with -0.82. Meanwhile, cross correlations are positive for all businesses. Walgreens for example has a strong correlation with CVS (0.75) and Kmart (0.86); Sams and CostCo (0.72); and Kmart versus Amigo (0.75), and CostCo vs Amigo (0.75). It is also clear, that Walgreens increases its square foot, CVS follows the same expansion patterns. A positive and high correlation coefficient means a strong expansion path and competition between the firms.

Impact on other MSAs

Table 1.55 presents results from regression analysis but for other MSAs. The adjusted R2 means that 23% of employee losses of small and mid-size establishments of retail trade is explained by municipalities' variation of square foot of mega retailers. The F-statistic is significant at 1% level implies that independent variables selected together explain well dependent variable variations. Unlike previous results, the only significant variable was Kmart at 5% level. A relevant conclusions is also that WALG was not found the most significant variable to explain employee losses as previous outcomes.

Table 1.56 depicts correlation matrix in which, once again, all independent variables correlated negatively with the change in retail's employees from small and mid-sized. The only pair of variables with high correlation within is Walgreens and CVS. Likely to all MSAs, and, San Juan-Caguas-Guaynabo MSA, these two pharmacies found to be facing a strong competition process.

Table 1.55

Regression Analysis

Dependent Variable: ER2011-ER2005
Method: Least Squares
Sample: 1 37
Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-35.00553	18.96400	-1.845895	0.0748
AMIGO	0.000619	0.000745	0.830574	0.4128
KMART	-0.001393	0.000539	-2.583529	0.0149 b/
WMART	1.01E-05	0.000260	0.038842	0.9693
CVS	0.003541	0.003747	0.945206	0.3521
WALG	-0.000589	0.001743	-0.337779	0.7379
SAMS	-0.000512	0.000804	-0.636900	0.5290
R-squared	0.357398	Mean dependent var		-60.54054
Adjusted R-squared	0.228878	S.D. dependent var		99.94293
S.E. of regression	87.76344	Akaike info criterion		11.95582
Sum squared residual	231072.6	Schwarz criterion		12.26059
Log likelihood	-214.1828	Hannan-Quinn criter.		12.06327
F-statistic	2.780869	Durbin-Watson stat		2.211123
Prob (F-statistic)	0.028534			

Table 1.56

Correlation Matrix for other MSAs

	ER2011-ER2005	AMIGO	SAMS	CVS	WMART	KMART	WALG
ER2011-ER2005	1	0	-0.35	-0.18	-0.29	-0.56	-0.38
AMIGO		1	-0.09	-0.08	0.01	0.21	0.01
SAMS			1	0.65	0.69	0.49	0.77
CVS				1	0.73	0.44	0.8
WMART					1	0.56	0.7
KMART						1	0.66
WALG							1

APPENDIX
Chapter I

Location Quotients, Map and Figures

Retail Trade (NAICS 44)

Location Quotient

Tables 1-4 and Figures 1-4 show the Industry Location Quotient (LQ) analysis performed for the Retail Trade Sector and Sub-sectors (NAICS 44). The LQ is a way of quantifying how concentrated an industry is in a region compared to a larger region, in this case Puerto Rico to the United States of America. LQ were calculated for the Number of Employees, Annual Payroll per Employee, and Number of Establishments based on P.R. and U.S. data from the U.S. Census Bureau, County Business Pattern for the year 2011. Tables 1-4 shows LQ for Number of Employees, Number of Establishments, and Total Annual Payroll sorted from largest to smallest values, and Annual Payroll per Employee sorted from smallest to largest value. Those tables show the sub-sectors according to the concentration value of Puerto Rico compared with the United States of America. The Figures illustrate a comparison of LQ between the sub-sectors. Annual Payroll per Employee was also analyzed comparing the data of P.R. with the U.S. as a benchmark.

Table 1: Location Quotient of Number of Employees
Retail Trade (NAICS - 44)

Sector by NAICS	Location Quotient
4482 - Shoe stores	2.96
4461 - Health and personal care stores	2.81
4413 - Automotive parts, accessories, and tire stores	2.22
4481 - Clothing stores	2.17
4483 - Jewelry, luggage, and leather goods stores	2.05
4452 - Specialty food stores	2.03
4451 - Grocery stores	1.69
4532 - Office supplies, stationery, and gift stores	1.65
4431 - Electronics and appliance stores	1.52
4421 - Furniture stores	1.47
4441 - Building material and supplies dealers	1.34
4471 - Gasoline stations	1.04

Table 2: Location Quotient of Annual Payroll Per Employee
Retail Trade (NAICS - 44)

Sector by NAICS	Location Quotient
4543 - Direct selling establishments	0.95
4483 - Jewelry, luggage, and leather goods stores	0.97

Table 3: Location Quotient of Number of Establishments
Retail Trade (NAICS - 44)

Sector by NAICS	Location Quotient
4482 - Shoe stores	3.24
4461 - Health and personal care stores	2.69
4413 - Automotive parts, accessories, and tire stores	2.65
4441 - Building material and supplies dealers	2.34
4481 - Clothing stores	2.31
4483 - Jewelry, luggage, and leather goods stores	1.99
4452 - Specialty food stores	1.86
4451 - Grocery stores	1.73
4512 - Book, periodical, and music stores	1.66
4431 - Electronics and appliance stores	1.64
4421 - Furniture stores	1.63
4532 - Office supplies, stationery, and gift stores	1.48
4542 - Vending machine operators	1.26
4471 - Gasoline stations	1.24
4511 - Sporting goods, hobby, and musical instrument stores	1.11
4411 - Automobile dealers	1.08

Table 4: Location Quotient of Total Annual Payroll
Retail Trade (NAICS - 44)

Sector by NAICS	Location Quotient
4482 - Shoe stores	5.07
4461 - Health and personal care stores	3.69
4481 - Clothing stores	2.94
4413 - Automotive parts, accessories, and tire stores	2.88
4532 - Office supplies, stationery, and gift stores	2.84
4452 - Specialty food stores	2.54
4431 - Electronics and appliance stores	2.25
4451 - Grocery stores	2.07
4483 - Jewelry, luggage, and leather goods stores	1.98
4421 - Furniture stores	1.80
4512 - Book, periodical, and music stores	1.59
4441 - Building material and supplies dealers	1.57
4529 - Other general merchandise stores	1.53
4471 - Gasoline stations	1.43
4411 - Automobile dealers	1.07

Retail Trade Sector (NAICS 44) – LQ with respect to the Number of Paid Employees for this sector in 2011 was 1.51 meaning that P.R. has 1.51 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sector in 2011 was 1.28 meaning that P.R. pays $1.28 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sector in 2011 was 1.61 meaning that P.R. has 1.61 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $17,360 and in the U.S. $25,223. This means that, on average, the Annual Payroll per Employee in P.R. is 69 percent of what it is in the U.S. which represents a difference of -$7,863.

Automobile Dealers (NAICS 4411) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.92 meaning that P.R. has 0.92 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.17 meaning that P.R. pays $1.17 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.08 meaning that P.R. has 1.08 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $29,505 and in the U.S. $47,124. This means that, on average, the Annual Payroll per Employee in P.R. is 63 percent of what it is in the U.S. which represents a difference of -$17,619.

Automotive Parts, Accessories, and Tire Stores (NAICS 4413) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.22 meaning that P.R. has 2.22 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.30 meaning that P.R. pays $1.30 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 2.65 meaning that P.R. has 2.65 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $19,649 and in the U.S. $28,219. This means that, on average, the Annual Payroll per Employee in P.R. is 70 percent of what it is in the U.S. which represents a difference of -$8,570.
Furniture Stores (NAICS 4421) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.47 meaning that P.R. has 1.47 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.23 meaning that P.R. pays $1.23 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.63 meaning that P.R. has 1.63 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $21,103 and in the U.S. $32,033. This means that, on average, the Annual Payroll per Employee in P.R. is 66 percent of what it is in the U.S. which represents a difference of -$10,930.

Home Furnishings Stores (NAICS 4422) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.73 meaning that P.R. has 0.73 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.25 meaning that P.R. pays $1.25 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.66 meaning that P.R. has 0.66 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $15,507 and in the U.S. $23,119. This means that, on average, the Annual Payroll per Employee in P.R. is 67 percent of what it is in the U.S. which represents a difference of -$7,612.

Electronics and Appliances Stores (NAICS 4431) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.52 meaning that P.R. has 1.52 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.49 meaning that P.R. pays $1.49 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.64 meaning that P.R. has 1.64 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $22,106 and in the U.S. $27,653. This means that, on average, the Annual Payroll per Employee in P.R. is 80 percent of what it is in the U.S. which represents a difference of -$5,546.

Building Material and Supplies Dealers (NAICS 4441) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.34 meaning that P.R. has 1.34 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.17 meaning that P.R. pays $1.17 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 2.34 meaning that P.R. has 2.34 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $18,312 and in the U.S. $29,058. This means that, on average, the Annual Payroll per Employee in P.R. is 63 percent of what it is in the U.S. which represents a difference of -$10,746.
Lawn and Garden Equipment and Supplies Stores (NAICS 4442) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.40 meaning that P.R. has 0.40 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.22 meaning that P.R. pays $1.22

per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.77 meaning that P.R. has 0.77 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $18,986 and in the U.S. $28,866. This means that, on average, the Annual Payroll per Employee in P.R. is 66 percent of what it is in the U.S. which represents a difference of -$9,981. Grocery Stores (NAICS 4451) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.69 meaning that P.R. has 1.69 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.23 meaning that P.R. pays $1.23 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.73 meaning that P.R. has 1.73 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $13,916 and in the U.S. $21,102. This means that, on average, the Annual Payroll per Employee in P.R. is 66 percent of what it is in the U.S. which represents a difference of -$7,187.

Specialty Food Stores (NAICS 4452) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.03 meaning that P.R. has 2.03 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.25 meaning that P.R. pays $1.25 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.86 meaning that P.R. has 1.86 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $12,165 and in the U.S. $18,105. This means that, on average, the Annual Payroll per Employee in P.R. is 67 percent of what it is in the U.S. which represents a difference of -$5,941.

Health and Personal Care Stores (NAICS 4461) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.81 meaning that P.R. has 2.81 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.31 meaning that P.R. pays $1.31 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 2.69 meaning that P.R. has 2.69 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $23,770 and in the U.S. $33,666. This means that, on average, the Annual Payroll per Employee in P.R. is 71 percent of what it is in the U.S. which represents a difference of -$9,896.

Gasoline Stations (NAICS 4471) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.04 meaning that P.R. has 1.04 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.37 meaning that P.R. pays $1.37 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.24 meaning that P.R. has 1.24 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $13,297 and in the U.S. $18,003. This means that, on average, the Annual Payroll per Employee in P.R. is 74 percent of what it is in the U.S. which represents a difference of -$4,706.

Clothing Stores (NAICS 4481) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.17 meaning that P.R. has 2.17 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.35 meaning that P.R. pays $1.35 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 2.31 meaning that P.R. has 2.31 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $11,642 and in the U.S. $16,001. This means that, on average, the Annual Payroll per Employee in P.R. is 73 percent of what it is in the U.S. which represents a difference of -$4,359.

Shoe Stores (NAICS 4482) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.96 meaning that P.R. has 2.96 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.71 meaning that P.R. pays $1.71 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 3.24 meaning that P.R. has 3.24 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per

Employee in P.R. was $15,365 and in the U.S. $16,678. This means that, on average, the Annual Payroll per Employee in P.R. is 92 percent of what it is in the U.S. which represents a difference of -$1,313.

Jewelry, Luggage, and Leather Goods Stores (NAICS 4483) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.05 meaning that P.R. has 2.05 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.97 meaning that P.R. pays $0.97 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.99 meaning that P.R. has 1.99 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $15,978 and in the U.S. $30,800. This means that, on average, the Annual Payroll per Employee in P.R. is 52 percent of what it is in the U.S. which represents a difference of -$14,822.

Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.67 meaning that P.R. has 0.67 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.49 meaning that P.R. pays $1.49 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.11 meaning that P.R. has 1.11 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $14,602 and in the U.S. $18,244. This means that, on average, the Annual Payroll per Employee in P.R. is 80 percent of what it is in the U.S. which represents a difference of -$3,642.

Other General Merchandise Stores (NAICS 4529) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.00 meaning that P.R. has 1.00 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.53 meaning that P.R. pays $1.53 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.55 meaning that P.R. has 0.55 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $18,417 and in the U.S. $22,426. This means that, on average, the Annual Payroll per Employee in P.R. is 82 percent of what it is in the U.S. which represents a difference of -$4,010.

Florist (NAICS 4531) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.37 meaning that P.R. has 0.37 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.47 meaning that P.R. pays $1.47 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.60 meaning that P.R. has 0.60 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $12,729 and in the U.S. $16,108. This means that, on average, the Annual Payroll per Employee in P.R. is 79 percent of what it is in the U.S. which represents a difference of -$3,379.

Used Merchandise Stores (NAICS 4533) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.02 meaning that P.R. has 0.02 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 2.00 meaning that P.R. pays $2.00 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.06 meaning that P.R. has 0.06 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $19,136 and in the U.S. $17,848. This means that, on average, the Annual Payroll per Employee in P.R. is 107 percent of what it is in the U.S. which represents a difference of $1,289.

Electronic Shopping and Mail-Order Houses (NAICS 4541) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.12 meaning that P.R. has 0.12 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.54 meaning that P.R. pays $1.54 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.15 meaning that P.R. has 0.15 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $39,563 and in the U.S. $47,867. This means that, on average, the Annual Payroll per Employee in P.R. is 83 percent of what it is in the U.S. which represents a difference of -$8,304.

Direct Selling Establishments (NAICS 4543) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.88 meaning that P.R. has 0.88 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.95 meaning that P.R. pays $0.95 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.99 meaning that P.R. has 0.99 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $19,119 and in the U.S. $37,548. This means that, on average, the Annual Payroll per Employee in P.R. is 51 percent of what it is in the U.S. which represents a difference of -$18,429.

I. Sector Comparison Analysis for the Years 2006 and 2011

Figures 5 – 25 shows data for the Retail Trade Sector and Sub-sectors (NAICS - 44) in Puerto Rico for the year 2006 and 2011, obtained from the U.S. Census Bureau, County Business Patterns.

Figure 5 (NAICS 44 - Retail Trade Sector) - The number of paid employees for this sector in the year 2006 was 136,502 and 131,560 for the year 2011. This represents a decrease of 4,942 paid employees or 3.62 percent (on average, 0.72 percent per year for 5 years). The payroll per employee for this sector in the year 2006 was $14,909 and $17,360 for the year 2011. This represents an increase of $2,451 on payroll per employee or 16.44 percent (on average, 3.29 percent per year for 5 years). The number of establishments for this sector in the year 2006 was 10,851 and 10,255 for the year 2011. This represents a decrease of 596 establishments or 5.49 percent (on average, 1.10 percent per year for 5 years). The total Gross Product for this sector in the year 2006 was $4,875,923 thousand and $4,624,867 thousand for the year 2011. This represents a decrease of $251,056 thousand in total Gross Product or 5.15 percent (on average, 1.03 percent per year for 5 years).

Figure 6 (NAICS 4411 - Automobile Dealers) – The number of paid employees for this sub-sector in the year 2006 was 6,445 and 5,788 for the year 2011. This represents a decrease of 657 paid employees or 10.19 percent (on average, 2.04 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $24,595 and $29,505 for the year 2011. This represents an increase of $4,910 on payroll per employee or 19.97 percent (on average, 3.99 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 349 and 291 for the year 2011. This represents a decrease of 58 establishments or 16.62 percent (on average, 3.32 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $263,887 thousand and $305,667 thousand for the year 2011. This represents an increase of $41,780 thousand in total Gross Product or 15.83 percent (on average, 3.17 percent per year for 5 years).

Figure 7 (NAICS 4413 - Automotive Parts, Accessories, and Tire Stores) – The number of paid employees for this sub-sector in the year 2006 was 7,352 and 6,419 for the year 2011. This represents a decrease of 933 paid employees or 12.69 percent (on average, 2.54 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $18,443 and $19,649 for the year 2011. This represents an increase of $1,206 on payroll per employee or 6.54 percent (on average, 1.31 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 938 and 903 for the year 2011. This represents a decrease of 35 establishments or 3.73 percent (on average, 0.75 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $231,371 thousand and $232,504 thousand for the year 2011. This represents an increase of $1,133 thousand in total Gross Product or 0.49 percent (on average, 0.10 percent per year for 5 years).

Figure 8 (NAICS 4421 - Furniture Stores) – The number of paid employees for this sub-sector in the year 2006 was 2,731 and 1,720 for the year 2011. This represents a decrease of 1,011 paid employees or 37.02 percent (on average, 7.40 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $18,476 and $21,103 for the year 2011. This represents an increase of $2,627 on payroll per employee or 14.22 percent (on average, 2.84 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 353 and 234 for the year 2011. This represents a decrease of 119 establishments or 33.71 percent (on average, 6.74 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $106,161 thousand and $80,396 thousand for the year 2011. This represents a decrease of $25,765 thousand in total Gross Product or 24.27 percent (on average, 4.85 percent per year for 5 years).

Figure 9 (NAICS 4422 - Home Furnishings Stores) – The number of paid employees for this sub-sector in the year 2006 was 775 and 980 for the year 2011. This represents an increase of 205 paid employees or 26.45 percent (on average, 5.29 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $16,085 and $15,507 for the year 2011. This represents a decrease of $578 on payroll per employee or 3.59 percent (on average, 0.72 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 96 and 113 for the year 2011. This represents an increase of 17 establishments or 17.71 percent (on average, 3.54 percent per year for 5 years).

Figure 10 (NAICS 4431 - Electronics and Appliances Stores) – The number of paid employees for this sub-sector in the year 2006 was 4,300 and 3,909 for the year 2011. This represents a decrease of 391 paid employees or 9.09 percent (on average, 1.82 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $21,037 and $22,106 for the year 2011. This represents an increase of $1,070 on payroll per employee or 5.09 percent (on average, 1.02 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 435 and 483 for the year 2011. This represents an increase of 48 establishments or 11.03 percent (on average, 2.21 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $230,559 thousand and $192,752 thousand for the year 2011. This represents a decrease of $37,807 thousand in total Gross Product or 16.40 percent (on average, 3.28 percent per year for 5 years).

Figure 11 (NAICS 4441 - Building Material and Supplies Dealers) – The number of paid employees for this sub-sector in the year 2006 was 9,617 and 8,309 for the year 2011. This represents a decrease of 1,308 paid employees or 13.60 percent (on average, 2.72 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $17,226 and $18,312 for the year 2011. This represents an increase of $1,086 on payroll per employee or 6.30 percent (on average, 1.26 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 979 and 878 for the year 2011. This represents a decrease of 101 establishments or 10.32 percent (on average, 2.06 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $346,035 thousand and $300,779 thousand for the year 2011. This represents a decrease of $45,256 thousand in total Gross Product or 13.08 percent (on average, 2.62 percent per year for 5 years).

Figure 12 (NAICS 4442 - Lawn and Garden Equipment and Supplies Stores) – The number of paid employees for this sub-sector in the year 2006 was 379 and 354 for the year 2011. This represents a decrease of 25 paid employees or 6.60 percent (on average, 1.32 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $17,348 and $18,986 for the year 2011. This represents an increase of $1,638 on payroll per employee or 9.44 percent (on average, 1.89 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 100 and 86 for the year 2011. This represents a decrease of 14 establishments or 14.00 percent (on average, 2.80 percent per year for 5 years).

Figure 13 (NAICS 4451 - Grocery Stores) – The number of paid employees for this sub-sector in the year 2006 was 25,972 and 25,461 for the year 2011. This represents a decrease of 511 paid employees or 1.97 percent (on average, 0.39 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $11,327 and $13,916 for the year 2011. This represents an increase of $2,589 on payroll per employee or 22.86 percent (on average, 4.57 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 978 and 969 for the year 2011. This represents a decrease of 9 establishments or 0.92 percent (on average, 0.18

percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $637,242 thousand and $724,877 thousand for the year 2011. This represents an increase of $87,635 thousand in total Gross Product or 13.75 percent (on average, 2.75 percent per year for 5 years).

Figure 14 (NAICS 4452 - Specialty Food Stores) – The number of paid employees for this sub-sector in the year 2006 was 1,635 and 1,829 for the year 2011. This represents an increase of 194 paid employees or 11.87 percent (on average, 2.37 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $9,515 and $12,165 for the year 2011. This represents an increase of $2,650 on payroll per employee or 27.85 percent (on average, 5.57 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 271 and 263 for the year 2011. This represents a decrease of 8 establishments or 2.95 percent (on average, 0.59 percent per year for 5 years).

Figure 15 (NAICS 4461 - Health and Personal Care Stores) – The number of paid employees for this sub-sector in the year 2006 was 15,186 and 16,433 for the year 2011. This represents an increase of 1,247 paid employees or 8.21 percent (on average, 1.64 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $18,353 and $23,770 for the year 2011. This represents an increase of $5,417 on payroll per employee or 29.51 percent (on average, 5.90 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 1,366 and 1,485 for the year 2011. This represents an increase of 119 establishments or 8.71 percent (on average, 1.74 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $800,717 thousand and $916,364 thousand for the year 2011. This represents an increase of $115,647 thousand in total Gross Product or 14.44 percent (on average, 2.89 percent per year for 5 years).

Figure 16 (NAICS 4471 - Gasoline Stations) – The number of paid employees for this sub-sector in the year 2006 was 6,038 and 5,230 for the year 2011. This represents a decrease of 808 paid employees or 13.38 percent (on average, 2.68 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $10,641 and $13,297 for the year 2011. This represents an increase of $2,656 on payroll per employee or 24.96 percent (on average, 4.99 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 966 and 826 for the year 2011. This represents a decrease of 140 establishments or 14.49 percent (on average, 2.90 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $158,844 thousand and $164,549 thousand for the year 2011. This represents an increase of $5,706 thousand in total Gross Product or 3.59 percent (on average, 0.72 percent per year for 5 years).

Figure 17 (NAICS 4481 - Clothing Stores) – The number of paid employees for this sub-sector in the year 2006 was 15,783 and 17,060 for the year 2011. This represents an increase of 1,277 paid employees or 8.09 percent (on average, 1.62 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $10,657 and $11,642 for the year 2011. This represents an increase of $985 on payroll per employee or 9.24 percent (on average, 1.85 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 1,305 and 1,360 for the year 2011. This represents an increase of 55 establishments or 4.21 percent (on average, 0.84 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $493,714 thousand and $410,279 thousand for the year 2011. This represents a decrease of $83,434 thousand in total Gross Product or 16.90 percent (on average, 3.38 percent per year for 5 years).

Figure 18 (NAICS 4482 - Shoe Stores) – The number of paid employees for this sub-sector in the year 2006 was 3,687 and 3,638 for the year 2011. This represents a decrease of 49 paid employees or 1.33 percent (on average, 0.27 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $14,062 and $15,365 for the year 2011. This represents an increase of $1,303 on payroll per employee or 9.27 percent (on average, 1.85 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 502 and 494 for the year 2011. This represents an increase of 8 establishments or 1.59 percent (on average, 0.32 percent per year for 5 years).

Figure 19 (NAICS 4483 - Jewelry, Luggage, and Leather Goods Stores) – The number of paid employees for this sub-sector in the year 2006 was 2,058 and 1,563 for the year 2011. This represents a decrease of 495 paid employees or 24.05 percent (on average, 4.81 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $13,839 and $15,978 for the year 2011. This represents an increase of $2,139 on payroll per employee or 15.46 percent (on average, 3.09 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 360 and 291 for the year 2011. This represents a decrease of 69 establishments or 19.17 percent (on average, 3.83 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $382,581 thousand and $206,393 thousand for the year 2011. This represents a decrease of $176,188 thousand in total Gross Product or 46.05 percent (on average, 9.21 percent per year for 5 years).

Figure 20 (NAICS 4511 - Sporting Goods, Hobby, and Musical Instrument Stores) – The number of paid employees for this sub-sector in the year 2006 was 1,680 and 1,622 for the year 2011. This represents a decrease of 58 paid employees or 3.45 percent (on average, 0.69 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $12,344 and $14,602 for the year 2011. This represents an increase of $2,258 on payroll per employee or 18.29 percent (on average, 3.66 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 286 and 257 for the year 2011. This represents a decrease of 29 establishments or 10.14 percent (on average, 2.03 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $102,921 thousand and $79,592 thousand for the year 2011. This represents a decrease of $23,329 thousand in total Gross Product or 22.67 percent (on average, 4.53 percent per year for 5 years).

Figure 21 (NAICS 4529 - Other General Merchandise Stores) – The number of paid employees for this sub-sector in the year 2006 was 9,176 and 9,740 for the year 2011. This represents an increase of 564 paid employees or 6.15 percent (on average, 1.23 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $14,994 and $18,417 for the year 2011. This represents an increase of $3,423 on payroll per employee or 22.83 percent (on average, 4.57 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 234 and 129 for the year 2011. This represents a decrease of 105 establishments or 44.87 percent (on average, 8.97 percent per year for 5 years).

Figure 22 (NAICS 4531 - Florist) – The number of paid employees for this sub-sector in the year 2006 was 223 and 144 for the year 2011. This represents a decrease of 79 paid employees or 35.43 percent (on average, 7.09 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $10,722 and $12,729 for the year 2011. This represents an increase of $2,007 on payroll per employee or 18.72 percent (on average, 3.74 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 79 and 55 for the year 2011. This represents a decrease of 24 establishments or 30.38 percent (on average, 6.08 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $172,336 thousand and $159,208 thousand for the year 2011. This represents a decrease of $13,129 thousand in total Gross Product or 7.62 percent (on average, 1.52 percent per year for 5 years).

Figure 23 (NAICS 4533 - Used Merchandise Stores) – The number of paid employees for this sub-sector in the year 2006 was 28 and 22 for the year 2011. This represents a decrease of 6 paid employees or 21.43 percent (on average, 4.29 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $20,036 and $19,136 for the year 2011. This represents a decrease of $899 on payroll per employee or 4.49 percent (on average, 0.90 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 11 and 7 for the year 2011. This represents a decrease of 4 establishments or 36.36 percent (on average, 7.27 percent per year for 5 years).

Figure 24 (NAICS 4541 - Electronic Shopping and Mail-Order Houses) – The number of paid employees for this sub-sector in the year 2006 was 220 and 229 for the year 2011. This represents an increase of 9 paid employees or 4.09 percent (on average, 0.82 percent per year for 5 years). The payroll per employee for this sub-sector in the year

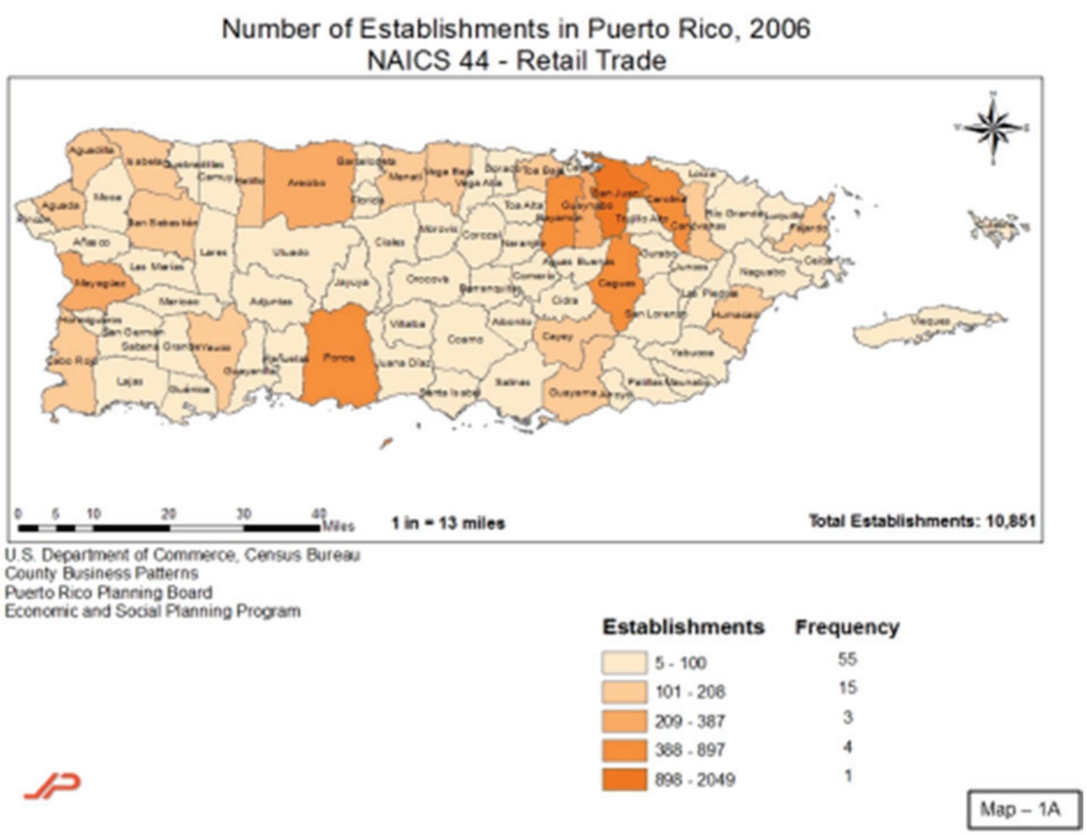
2006 was $32,623 and $39,563 for the year 2011. This represents an increase of $6,941 on payroll per employee or 21.28 percent (on average, 4.26 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 13 and 21 for the year 2011. This represents an increase of 8 establishments or 61.54 percent (on average, 12.31 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $71,401 thousand and $83,846 thousand for the year 2011. This represents an increase of $12,445 thousand in total Gross Product or 17.43 percent (on average, 3.49 percent per year for 5 years).

Figure 25 (NAICS 4543 - Direct Selling Establishments) – The number of paid employees for this sub-sector in the year 2006 was 1,033 and 981 for the year 2011. This represents a decrease of 52 paid employees or 5.03 percent (on average, 1.01 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $18,040 and $19,119 for the year 2011. This represents an increase of $1,080 on payroll per employee or 5.98 percent (on average, 1.20 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 141 and 168 for the year 2011. This represents an increase of 27 establishments or 19.15 percent (on average, 3.83 percent per year for 5 years).

II. Choropleth Maps

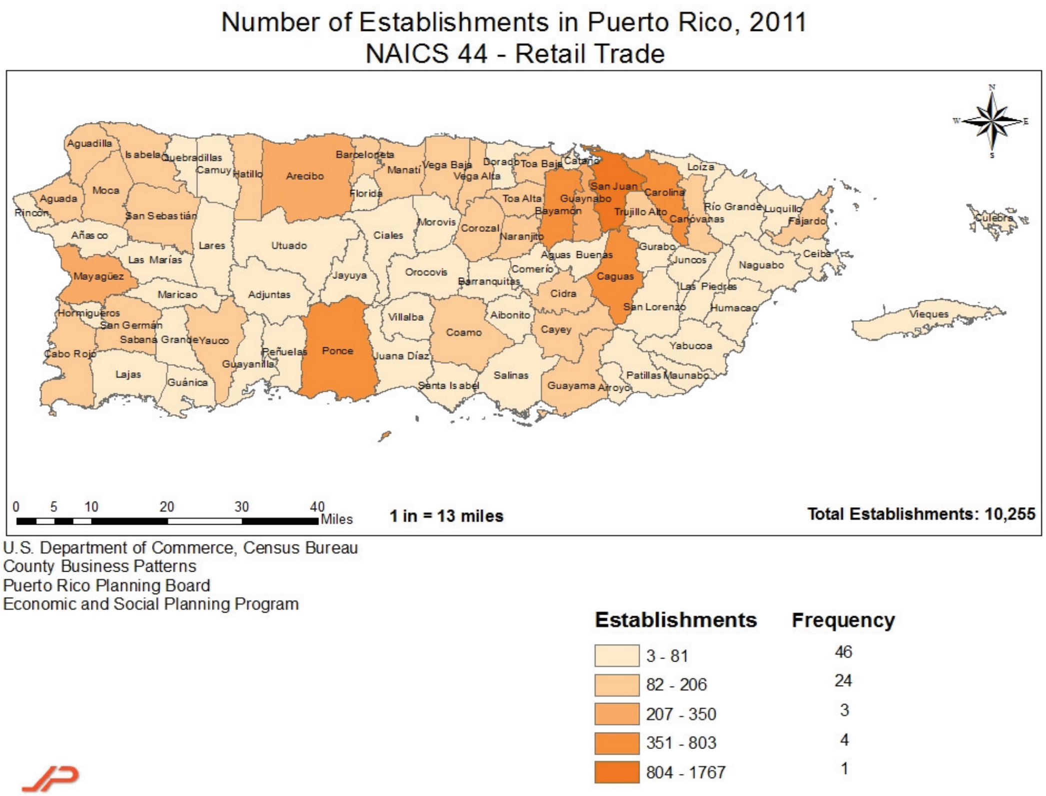
NAICS 44 - Maps 1A through 13B: A choropleth map is a thematic map which regions are colored for the purpose of showing a statistical measure, such as population density or per capita income. In this particular case, the choropleth maps highlight the number of establishments for the Retail Trade Sector (NAICS 44) and its Sub-sectors in Puerto Rico for the years 2006 and 2011. This data was obtained from the U.S. Census Bureau, County Business Patterns, for Puerto Rico and its 78 municipalities. The data was divided into categories calculated by the "Natural Breaks Method", a manual data classification method that seeks to partition data into classes based on natural groups in the data distribution. The categories in the map represent a range of establishments within the municipality, and the frequency refers to the number of municipalities within that category.

Map 1A



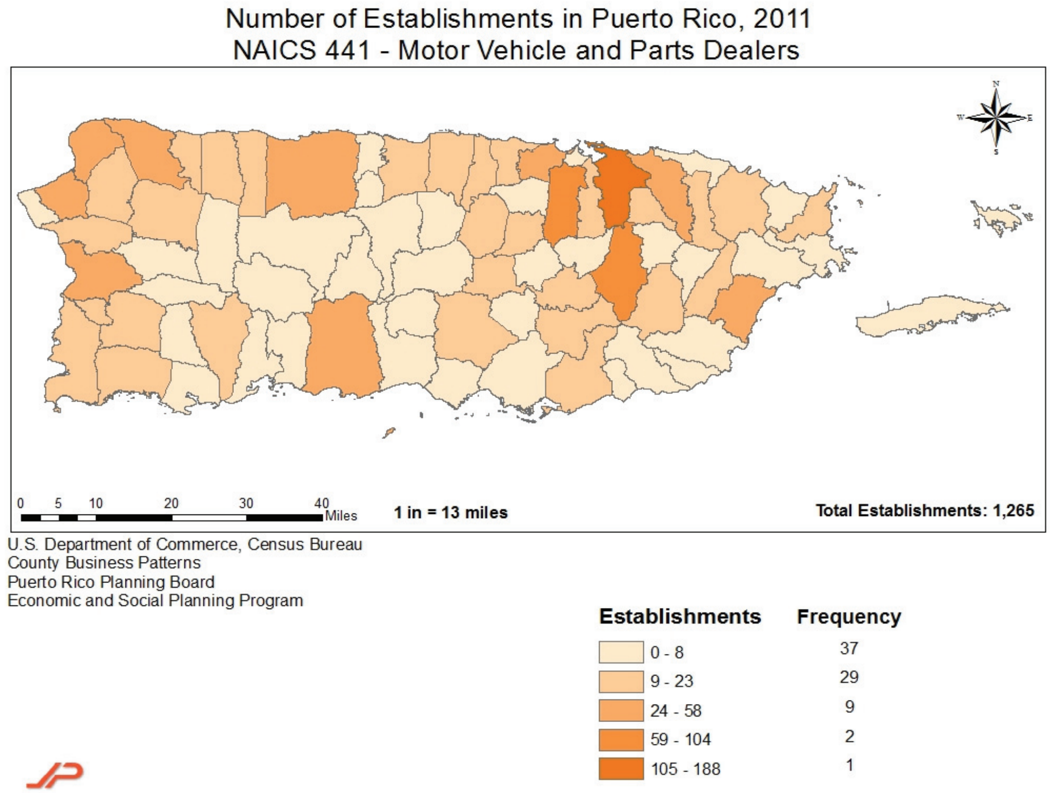
(NAICS 44 - Retail Trade Sector, 2006) The spatial analysis performed shows 10,851 establishments divided into 5 categories. The first category is composed of 5 to 100 establishments, with a frequency of 55 municipalities. The second category is composed of 101 to 208 establishments, with a frequency of 15 municipalities. The third category is composed of 209 to 387 establishments, with a frequency of 3 municipalities. The fourth category is composed of 388 to 897 establishments, with a frequency of 4 municipalities. The fifth category is composed of 898 to 2,049 establishments, with a frequency of 1 municipality.

Map 1B



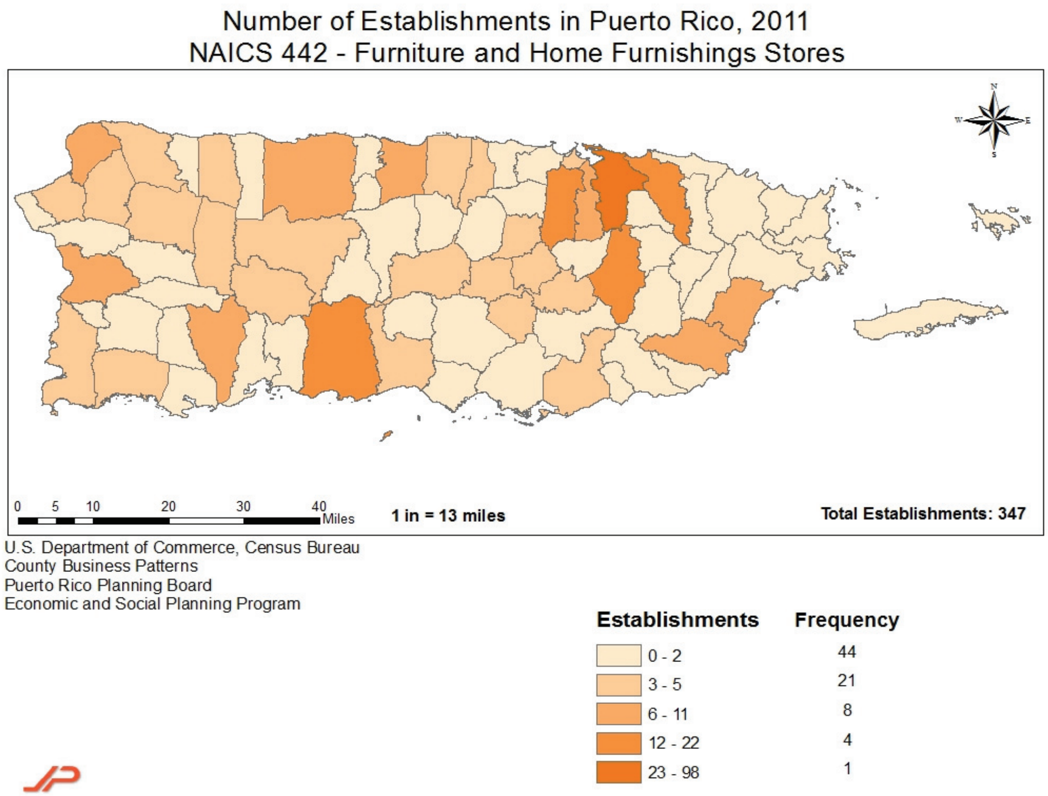
(NAICS 44 - Retail Trade Sector, 2011) The spatial analysis performed shows 10,255 establishments divided into 5 categories. The first category is composed of 3 to 81 establishments, with a frequency of 46 municipalities. The second category is composed of 82 to 206 establishments, with a frequency of 24 municipalities. The third category is composed of 207 to 350 establishments, with a frequency of 3 municipalities. The fourth category is composed of 351 to 803 establishments, with a frequency of 4 municipalities. The fifth category is composed of 804 to 1,767 establishments, with a frequency of 1 municipality.

Map 2B



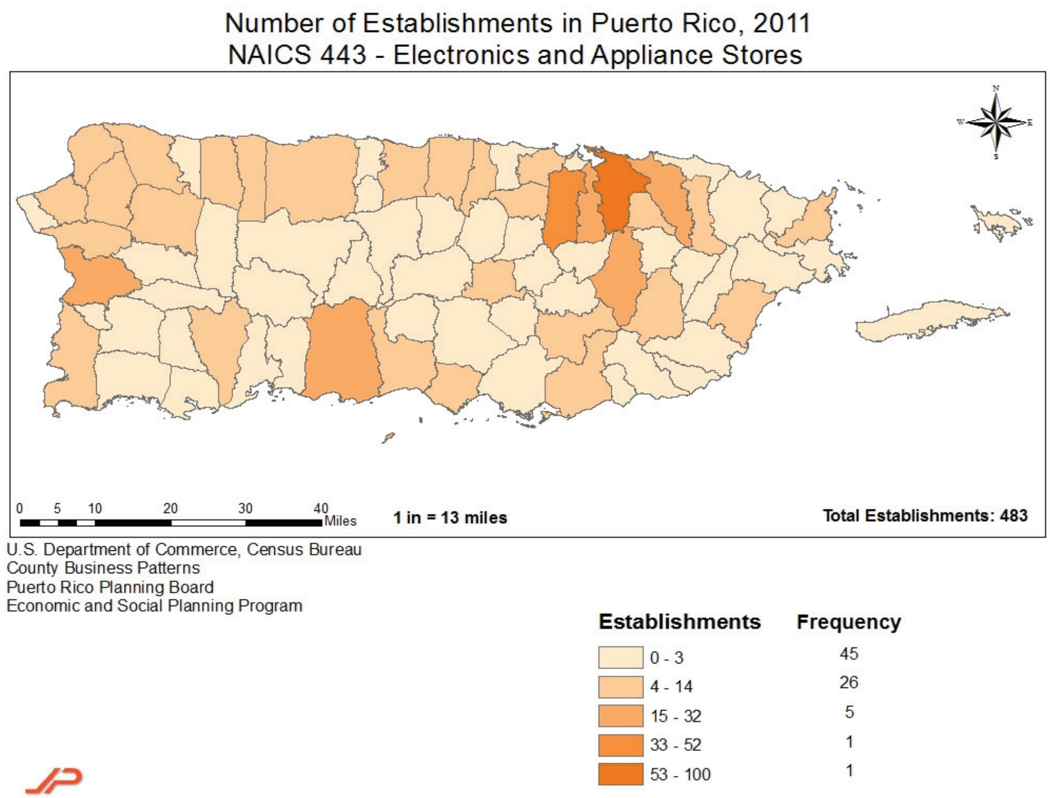
(NAICS 441 – Motor Vehicle and Parts Dealers Sub-sector, 2011) The spatial analysis performed shows 1,265 establishments divided into 5 categories. The first category is composed of 0 to 8 establishments, with a frequency of 37 municipalities. The second category is composed of 9 to 23 establishments, with a frequency of 29 municipalities. The third category is composed of 24 to 58 establishments, with a frequency of 9 municipalities. The fourth category is composed of 59 to 104 establishments, with a frequency of 2 municipalities. The fifth category is composed of 105 to 188 establishments, with a frequency of 1 municipality.

Map 3B



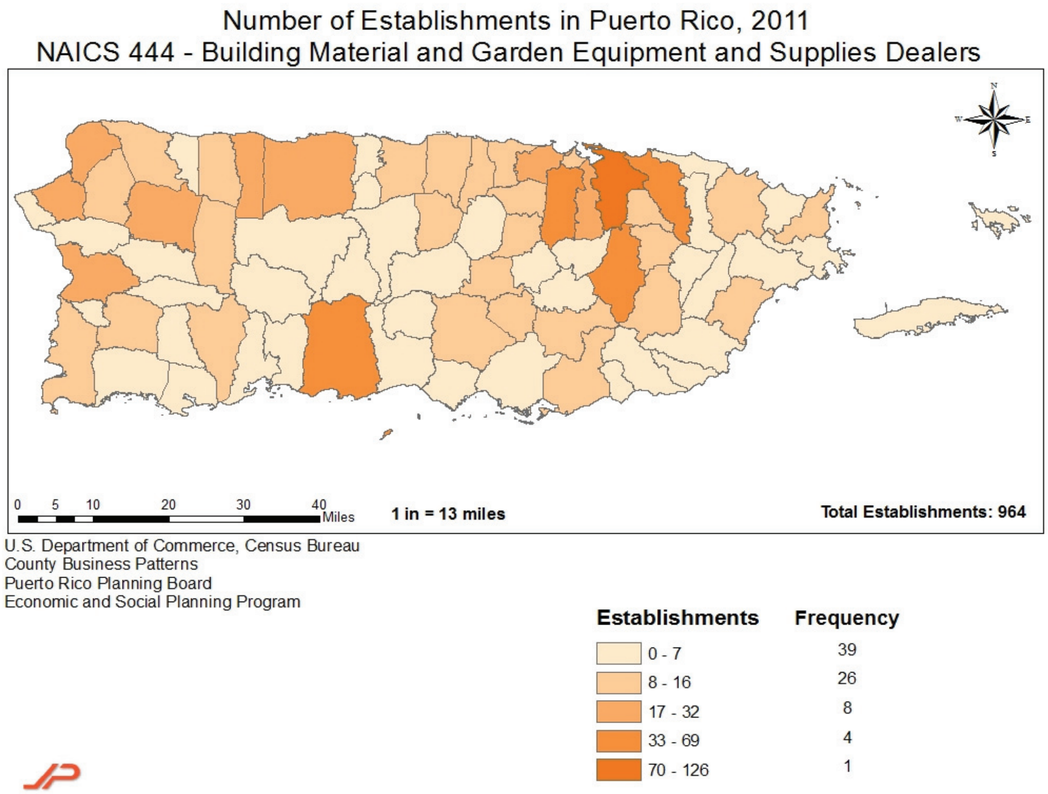
(NAICS 442 – Furniture and Home Furnishings Stores Sub-sector, 2011) The spatial analysis performed shows 347 establishments divided into 5 categories. The first category is composed of 0 to 2 establishments, with a frequency of 44 municipalities. The second category is composed of 3 to 5 establishments, with a frequency of 21 municipalities. The third category is composed of 6 to 11 establishments, with a frequency of 8 municipalities. The fourth category is composed of 12 to 22 establishments, with a frequency of 4 municipalities. The fifth category is composed of 23 to 96 establishments, with a frequency of 1 municipality.

Map 4B



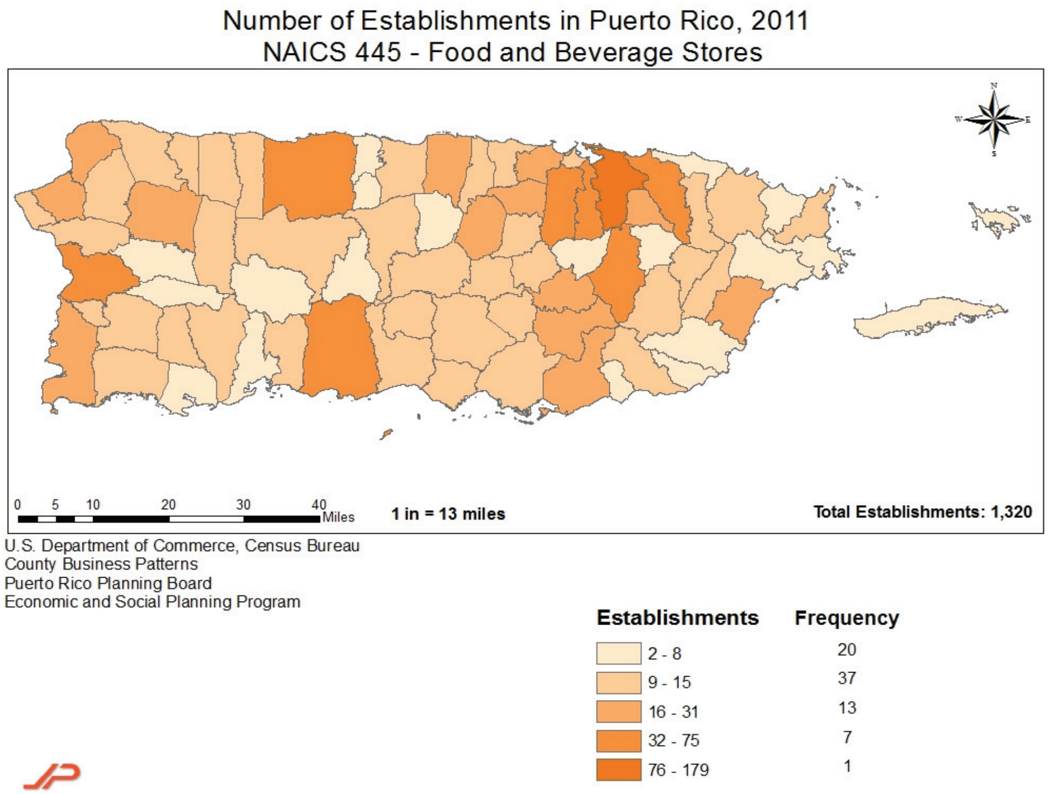
(NAICS 443 – Electronics and Appliance Stores Sub-sector, 2011) The spatial analysis performed shows 483 establishments divided into 5 categories. The first category is composed of 0 to 3 establishments, with a frequency of 45 municipalities. The second category is composed of 4 to 14 establishments, with a frequency of 26 municipalities. The third category is composed of 15 to 32 establishments, with a frequency of 5 municipalities. The fourth category is composed of 33 to 52 establishments, with a frequency of 1 municipality. The fifth category is composed of 53 to 100 establishments, with a frequency of 1 municipality.

Map 5B



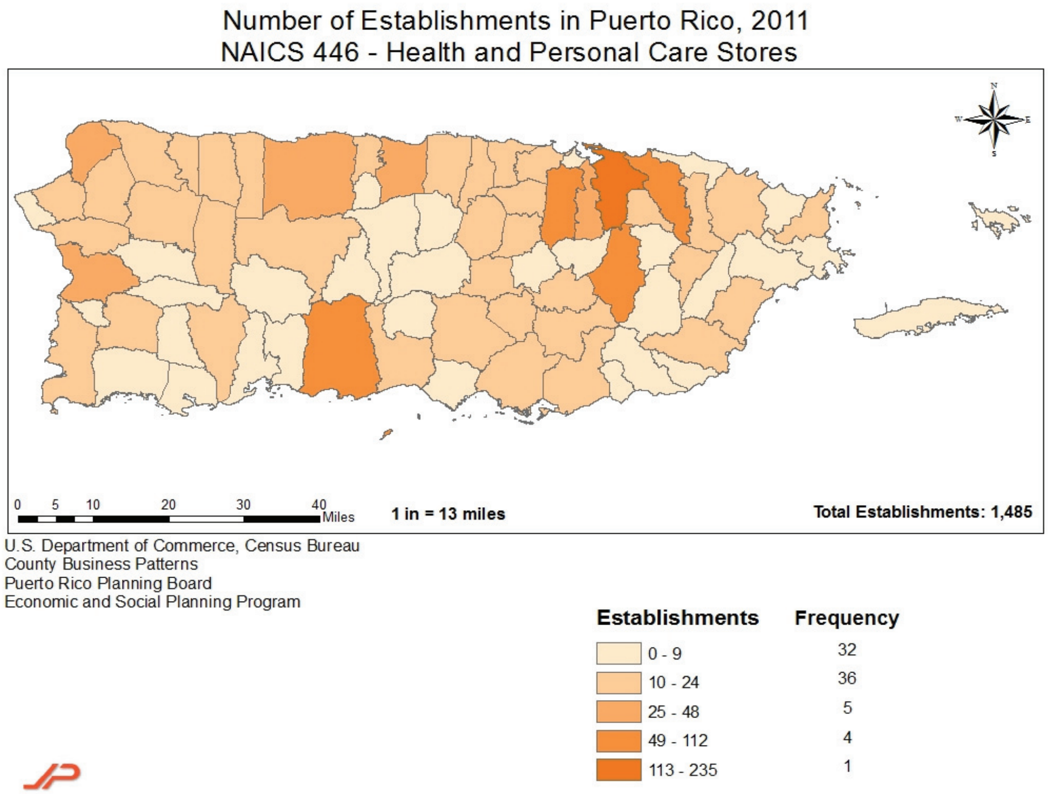
(NAICS 444 – Building Material and Garden Equipment and Supplies Dealers Sub-sector, 2011) The spatial analysis performed shows 964 establishments divided into 5 categories. The first category is composed of 0 to 7 establishments, with a frequency of 39 municipalities. The second category is composed of 8 to 16 establishments, with a frequency of 26 municipalities. The third category is composed of 17 to 32 establishments, with a frequency of 8 municipalities. The fourth category is composed of 33 to 69 establishments, with a frequency of 4 municipalities. The fifth category is composed of 70 to 126 establishments, with a frequency of 1 municipality.

Map 6B



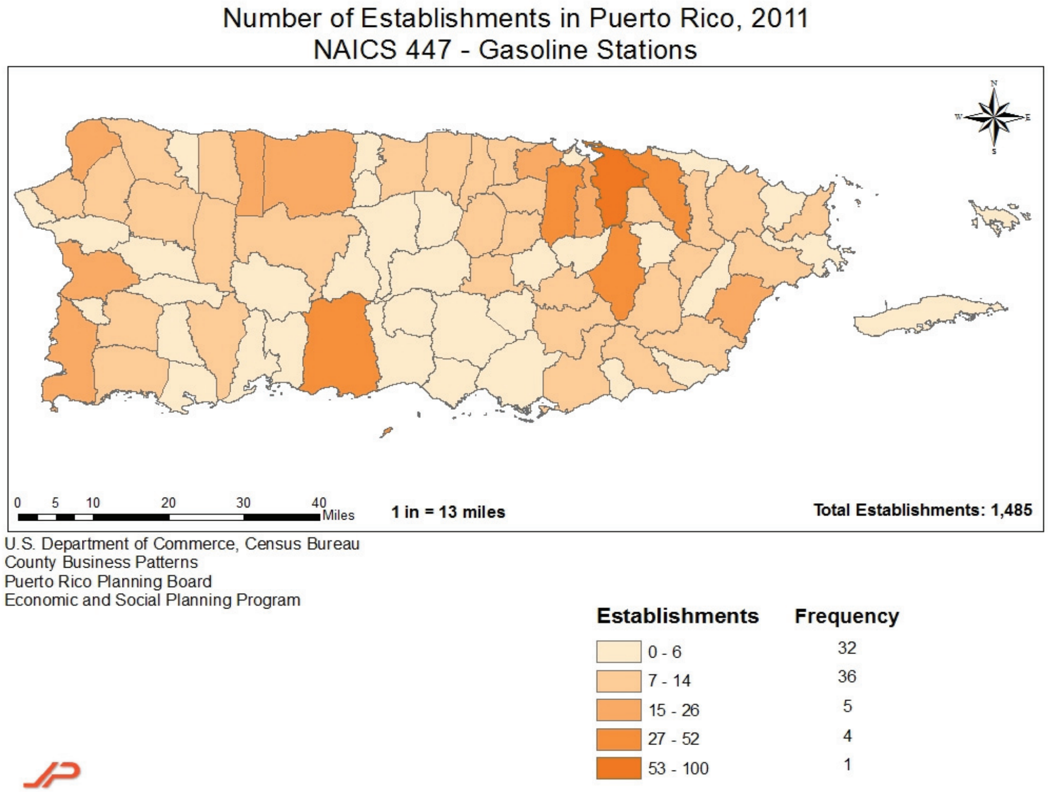
(NAICS 445 – Food and Beverage Stores Sub-sector, 2011) The spatial analysis performed shows 1,320 establishments divided into 5 categories. The first category is composed of 2 to 8 establishments, with a frequency of 20 municipalities. The second category is composed of 9 to 15 establishments, with a frequency of 37 municipalities. The third category is composed of 16 to 31 establishments, with a frequency of 13 municipalities. The fourth category is composed of 32 to 75 establishments, with a frequency of 7 municipalities. The fifth category is composed of 76 to 179 establishments, with a frequency of 1 municipality.

Map 7B



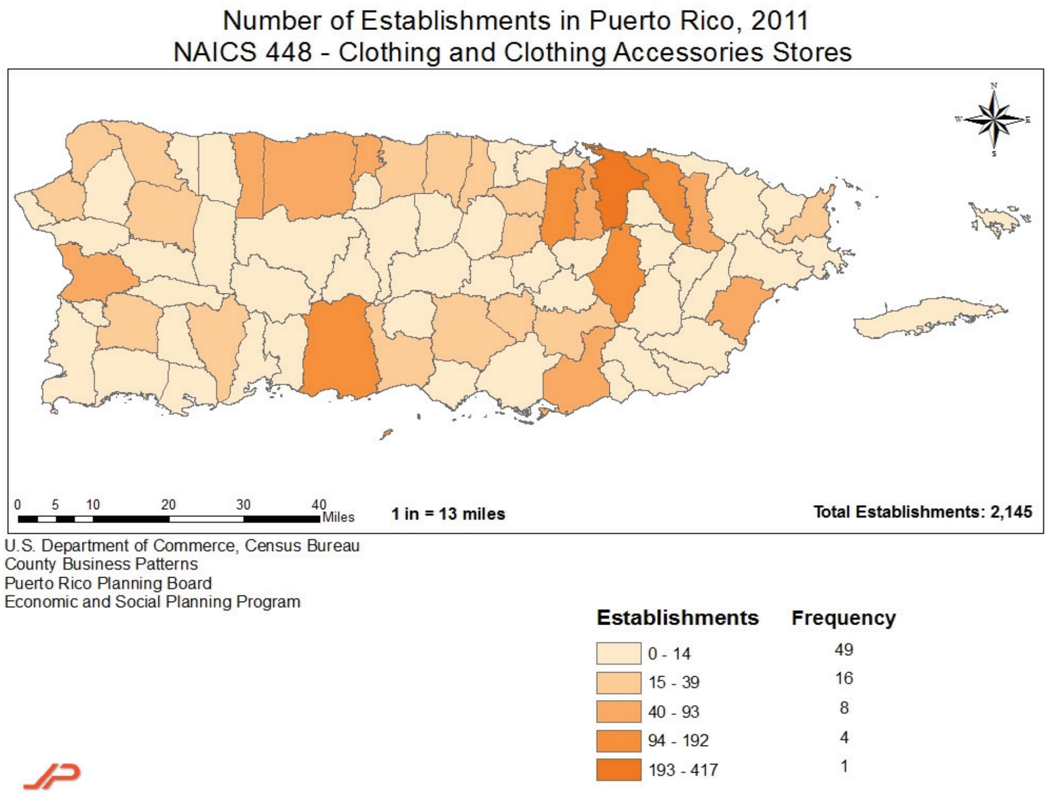
(NAICS 446 – Health and Personal Care Stores Sub-sector, 2011) The spatial analysis performed shows 1,485 establishments divided into 5 categories. The first category is composed of 0 to 9 establishments, with a frequency of 32 municipalities. The second category is composed of 10 to 24 establishments, with a frequency of 36 municipalities. The third category is composed of 25 to 48 establishments, with a frequency of 5 municipalities. The fourth category is composed of 49 to 112 establishments, with a frequency of 4 municipalities. The fifth category is composed of 113 to 235 establishments, with a frequency of 1 municipality.

Map 8B



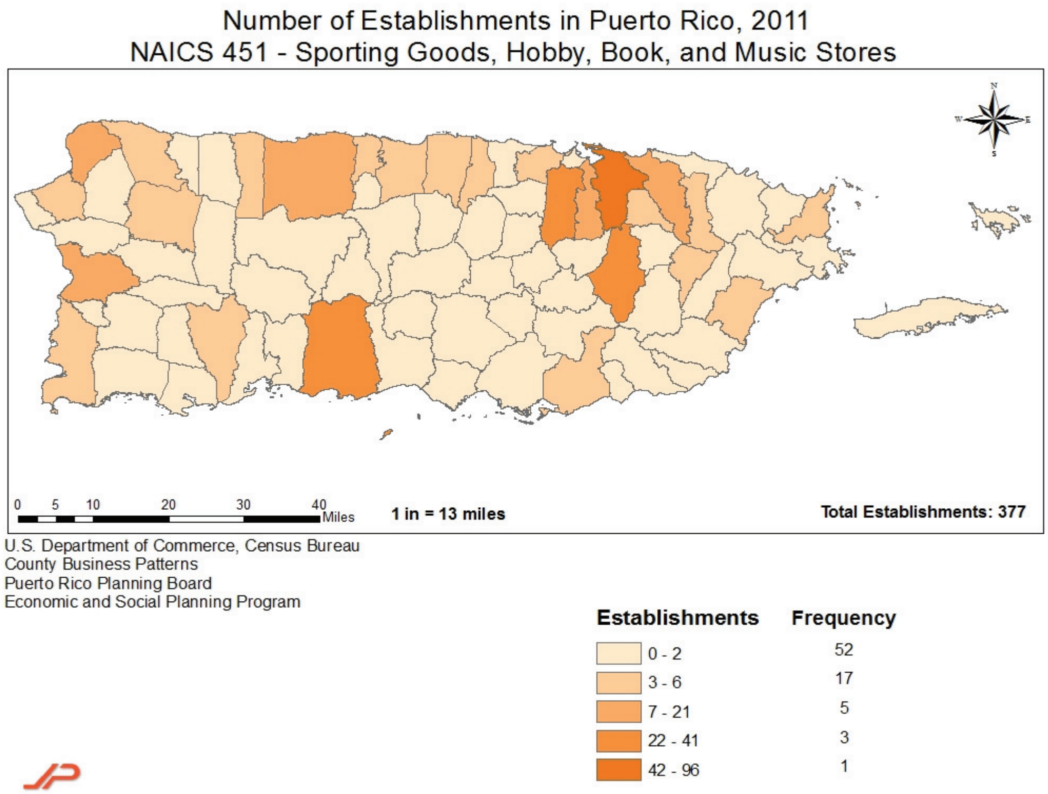
(NAICS 447 – Gasoline Stations Sub-sector, 2011) The spatial analysis performed shows 1,485 establishments divided into 5 categories. The first category is composed of 0 to 6 establishments, with a frequency of 32 municipalities. The second category is composed of 7 to 14 establishments, with a frequency of 36 municipalities. The third category is composed of 15 to 26 establishments, with a frequency of 5 municipalities. The fourth category is composed of 27 to 52 establishments, with a frequency of 4 municipalities. The fifth category is composed of 53 to 100 establishments, with a frequency of 1 municipality.

Map 9B



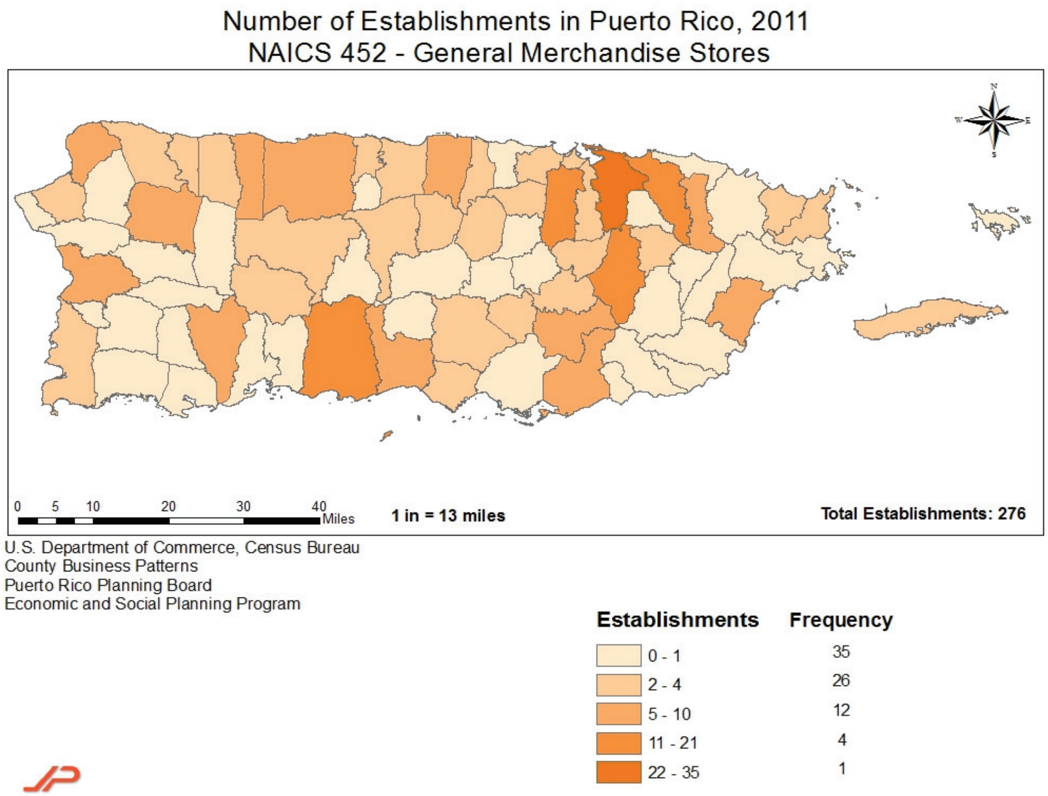
(NAICS 448 – Clothing and Clothing Accessories Stores Sub-sector, 2011) The spatial analysis performed shows 2,145 establishments divided into 5 categories. The first category is composed of 0 to 14 establishments, with a frequency of 49 municipalities. The second category is composed of 15 to 39 establishments, with a frequency of 16 municipalities. The third category is composed of 40 to 93 establishments, with a frequency of 8 municipalities. The fourth category is composed of 94 to 192 establishments, with a frequency of 4 municipalities. The fifth category is composed of 193 to 417 establishments, with a frequency of 1 municipality.

Map 10B



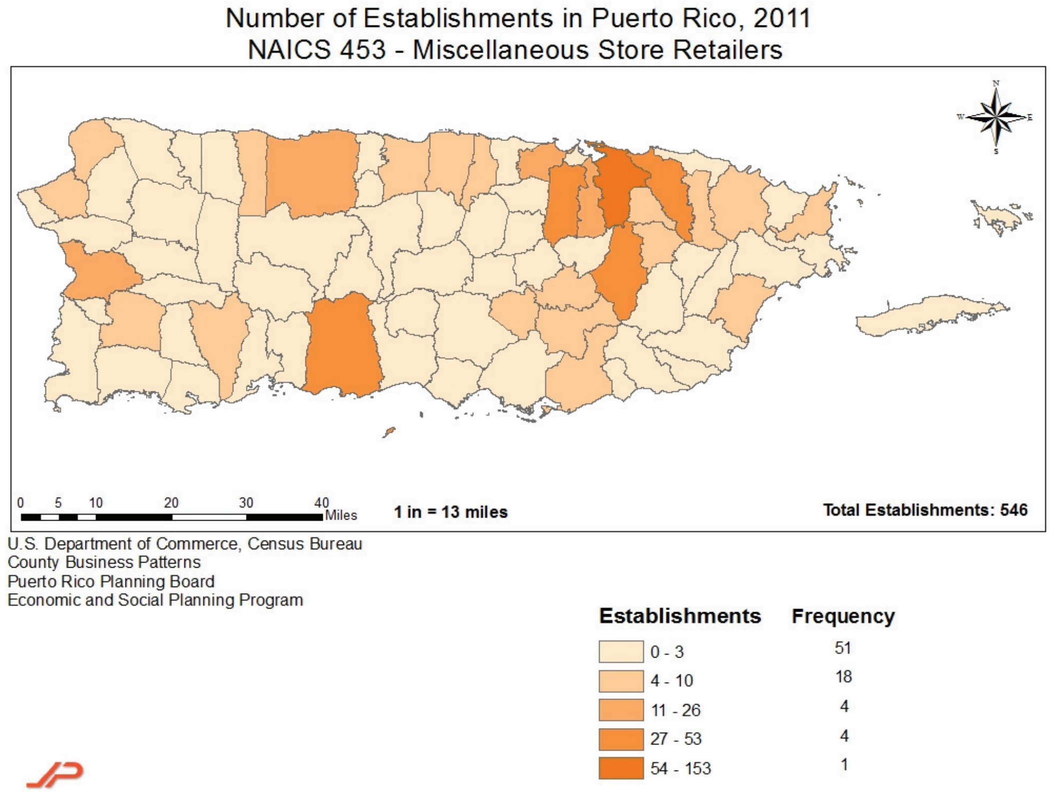
(NAICS 451 – Sporting Goods, Hobby, Book, and Music Stores Sub-sector, 2011) The spatial analysis performed shows 337 establishments divided into 5 categories. The first category is composed of 0 to 2 establishments, with a frequency of 52 municipalities. The second category is composed of 3 to 6 establishments, with a frequency of 17 municipalities. The third category is composed of 7 to 21 establishments, with a frequency of 5 municipalities. The fourth category is composed of 22 to 41 establishments, with a frequency of 3 municipalities. The fifth category is composed of 42 to 96 establishments, with a frequency of 1 municipality.

Map 11B



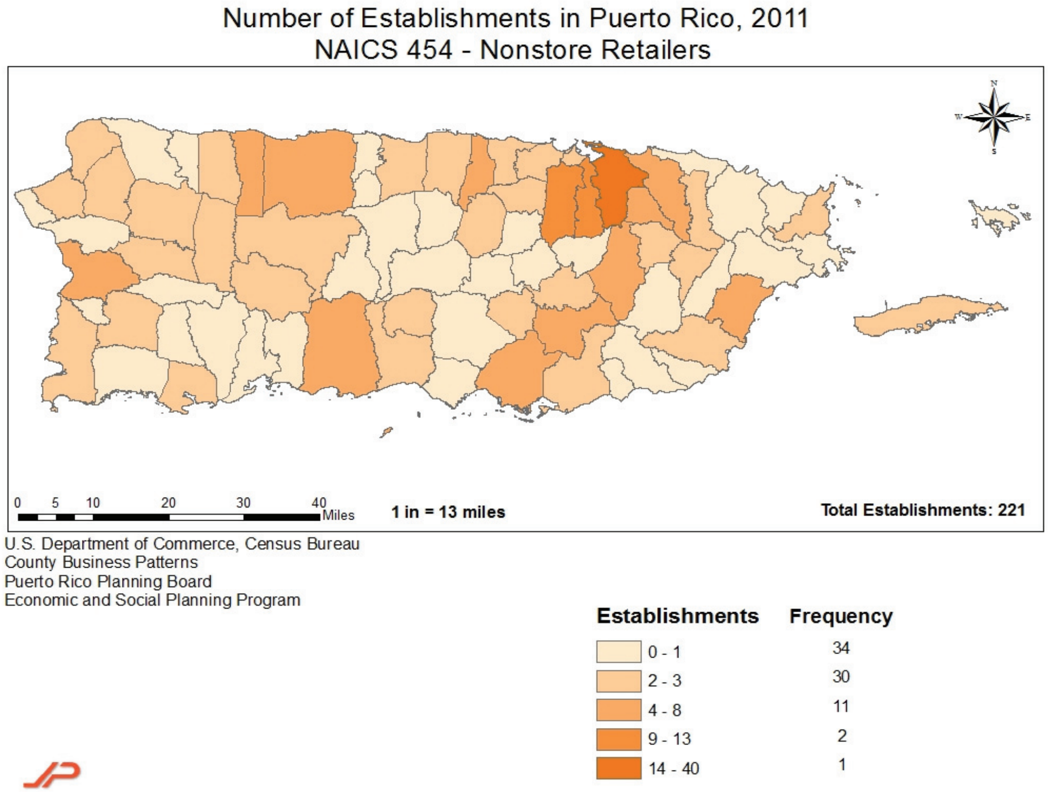
(NAICS 452 – General Merchandise Stores Sub-sector, 2011) The spatial analysis performed shows 276 establishments divided into 5 categories. The first category is composed of 0 to 1 establishments, with a frequency of 35 municipalities. The second category is composed of 2 to 4 establishments, with a frequency of 26 municipalities. The third category is composed of 5 to 10 establishments, with a frequency of 12 municipalities. The fourth category is composed of 11 to 21 establishments, with a frequency of 4 municipalities. The fifth category is composed of 22 to 35 establishments, with a frequency of 1 municipality.

Map 12B



(NAICS 453 – Miscellaneous Store Retailers Sub-sector, 2011) The spatial analysis performed shows 546 establishments divided into 5 categories. The first category is composed of 0 to 3 establishments, with a frequency of 51 municipalities. The second category is composed of 4 to 10 establishments, with a frequency of 18 municipalities. The third category is composed of 11 to 26 establishments, with a frequency of 4 municipalities. The fourth category is composed of 27 to 53 establishments, with a frequency of 4 municipalities. The fifth category is composed of 54 to 153 establishments, with a frequency of 1 municipality.

Map 13B



(NAICS 454 – Nonstore Retailers Sub-sector, 2011) The spatial analysis performed shows 221 establishments divided into 5 categories. The first category is composed of 0 to 1 establishments, with a frequency of 34 municipalities. The second category is composed of 2 to 3 establishments, with a frequency of 30 municipalities. The third category is composed of 4 to 8 establishments, with a frequency of 11 municipalities. The fourth category is composed of 9 to 13 establishments, with a frequency of 2 municipalities. The fifth category is composed of 14 to 40 establishments, with a frequency of 1 municipality.

Wholesale Trade (NAICS 42)

I. Location Quotient

Tables 1-4 and Figures 1-4 show the Industry Location Quotient (LQ) analysis performed for the Wholesale Sector and Sub-sectors (NAICS 42). The LQ is a way of quantifying how concentrated an industry is in a region compared to a larger region, in this case Puerto Rico to the United States of America. LQ were calculated for the Number of Employees, Annual Payroll per Employee, and Number of Establishments based on P.R. and U.S. data from the U.S. Census Bureau, County Business Pattern for the year 2011. Tables 1-4 shows LQ for Number of Employees, Number of Establishments, and Total Annual Payroll sorted from largest to smallest values, and Annual Payroll per Employee sorted from smallest to largest value. Those tables show the sub-sectors according to the concentration value of Puerto Rico compared with the United States of America. The Figures illustrate a comparison of LQ between the sub-sectors. Annual Payroll per Employee was also analyzed comparing the data of P.R. with the U.S. as a benchmark.

Table 1: Location Quotient of Number of Employees
Wholesale Trade (NAICS - 42)

Sector by NAICS	Location Quotient
4242 - Drugs and druggists' sundries merchant wholesalers	2.80
4244 - Grocery and related product merchant wholesalers	1.80
4241 - Paper and paper product merchant wholesalers	1.53
4237 - Hardware, plumbing and heating equipment and supplies merchant wholesalers	1.41
4248 - Beer, wine, and distilled alcoholic beverage merchant wholesalers	1.28
4247 - Petroleum and petroleum products merchant wholesalers	1.28
4246 - Chemical and allied products merchant wholesalers	1.05

Table 2: Location Quotient of Annual Payroll Per Employee
Wholesale Trade (NAICS - 42)

Sector by NAICS	Location Quotient
4236 - Electrical and electronic goods merchant wholesalers	0.65
4243 - Apparel, piece goods, and notions merchant wholesalers	0.66
4245 - Farm product raw material merchant wholesalers	0.77
4235 - Metal and mineral (except petroleum) merchant wholesalers	0.78
4239 - Miscellaneous durable goods merchant wholesalers	0.84
4232 - Furniture and home furnishing merchant wholesalers	0.85
4242 - Drugs and druggists' sundries merchant wholesalers	0.89
4238 - Machinery, equipment, and supplies merchant wholesalers	0.94
4247 - Petroleum and petroleum products merchant wholesalers	0.95
4237 - Hardware, plumbing and heating equipment and supplies merchant wholesalers	0.99

Table 3: Location Quotient of Number of Establishments
Wholesale Trade (NAICS - 42)

Sector by NAICS	Location Quotient
4242 - Drugs and druggists' sundries merchant wholesalers	2.34
4244 - Grocery and related product merchant wholesalers	1.51
4246 - Chemical and allied products merchant wholesalers	1.46
4237 - Hardware, plumbing and heating equipment and supplies merchant wholesalers	1.44
4247 - Petroleum and petroleum products merchant wholesalers	1.34
4241 - Paper and paper product merchant wholesalers	1.31
4243 - Apparel, piece goods, and notions merchant wholesalers	1.11

Table 4: Location Quotient of Total Annual Payroll
Wholesale Trade (NAICS - 42)

Sector by NAICS	Location Quotient
4242 - Drugs and druggists' sundries merchant wholesalers	2.49
4244 - Grocery and related product merchant wholesalers	2.10
4248 - Beer, wine, and distilled alcoholic beverage merchant wholesalers	1.68
4241 - Paper and paper product merchant wholesalers	1.65
4237 - Hardware, plumbing and heating equipment and supplies merchant wholesalers	1.39
4247 - Petroleum and petroleum products merchant wholesalers	1.22
4246 - Chemical and allied products merchant wholesalers	1.16
4249 - Miscellaneous nondurable goods merchant wholesalers	1.08

Wholesale Sector (NAICS 42) – LQ with respect to the Number of Paid Employees for this sector in 2011 was 0.98 meaning that P.R. has 0.98 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sector in 2011 was 1.02 meaning that P.R. pays $1.02 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sector in 2011 was 0.88 meaning that P.R. has 0.88 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $34,744 and in the U.S. $63,483. This means that, on average, the Annual Payroll per Employee in P.R. is 55 percent of what it is in the U.S. which represents a difference of -$28,739.

Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.84 meaning that P.R. has 0.84 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.17 meaning that P.R. pays $1.17 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.91 meaning that P.R. has 0.91 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $30,414 and in the U.S. $48,408. This means that, on average, the Annual Payroll per Employee in P.R. is 63 percent of what it is in the U.S. which represents a difference of -$17,994.

Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.31 meaning that P.R. has 0.31 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.85 meaning that P.R. pays $0.85 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.62 meaning that P.R. has 0.62 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $24,050 and in the U.S. $52,864. This means that, on average, the Annual Payroll per Employee in P.R. is 45 percent of what it is in the U.S. which represents a difference of -$28,815.

Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.48 meaning that P.R. has 0.48 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.02 meaning that P.R. pays $1.02 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.57 meaning that P.R. has 0.57 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $27,578 and in the U.S. $50,315. This means that, on average, the Annual Payroll per Employee in P.R. is 55 percent of what it is in the U.S. which represents a difference of -$22,737.

Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.73 meaning that P.R. has 0.73 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.06 meaning that P.R. pays $1.06 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.96 meaning that P.R. has 0.96 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $48,592 and in the U.S. $84,909. This means that, on average, the Annual Payroll per Employee in P.R. is 57 percent of what it is in the U.S. which represents a difference of -$36,317.

Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.54 meaning that P.R. has 0.54 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.78 meaning that P.R. pays $0.78 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.45 meaning that P.R. has 0.45 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $25,882 and in the U.S. $61,539. This means that, on average, the Annual Payroll per Employee in P.R. is 42 percent of what it is in the U.S. which represents a difference of -$35,657.

Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.59 meaning that P.R. has 0.59 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.65 meaning that P.R. pays $0.65 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.95 meaning that P.R. has 0.95 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $33,461 and in the U.S. $97,756. This means that, on average, the Annual Payroll per Employee in P.R. is 35 percent of what it is in the U.S. which represents a difference of -$62,295.

Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.41 meaning that P.R. has 1.41 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.99 meaning that P.R. pays $0.99 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.44 meaning that P.R. has 1.44 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $29,914 and in the U.S. $56,338. This means that, on average, the Annual Payroll per Employee in P.R. is 53 percent of what it is in the U.S. which represents a difference of -$26,425.

Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.45 meaning that P.R. has 0.45 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.94 meaning that P.R. pays $0.94 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.48 meaning that P.R. has 0.48 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $30,896 and in the U.S. $61,366. This means that, on average, the Annual Payroll per Employee in P.R. is 50 percent of what it is in the U.S. which represents a difference of -$30,469.

Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.72 meaning that P.R. has 0.72 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.84 meaning that P.R. pays $0.84 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.76 meaning that P.R. has 0.76 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $22,677 and in the U.S. $50,098. This means that, on average, the Annual Payroll per Employee in P.R. is 45 percent of what it is in the U.S. which represents a difference of -$27,421.

Paper and Paper Product Merchant Wholesalers (NAICS 4241) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.53 meaning that P.R. has 1.53 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.08 meaning that P.R. pays $1.08 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.31 meaning that P.R. has 1.31 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $31,282 and in the U.S. $53,894. This means that, on average, the Annual Payroll per Employee in P.R. is 58 percent of what it is in the U.S. which represents a difference of -$22,612.

Drugs and Druggist's Sundries Merchant Wholesalers (NAICS 4242) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 2.80 meaning that P.R. has 2.80 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.89 meaning that P.R. pays $0.89 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 2.34 meaning that P.R. has 2.34 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $48,284 and in the U.S. $101,078. This means that, on average, the Annual Payroll per Employee in P.R. is 48 percent of what it is in the U.S. which represents a difference of -$52,793.

Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.90 meaning that P.R. has 0.90 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.66 meaning that P.R. pays $0.66 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.11 meaning that P.R. has 1.11 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $20,117 and in the U.S. $56,905. This means that, on average, the Annual Payroll per Employee in P.R. is 35 percent of what it is in the U.S. which represents a difference of -$36,787.

Grocery and Related Product Wholesalers (NAICS 4244) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.80 meaning that P.R. has 1.80 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.17 meaning that P.R. pays $1.17 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.51 meaning that P.R. has 1.51 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $31,718 and in the U.S. $50,470. This means that, on average, the Annual Payroll per Employee in P.R. is 63 percent of what it is in the U.S. which represents a difference of -$18,752.

Farm Product Raw Material Merchant Wholesalers (NAICS 4245) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.33 meaning that P.R. has 0.33 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.77 meaning that P.R. pays $0.77 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.16 meaning that P.R. has 0.16 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $21,728 and in the U.S. $52,227. This means that, on average, the Annual Payroll per Employee in P.R. is 42 percent of what it is in the U.S. which represents a difference of -$30,499.

Chemical and Allied Products Merchant Wholesalers (NAICS 4246) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.05 meaning that P.R. has 1.05 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.11 meaning that P.R. pays $1.11 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.46 meaning that P.R. has 1.46 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $42,238 and in the U.S. $71,121. This means that, on average, the Annual Payroll per Employee in P.R. is 59 percent of what it is in the U.S. which represents a difference of -$28,884.

Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.28 meaning that P.R. has 1.28 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.95 meaning that P.R. pays $0.95 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 1.34 meaning that P.R. has 1.34 establishments for every 1 establishment in the U.S.

For the year 2011 the Annual Payroll per Employee in P.R. was $34,709 and in the U.S. $67707. This means that, on average, the Annual Payroll per Employee in P.R. is 51 percent of what it is in the U.S. which represents a difference of -$32,998.

Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers (NAICS 4248) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.28 meaning that P.R. has 1.28 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.31 meaning that P.R. pays $1.31 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.83 meaning that P.R. has 0.83 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $39,656 and in the U.S. $56,166. This means that, on average, the Annual Payroll per Employee in P.R. is 71 percent of what it is in the U.S. which represents a difference of -$16,510.

Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.95 meaning that P.R. has 0.95 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.14 meaning that P.R. pays $1.14 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.84 meaning that P.R. has 0.84 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $27,547 and in the U.S. $44,978. This means that, on average, the Annual Payroll per Employee in P.R. is 61 percent of what it is in the U.S. which represents a difference of -$17,431.

Wholesale Electronic Markets and Agents and Brokers (NAICS 4251) – LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.31 meaning that P.R. has 0.31 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.17 meaning that P.R. pays $1.17 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.40 meaning that P.R. has 0.40 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $30,954 and in the U.S. $49,296. This means that, on average, the Annual Payroll per Employee in P.R. is 63 percent of what it is in the U.S. which represents a difference of -$18,342.

II. Sector Comparison Analysis for the Years 2006 and 2011

Figures 5 – 24 shows data for the Wholesale Trade Sector and Sub-sectors (NAICS - 42) in Puerto Rico for the year 2006 and 2011, obtained from the U.S. Census Bureau, County Business Patterns.

Figure 5 (NAICS 42 - Wholesale Trade Sector) - The number of paid employees for this sector in the year 2006 was 37,187 and 32,749 for the year 2011. This represents a decrease of 4,438 paid employees or 11.93 percent (on average, 2.39 percent per year for 5 years). The payroll per employee for this sector in the year 2006 was $31,456 and $34,744 for the year 2011. This represents an increase of $3,288 on payroll per employee or 10.45 percent (on average, 2.09 percent per year for 5 years). The number of establishments for this sector in the year 2006 was 2,303 and 2,166 for the year 2011. This represents a decrease of 137 establishments or 5.95 percent (on average, 1.19 percent per year for 5 years). The total Gross Product for this sector in the year 2006 was $2,816,865 thousand and $2,974,572 thousand for the year 2011. This represents an increase of $157,707 thousand in total Gross Product or 5.60 percent (on average, 1.12 percent per year for 5 years).

Figure 6 (NAICS 4231 - Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,939 and 1,758 for the year 2011. This represents a decrease of 181 paid employees or 9.33 percent (on average, 1.87 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $26,051 and $30,414 for the year 2011. This represents an increase of $4,362 on payroll per employee or 16.75 percent (on average, 3.35 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 130 and 130 for the year 2011. For the period 2006 and 2011 there's no change in the number of establishments. The total Gross Product for this sub-sector in the year 2006 was $199,555 thousand and $232,530 thousand for the year 2011. This represents an increase of $32,975 thousand in total Gross Product or 16.52 percent (on average, 3.30 percent per year for 5 years).

Figure 7 (NAICS 4232 - Furniture and Home Furnishing Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 535 and 242 for the year 2011. This represents a decrease of 293 paid employees or 54.77 percent (on average, 10.95 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $23,867 and $24,050 for the year 2011. This represents an increase of $182 on payroll per employee or 0.76 percent (on average, 0.15 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 64 and 43 for the year 2011. This represents a decrease of 21 establishments or 32.81 percent (on average, 6.56 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $27,145 thousand and $22,741 thousand for the year 2011. This represents a decrease of $4,404 thousand in total Gross Product or 16.22 percent (on average, 3.24 percent per year for 5 years).

Figure 8 (NAICS 4233 - Lumber and Other Construction Materials Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,124 and 531 for the year 2011. This represents a decrease of 593 paid employees or 52.76 percent (on average, 10.55 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $28,175 and $27,578 for the year 2011. This represents a decrease of $597 on payroll per employee or 2.12 percent (on average, 0.42 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 84 and 59 for the year 2011. This represents a decrease of 25 establishments or 29.76 percent (on average, 5.95 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $69,778 thousand and $57,244 thousand for the year 2011. This represents a decrease of $12,534 thousand in total Gross Product or 17.96 percent (on average, 3.59 percent per year for 5 years).

Figure 9 (NAICS 4234 - Professional and Commercial Equipment and Supplies Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 4,490 and 2,839 for the year 2011. This represents a decrease of 1,651 paid employees or 36.77 percent (on average, 7.35 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $36,545 and $48,592 for the year 2011. This represents an increase of $12,047 on payroll per employee or 32.97 percent (on average, 6.59 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 252 and 208 for the year 2011. This represents a decrease of 44 establishments or 17.46 percent (on average, 3.49 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $272,899 thousand and $316,005 thousand for the year 2011. This represents an increase of $43,106 thousand in total Gross Product or 15.80 percent (on average, 3.16 percent per year for 5 years).

Figure 10 (NAICS 4235 - Metal and Mineral (except Petroleum) Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 486 and 458 for the year 2011. This represents a decrease of 28 paid employees or 5.76 percent (on average, 1.15 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $23,008 and $25,882 for the year 2011. This represents an increase of $2,874 on payroll per employee or 12.49 percent (on average, 2.50 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 28 and 28 for the year 2011. For the period 2006 and 2011 there's no change in the number of establishments. The total Gross Product for this sub-sector in the year 2006 was $28,330 thousand and $25,578 thousand for the year 2011. This represents a decrease of $2,753 thousand in total Gross Product or 9.72 percent (on average, 1.94 percent per year for 5 years).

Figure 11 (NAICS 4236 - Electrical and Electronic Goods Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,909 and 1,734 for the year 2011. This represents a decrease of 175 paid employees or 9.17 percent (on average, 1.83 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $32,695 and $33,461 for the year 2011. This represents an increase of $767 on payroll per employee or 2.35 percent (on average, 0.47 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 156 and 160 for the year 2011. This represents an increase of 4 establishments or 2.56 percent (on average, 0.51 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $146,029 thousand and $155,934 thousand for the year 2011. This represents an increase of $9,905 thousand in total Gross Product or 6.78 percent (on average, 1.36 percent per year for 5 years).

Figure 12 (NAICS 4237 - Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,800 and 1,786 for the year 2011. This represents a decrease of 14 paid employees or 0.78 percent (on average, 0.16 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $25,558 and $29,914 for the year 2011. This represents an increase of $4,356 on payroll per employee or 17.04 percent (on average, 3.41 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 141 and 162 for the year 2011. This represents an increase of 21 establishments or 14.89 percent (on average, 2.98 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $77,584 thousand and $62,511 thousand for the year 2011. This represents a decrease of $15,073 thousand in total Gross Product or 19.43 percent (on average, 3.89 percent per year for 5 years).

Figure 13 (NAICS 4238 - Machinery, Equipment, and Supplies Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 2,221 and 1,777 for the year 2011. This represents a decrease of 444 paid employees or 19.99 percent (on average, 4.00 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $29,185 and $30,896 for the year 2011. This represents an increase of $1,712 on payroll per employee or 5.87 percent (on average, 1.17 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 190 and 163 for the year 2011. This represents a decrease of 27 establishments or 14.21 percent (on average, 2.84 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $179,922 thousand and $164,873 thousand for the year 2011. This represents a decrease of $15,049 thousand in total Gross Product or 8.36 percent (on average, 1.67 percent per year for 5 years).

Figure 14 (NAICS 4239 - Miscellaneous Durable Goods Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,263 and 1,346 for the year 2011. This represents an increase of 83 paid employees or 6.57 percent (on average, 1.31 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $19,701 and $22,677 for the year 2011. This represents an increase of $2,976 on payroll per employee or 15.11 percent (on average, 3.02 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 132 and 150 for the year 2011. This represents an increase of 18 establishments or 13.64 percent (on average, 2.73 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $77,073 thousand and $86,952 thousand for the year 2011. This represents an increase of $9,879 thousand in total Gross Product or 12.82 percent (on average, 2.56 percent per year for 5 years).

Figure 15 (NAICS 4241 - Paper and Paper Product Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,008 and 1,336 for the year 2011. This represents an increase of 328 paid employees or 32.54 percent (on average, 6.51 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $29,906 and $31,282 for the year 2011. This represents an increase of $1,376 on payroll per employee or 4.60 percent (on average, 0.92 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 69 and 81 for the year 2011. This represents an increase of 12 establishments or 17.39 percent (on average, 3.48 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $66,653 thousand and $91,023 thousand for the year 2011. This represents an increase of $24,370 thousand in total Gross Product or 36.56 percent (on average, 7.31 percent per year for 5 years).

Figure 16 (NAICS 4242 - Drugs and Druggist's Sundries Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 5,581 and 4,364 for the year 2011. This represents a decrease of 1,217 paid employees or 21.81 percent (on average, 4.36 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $51,007 and $48,284 for the year 2011. This represents a decrease of $2,722 on payroll per employee or 5.34 percent (on average, 1.07 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 132 and 129 for the year 2011. This represents a decrease of 3 establishments or 2.27 percent (on average, 0.45 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $629,737 thousand and $605,037 thousand for the year 2011. This represents a decrease of $24,700 thousand in total Gross Product or 3.92 percent (on average, 0.78 percent per year for 5 years).

Figure 17 (NAICS 4243 - Apparel, Piece Goods, and Notions Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,271 and 962 for the year 2011. This represents a decrease of 309 paid employees or 24.31 percent (on average, 4.86 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $15,460 and $20,117 for the year 2011. This represents an increase of $4,657 on payroll per employee or 30.12 percent (on average, 6.02 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 118 and 101 for the year 2011. This represents a decrease of 17 establishments or 14.41 percent (on average, 2.88 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $34,571 thousand and $30,015 thousand for the year 2011. This represents a decrease of $4,556 thousand in total Gross Product or 13.18 percent (on average, 2.64 percent per year for 5 years).

Figure 18 (NAICS 4244 - Grocery and Related Product Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 7,729 and 8,069 for the year 2011. This represents an increase of 340 paid employees or 4.40 percent (on average, 0.88 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $26,498 and $31,718 for the year 2011. This represents an increase of $5,220 on payroll per employee or 19.70 percent (on average, 3.94 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 298 and 299 for the year 2011. This represents an increase of 1 establishment or 0.34 percent (on average, 0.07 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $529,949 thousand and $567,845 thousand for the year 2011. This represents an increase of $37,897 thousand in total Gross Product or 7.15 percent (on average, 1.43 percent per year for 5 years).

Figure 19 (NAICS 4245 - Farm Product Raw Material Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 85 and 125 for the year 2011. This represents an increase of 40 paid employees or 47.06 percent (on average, 9.41 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $16,329 and $21,728 for the year 2011. This represents an increase of $5,399 on payroll per employee or 33.06 percent (on average, 6.61 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 10 and 6 for the year 2011. This represents a decrease of 4 establishments or 40.00 percent (on average, 8.00 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $2,400 thousand and $3,099 thousand for the year 2011. This represents an increase of $699 thousand in total Gross Product or 29.11 percent (on average, 5.82 percent per year for 5 years).

Figure 20 (NAICS 4246 - Chemical and Allied Products Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,000 and 901 for the year 2011. This represents a decrease of 99 paid employees or 9.90 percent (on average, 1.98 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $29,037 and $42,238 for the year 2011. This represents an increase of $13,201 on payroll per employee or 45.46 percent (on average, 9.09 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 117 and 107 for the year 2011. This represents a decrease of 10 establishments or 8.55 percent (on average, 1.71 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $80,086 thousand and $83,673 thousand for the year 2011. This represents an increase of $3,587 thousand in total Gross Product or 4.48 percent (on average, 0.90 percent per year for 5 years).

Figure 21 (NAICS 4247 - Petroleum and Petroleum Products Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 980 and 796 for the year 2011. This represents a decrease of 184 paid employees or 18.78 percent (on average, 3.76 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $34,227 and $34,709 for the year 2011. This represents an increase of $482 on payroll per employee or 1.41 percent (on average, 0.28 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 104 and 57 for the year 2011. This represents a decrease of 47 establishments or 45.19 percent (on average, 9.04 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $82,646 thousand and $104,882 thousand for the year 2011. This represents an increase of $22,236 thousand in total Gross Product or 26.90 percent (on average, 5.38 percent per year for 5 years).

Figure 22 (NAICS 4248 - Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 1,078 and 1,355 for the year 2011. This represents an increase of 277 paid employees or 25.70 percent (on average, 5.14 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $34,061 and $39,656 for the year 2011. This represents an increase of $5,595 on payroll per employee or 16.43 percent (on average, 3.29 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 27 and 21 for the year 2011. This represents a decrease of 6 establishments or 22.22 percent (on average, 4.44 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $82,234 thousand and $99,871 thousand for the year 2011. This represents an increase of $17,637 thousand in total Gross Product or 21.45 percent (on average, 4.29 percent per year for 5 years).

Figure 23 (NAICS 4249 - Miscellaneous Nondurable Goods Merchant Wholesalers) – The number of paid employees for this sub-sector in the year 2006 was 2,228 and 1,781 for the year 2011. This represents a decrease of 447 paid employees or 20.06 percent (on average, 4.01 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $21,331 and $27,547 for the year 2011. This represents an increase of $6,216 on payroll per employee or 29.14 percent (on average, 5.83 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 157 and 139 for the year 2011. This represents a decrease of 18 establishments or 11.46 percent (on average, 2.29 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $127,178 thousand and $173,564 thousand for the year 2011. This represents a decrease of $46,386 thousand in total Gross Product or 36.47 percent (on average, 7.29 percent per year for 5 years).

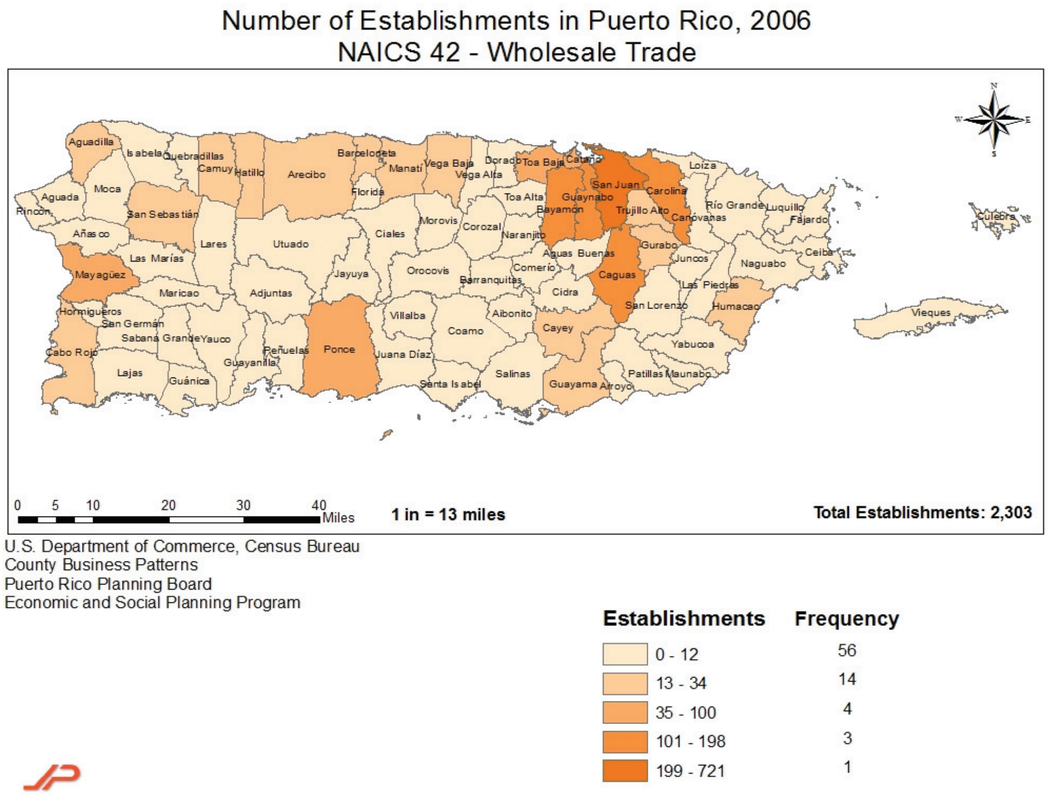
Figure 24 (NAICS 4251 - Wholesale Electronic Markets and Agents and Brokers) – The number of paid employees for this sub-sector in the year 2006 was 460 and 589 for the year 2011. This represents an increase of 129 paid employees or 28.04 percent (on average, 5.61 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $30,278 and $30,954 for the year 2011. This represents an increase of $676 on payroll per employee or 2.23 percent (on average, 0.45 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 94 and 123 for the year 2011. This represents an increase of 29 establishments or 30.85 percent (on average, 6.17 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $103,095 thousand and $91,196 thousand for the year 2011. This represents a decrease of $11,900 thousand in total Gross Product or 11.54 percent (on average, 2.31 percent per year for 5 years).

III. Choropleth Maps

NAICS 42 - Map 1A through 4B: A choropleth map is a thematic map which regions are colored for the purpose of showing a statistical measure, such as population density or per capita income. In this particular case, the choropleth maps highlight the number of establishments for the Wholesale Trade Sector (NAICS 42) and its Sub-sectors in Puerto

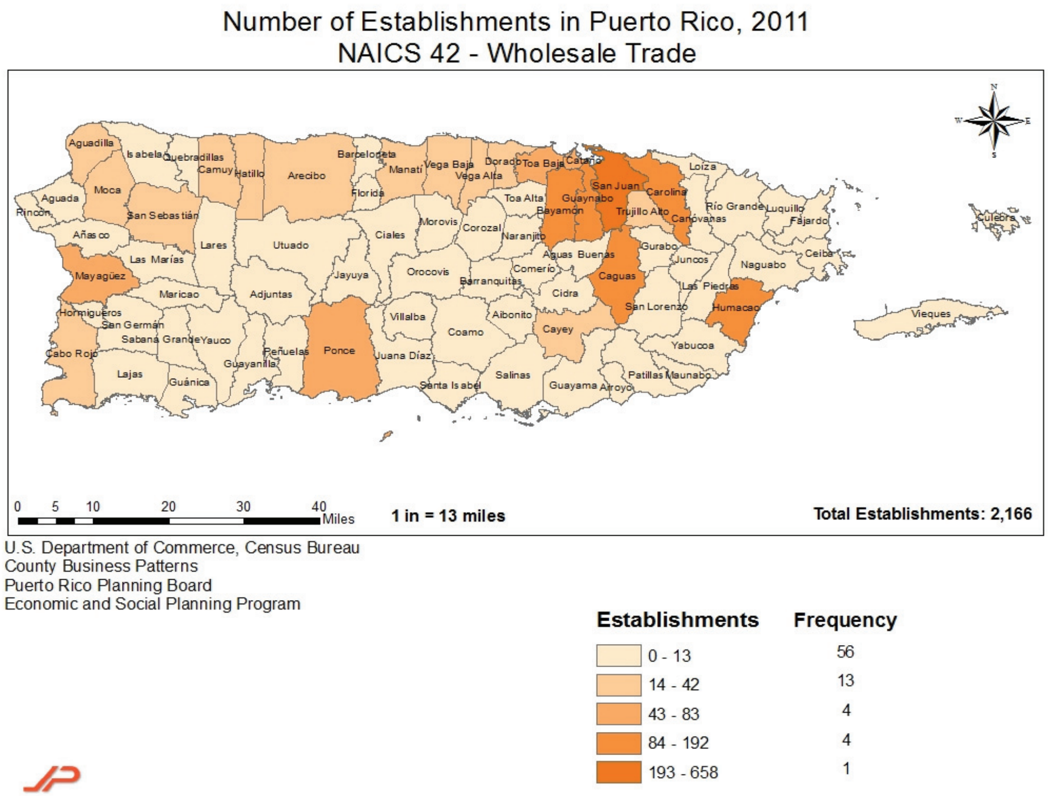
Rico for the years 2006 and 2011. This data was obtained from the U.S. Census Bureau, County Business Patterns, for Puerto Rico and its 78 municipalities. The data was divided into categories calculated by the "Natural Breaks Method", a manual data classification method that seeks to partition data into classes based on natural groups in the data distribution. The categories in the map represent a range of establishments within the municipality, and the frequency refers to the number of municipalities within that category.

Map 1A



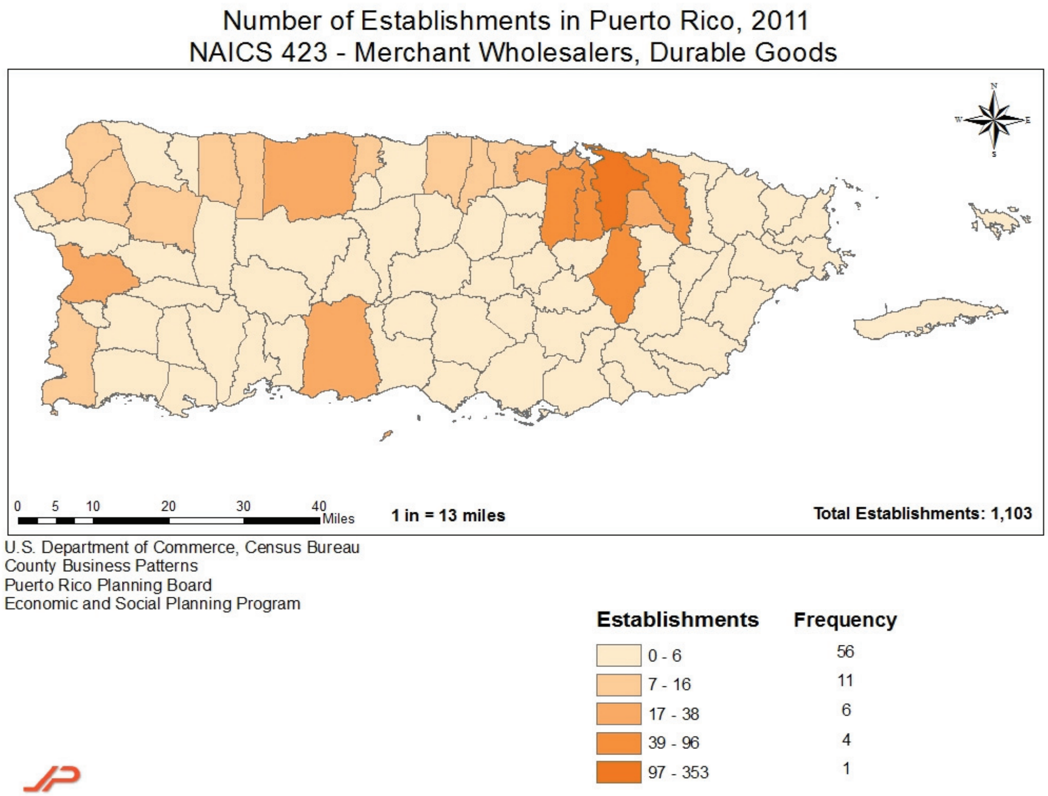
(NAICS 42 - Wholesale Trade Sector, 2006) The spatial analysis performed shows 2,303 establishments divided into 5 categories. The first category is composed of 0 to 12 establishments, with a frequency of 56 municipalities. The second category is composed of 13 to 34 establishments, with a frequency of 14 municipalities. The third category is composed of 35 to 100 establishments, with a frequency of 4 municipalities. The fourth category is composed of 101 to 198 establishments, with a frequency of 3 municipalities. The fifth category is composed of 199 to 721 establishments, with a frequency of 1 municipality.

Map 1B



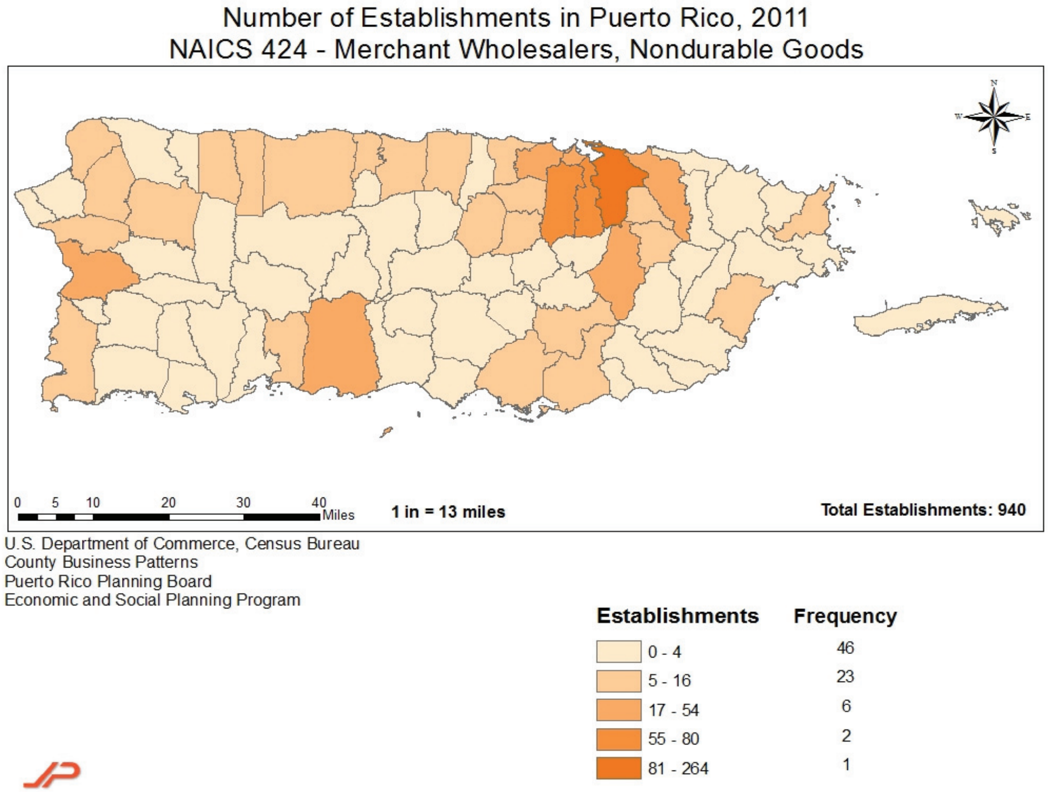
(NAICS 42 - Wholesale Trade Sector, 2011) The spatial analysis performed shows 2,166 establishments divided into 5 categories. The first category is composed of 0 to 13 establishments, with a frequency of 56 municipalities. The second category is composed of 14 to 42 establishments, with a frequency of 13 municipalities. The third category is composed of 43 to 83 establishments, with a frequency of 4 municipalities. The fourth category is composed of 84 to 192 establishments, with a frequency of 4 municipalities. The fifth category is composed of 193 to 658 establishments, with a frequency of 1 municipality.

Map 2B



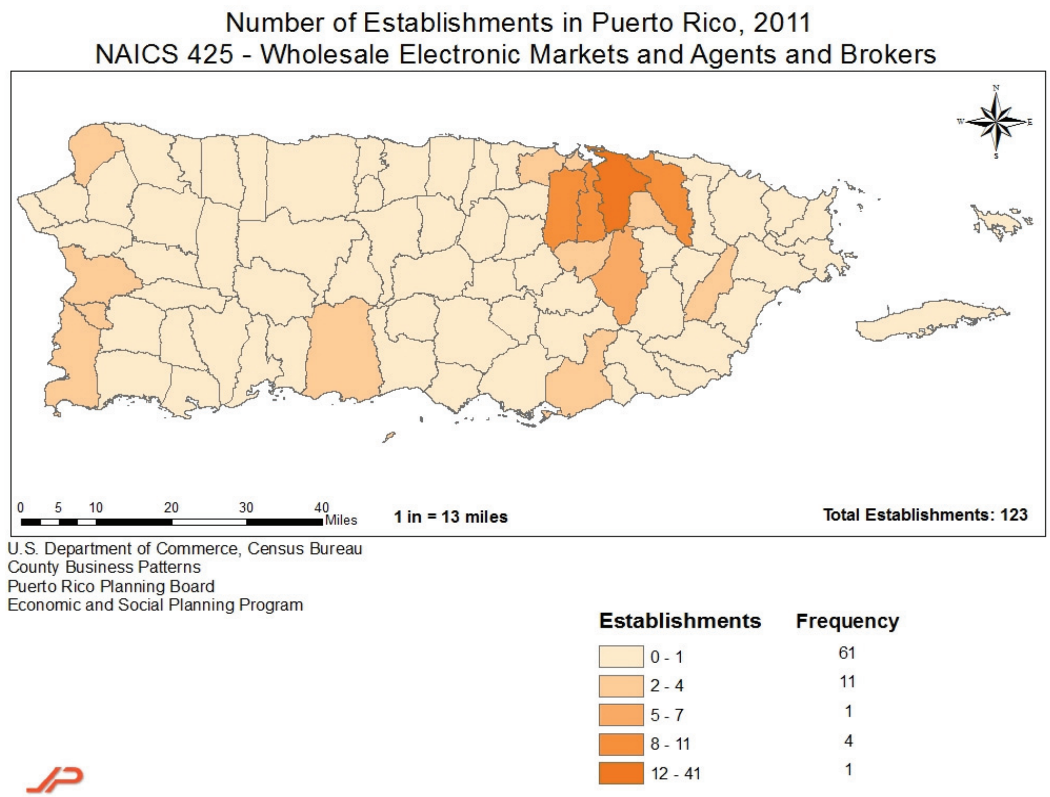
(NAICS 423 – Merchant Wholesalers, Durable Goods Sub-sector, 2011) The spatial analysis performed shows 1,103 establishments divided into 5 categories. The first category is composed of 0 to 6 establishments, with a frequency of 56 municipalities. The second category is composed of 7 to 16 establishments, with a frequency of 11 municipalities. The third category is composed of 17 to 38 establishments, with a frequency of 6 municipalities. The fourth category is composed of 39 to 96 establishments, with a frequency of 4 municipalities. The fifth category is composed of 97 to 353 establishments, with a frequency of 1 municipality.

Map 3B



(NAICS 424 – Merchant Wholesalers, Durable Goods Sub-sector, 2011) The spatial analysis performed shows 940 establishments divided into 5 categories. The first category is composed of 0 to 4 establishments, with a frequency of 46 municipalities. The second category is composed of 5 to 16 establishments, with a frequency of 23 municipalities. The third category is composed of 17 to 54 establishments, with a frequency of 6 municipalities. The fourth category is composed of 55 to 80 establishments, with a frequency of 2 municipalities. The fifth category is composed of 81 to 264 establishments, with a frequency of 1 municipality.

Map 4B



(NAICS 425 – Wholesale Electronic Markets and Agents and Brokers Sub-sector, 2011) The spatial analysis performed shows 123 establishments divided into 5 categories. The first category is composed of 0 to 1 establishments, with a frequency of 61 municipalities. The second category is composed of 2 to 4 establishments, with a frequency of 11 municipalities. The third category is composed of 5 to 7 establishments, with a frequency of 1 municipality. The fourth category is composed of 8 to 11 establishments, with a frequency of 4 municipalities. The fifth category is composed of 12 to 41 establishments, with a frequency of 1 municipality.

Transportation (NAICS 48)

I. Location Quotient

Tables 1 - 4 and **Figures 1 - 2** show the Industry Location Quotient (LQ) analysis performed for the Transportation Sector and Sub-sectors (NAICS 48). The LQ is a way of quantifying how concentrated an industry is in a region compared to a larger region, in this case Puerto Rico to the United States of America. LQ were calculated for the Number of Employees, Annual Payroll per Employee, and Number of Establishments based on P.R. and U.S. data from the U.S. Census Bureau, County Business Pattern for the year 2011. Tables 1 - 4 shows LQ for Number of Employees, Number of Establishments, and Total Annual Payroll sorted from largest to smallest values, and Annual Payroll per Employee sorted from smallest to largest value. Those tables show the sub-sectors according to the concentration value of Puerto Rico compared with the United States of America. The Figures illustrate a comparison of LQ between the sub-sectors. Annual Payroll per Employee was also analyzed comparing the data of P.R. with the U.S. as a benchmark.

Table 1: Location Quotient of Number of Employees
Transportation and Warehousing (NAICS - 48)

Sector by NAICS	Location Quotient
4883 - Support activities for water transportation	3.62
4881 - Support activities for air transportation	1.03

Table 2: Location Quotient of Annual Payroll Per Employee
Transportation and Warehousing (NAICS - 48)

Sector by NAICS	Location Quotient
4852 - Interurban and rural bus transportation	0.65
4881 - Support activities for air transportation	0.82
4841 - General freight trucking	0.90
4883 - Support activities for water transportation	0.94
4889 - Other support activities for transportation	0.94
4842 - Specialized freight trucking	0.99

Table 3: Location Quotient of Number of Establishments
Transportation and Warehousing (NAICS - 48)

Sector by NAICS	Location Quotient
4854 - School and employee bus transportation	5.36
4852 - Interurban and rural bus transportation	4.70
4883 - Support activities for water transportation	2.56

Table 4: Location Quotient of Total Annual Payroll
Transportation and Warehousing (NAICS - 48)

Sector by NAICS	Location Quotient
4883 - Support activities for water transportation	3.40
4854 - School and employee bus transportation	1.27

Transportation Sector (NAICS 48) - LQ with respect to the Number of Paid Employees for this sector in 2011 was 0.63 meaning that P.R. has 0.63 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sector in 2011 was 1.19 meaning that P.R. pays $1.19 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sector in 2011 was 0.79 meaning that P.R. has 0.79 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $27,325 and in the U.S. $42,854. This means that, on average, the Annual Payroll per Employee in P.R. is 64 percent of what it is in the U.S. which represents a difference of -$15,529.

Inland Water Transportation (NAICS 4832) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.70 meaning that P.R. has 0.70 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.08 meaning that P.R. pays $1.08 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.82 meaning that P.R. has 0.82 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $38,806 and in the U.S. $67,103. This means that, on average, the Annual Payroll per Employee in P.R. is 58 percent of what it is in the U.S. which represents a difference of -$28,298.

General Freight Trucking (NAICS 4841) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.56 meaning that P.R. has 0.56 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.90 meaning that P.R. pays $0.90 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.86 meaning that P.R. has 0.86 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $20,070 and in the U.S. $41,653. This means that, on average, the Annual Payroll per Employee in P.R. is 48 percent of what it is in the U.S. which represents a difference of -$21,58

Specialized Freight Trucking (NAICS 4842) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.82 meaning that P.R. has 0.82 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.08 meaning that P.R. pays $1.08 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.66 meaning that P.R. has 0.66 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $31,835 and in the U.S. $54,917. This means that, on average, the Annual Payroll per Employee in P.R. is 58 percent of what it is in the U.S. which represents a difference of -$23,081.

Support Activities for Water Transportation (NAICS 4883) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.97 meaning that P.R. has 0.97 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.31 meaning that P.R. pays $1.31 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 5.36 meaning that P.R. has 5.36 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $13,961 and in the U.S. $19,815. This means that, on average, the Annual Payroll per Employee in P.R. is 70 percent of what it is in the U.S. which represents a difference of -$5,854.

Freight Transportation Arrangement (NAICS 4885) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.43 meaning that P.R. has 0.43 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.30 meaning that P.R. pays $1.30 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.49 meaning that P.R. has 0.49 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $17,383 and in the U.S. $24,798. This means that, on average, the Annual Payroll per Employee in P.R. is 70 percent of what it is in the U.S. which represents a difference of -$7,414.

Scenic and Sightseeing Transportation, Land (NAICS 4871) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 1.03 meaning that P.R. has 1.03 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.82 meaning that P.R. pays $0.82 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.87 meaning that P.R. has 0.87 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $18,087 and in the U.S. $40,805. This means that, on average, the Annual Payroll per Employee in P.R. is 44 percent of what it is in the U.S. which represents a difference of -$22,717.

Scenic and Sightseeing Transportation, Other (NAICS 4879) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 3.62 meaning that P.R. has 3.62 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 0.94 meaning that P.R. pays $0.94 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 2.56 meaning that P.R. has 2.56 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $27,792 and in the U.S. $55,503. This means that, on average, the Annual Payroll per Employee in P.R. is 50 percent of what it is in the U.S. which represents a difference of -$27,261.

Support Activities for Rail Transportation (NAICS 4882) - LQ with respect to the Number of Paid Employees for this sub-sector in 2011 was 0.44 meaning that P.R. has 0.44 paid employees for every 1 paid employee in the U.S. LQ with respect to the Annual Payroll per Employee for this sub-sector in 2011 was 1.85 meaning that P.R. pays $1.85 per employee for every $1 paid per employee in the U.S. LQ with respect to the Number of Establishments for this sub-sector in 2011 was 0.42 meaning that P.R. has 0.42 establishments for every 1 establishment in the U.S. For the year 2011 the Annual Payroll per Employee in P.R. was $30,909 and in the U.S. $31,089. This means that, on average, the Annual Payroll per Employee in P.R. is 99 percent of what it is in the U.S. which represents a difference of -$180.

II. Sector Comparison Analysis for the Years 2006 and 2011

Figures 3 - 11 shows data for the Transportation Sector and Sub-sectors (NAICS - 48) in Puerto Rico for the years 2006 and 2011, obtained from the U.S. Census Bureau, County Business Patterns.

Figure 3 (NAICS 48 – Transportation Sector) - The number of paid employees for this sector in the year 2006 was 16,369 and 15,376 for the year 2011. This represents a decrease of 993 paid employees or 6.07 percent (on average, 1.21 percent per year for 5 years). The payroll per employee for this sector in the year 2006 was $24,128 and $27,325 for the year 2011. This represents an increase of $3,196 on payroll per employee or 13.25 percent (on average, 2.65 percent per year for 5 years). The number of establishments for this sector in the year 2006 was 1,062 and 1,001 for the year 2011. This represents a decrease of 61 establishments or 5.74 percent (on average, 1.15 percent per year for 5 years). The total Gross Product for this sector in the year 2006 was $985,643 thousand and $930,757 thousand for the year 2011. This represents a decrease of $54,886 thousand in total Gross Product or 5.57 percent (on average, 1.11 percent per year for 5 years).

Figure 4 (NAICS 4832 - Inland Water Transportation) - The number of paid employees for this sub-sector in the year 2006 was 93 and 72 for the year 2011. This represents a decrease of 21 paid employees or 22.58 percent (on average, 4.52 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $35,387 and $38,806 for the year 2011. This represents an increase of $3,418 on payroll per employee or 9.66 percent (on average, 1.93 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 4 and 3 for the year 2011. This represents a decrease of 1 establishment or 25.00 percent (on average, 5.00 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $127,881 thousand and $117,593 thousand for the year 2011. This represents a decrease of $10,288 thousand in total Gross Product or 8.04 percent (on average, 1.61 percent per year for 5 years).

Figure 5 (NAICS 4841 - General Freight Trucking) - The number of paid employees for this sub-sector in the year 2006 was 2,529 and 2,932 for the year 2011. This represents an increase of 403 paid employees or 15.94 percent (on average, 3.19 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $17,790 and $20,070 for the year 2011. This represents an increase of $2,280 on payroll per employee or 12.82 percent (on average, 2.56 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 385 and 328 for the year 2011. This represents a decrease of 57 establishments or 14.81 percent (on average, 2.96 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $204,531 thousand and $209,897 thousand for the year 2011. This represents an increase of $5,366 thousand in total Gross Product or 2.62 percent (on average, 0.52 percent per year for 5 years).

Figure 6 (NAICS 4842 - Specialized Freight Trucking) - The number of paid employees for this sub-sector in the year 2006 was 1,522 and 1,082 for the year 2011. This represents a decrease of 440 paid employees or 28.91 percent (on average, 5.78 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $22,548 and $31,835 for the year 2011. This represents an increase of $9,288 on payroll per employee or 41.19 percent (on average, 8.24 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 74 and 77 for the year 2011. This represents an increase of 3 establishments or 4.05 percent (on average, 0.81 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $23,010 thousand and $20,868 thousand for the year 2011. This represents a decrease of $2,142 thousand in total Gross Product or 9.31 percent (on average, 1.86 percent per year for 5 years).

Figure 7 (NAICS 4883 - Support Activities for Water Transportation) - The number of paid employees for this sub-sector in the year 2006 was 683 and 1,227 for the year 2011. This represents an increase of 544 paid employees or 79.65 percent (on average, 15.93 percent per year for 5 years). The payroll per employee for this sub-sector in the year

2006 was $9,245 and $13,961 for the year 2011. This represents an increase of $4,716 on payroll per employee or 51.02 percent (on average, 10.20 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 114 and 142 for the year 2011. This represents an increase of 28 establishments or 24.56 percent (on average, 4.91 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $35,801 thousand and $57,613 thousand for the year 2011. This represents an increase of $21,813 thousand in total Gross Product or 60.93 percent (on average, 12.19 percent per year for 5 years).

Figure 8 (NAICS 4885 - Freight Transportation Arrangement) - The number of paid employees for this sub-sector in the year 2006 was 162 and 193 for the year 2011. This represents an increase of 31 paid employees or 19.14 percent (on average, 3.83 percent per year for 5 years). The payroll per employee for this sub-sector (NAICS - 4885) in the year 2006 was $12,278 and $17,383 for the year 2011. This represents an increase of $5,106 on payroll per employee or 41.58 percent (on average, 8.32 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 16 and 12 for the year 2011. This represents a decrease of 4 establishments or 25.00 percent (on average, 5.00 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $4,190 thousand and $3,375 thousand for the year 2011. This represents a decrease of $815 thousand in total Gross Product or 19.46 percent (on average, 3.89 percent per year for 5 years).

Figure 9 (NAICS 4871 - Scenic and Sightseeing Transportation, Land) - The number of paid employees for this sub-sector in the year 2006 was 1,087 and 941 for the year 2011. This represents a decrease of 146 paid employees or 13.43 percent (on average, 2.69 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $14,823 and $18,087 for the year 2011. This represents an increase of $3,264 on payroll per employee or 22.02 percent (on average, 4.40 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 26 and 30 for the year 2011. This represents an increase of 4 establishments or 15.38 percent (on average, 3.08 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $21,451 thousand and $19,692 thousand for the year 2011. This represents a decrease of $1,759 thousand in total Gross Product or 8.20 percent (on average, 1.64 percent per year for 5 years).

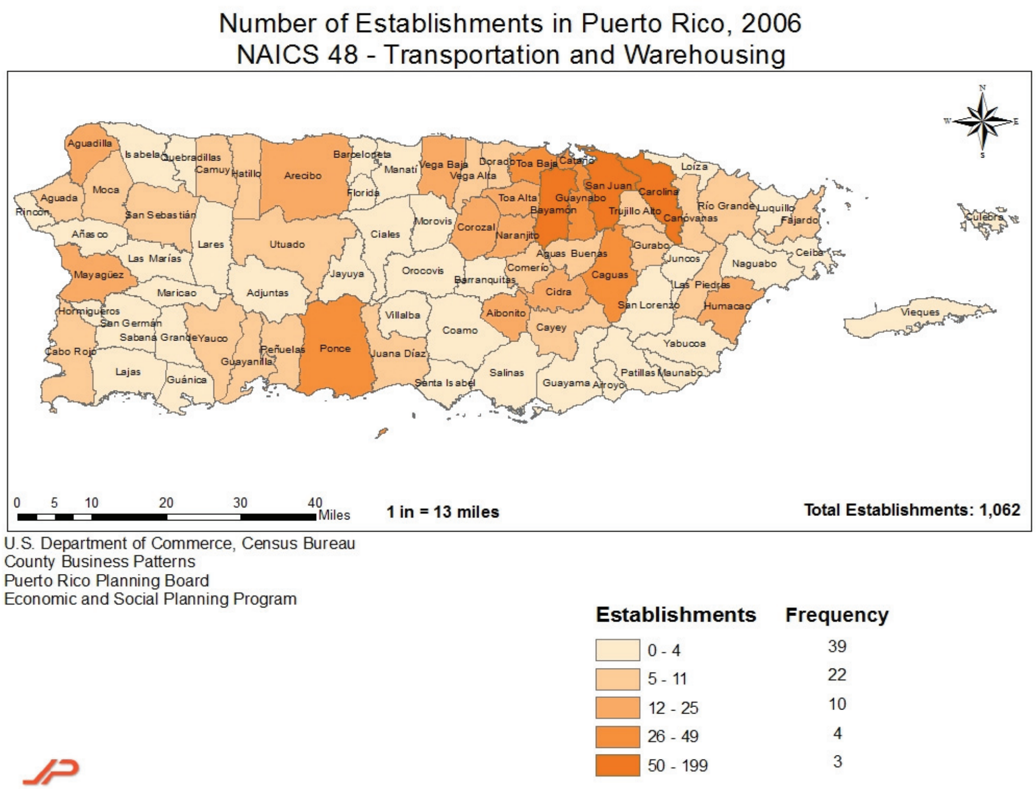
Figure 10 (NAICS 4879 - Scenic and Sightseeing Transportation, Other) - The number of paid employees for this sub-sector in the year 2006 was 1,806 and 1904 for the year 2011. This represents an increase of 98 paid employees or 5.43 percent (on average, 1.09 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $32,004 and $27,792 for the year 2011. This represents a decrease of $4,212 on payroll per employee or 13.16 percent (on average, 2.63 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 40 and 37 for the year 2011. This represents a decrease of 3 establishments or 7.50 percent (on average, 1.50 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $145,930 thousand and $94,669 thousand for the year 2011. This represents a decrease of $51,261 thousand in total Gross Product or 35.13 percent (on average, 7.03 percent per year for 5 years).

Figure 11 (NAICS 4882 - Support Activities for Rail Transportation) - The number of paid employees for this sub-sector in the year 2006 was 73 and 197 for the year 2011. This represents an increase of 124 paid employees or 169.86 percent (on average, 33.97 percent per year for 5 years). The payroll per employee for this sub-sector in the year 2006 was $25,110 and $30,909 for the year 2011. This represents an increase of $5,799 on payroll per employee or 23.09 percent (on average, 4.62 percent per year for 5 years). The number of establishments for this sub-sector in the year 2006 was 20 and 26 for the year 2011. This represents an increase of 6 establishments or 30.00 percent (on average, 6.00 percent per year for 5 years). The total Gross Product for this sub-sector in the year 2006 was $2,805 thousand and $1,758 thousand for the year 2011. This represents a decrease of $1,047 thousand in total Gross Product or 37.33 percent (on average, 7.47 percent per year for 5 years).

III. Choropleth Maps

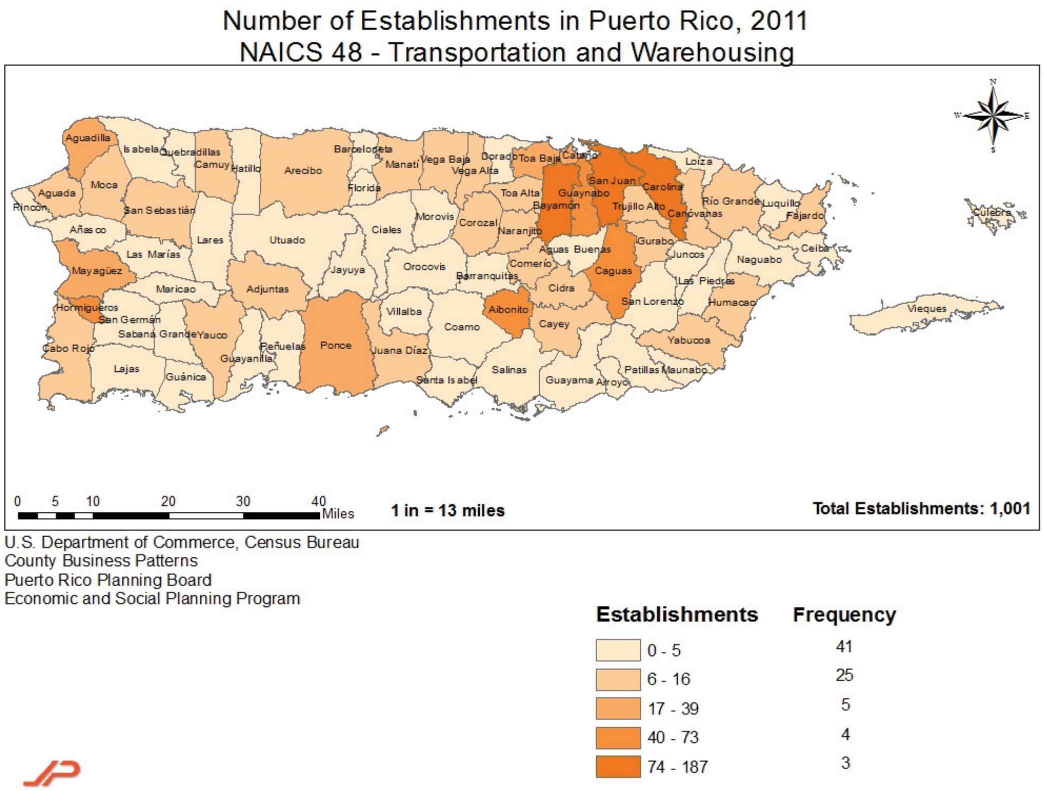
NAICS 48 - Map 1A through 10B: A choropleth map is a thematic map which regions are colored for the purpose of showing a statistical measure, such as population density or per capita income. In this particular case, the choropleth maps highlight the number of establishments for the Transportation and Warehousing Sector (NAICS 48) and its Sub-sectors in Puerto Rico for the years 2006 and 2011. This data was obtained from the U.S. Census Bureau, County Business Patterns, for Puerto Rico and its 78 municipalities. The data was divided into categories calculated by the "Natural Breaks Method", a manual data classification method that seeks to partition data into classes based on natural groups in the data distribution. The categories in the map represent a range of establishments within the municipality, and the frequency refers to the number of municipalities within that category.

Map 1A



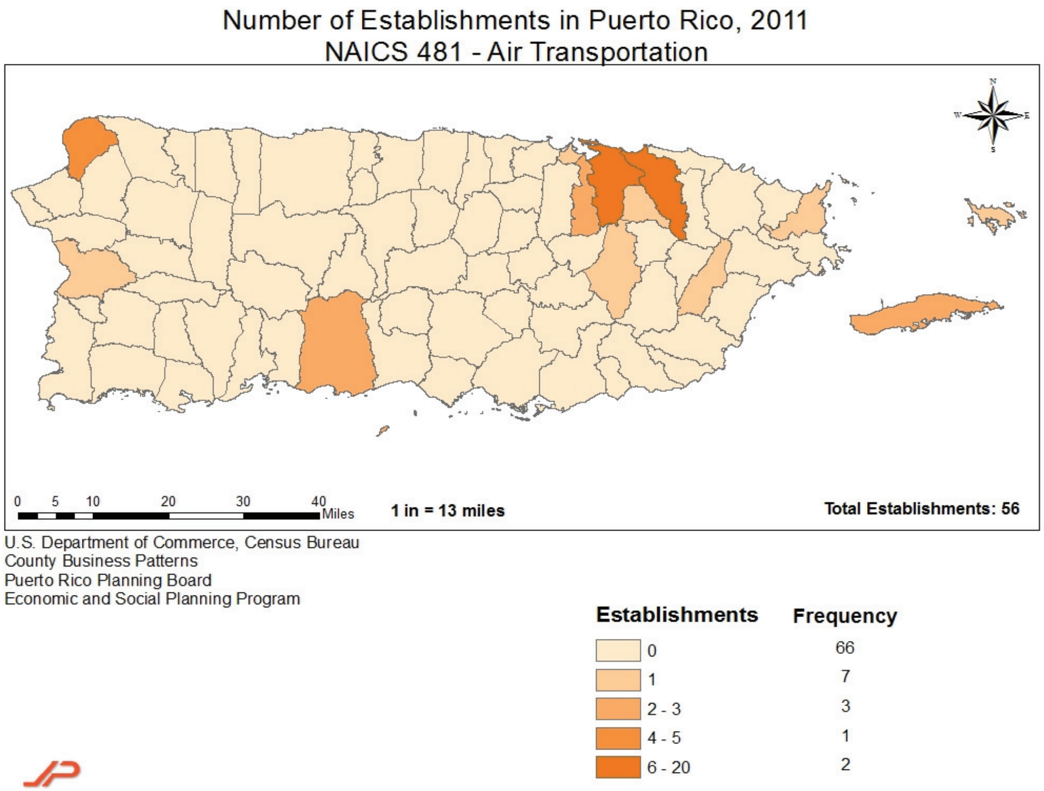
(NAICS 48 - Transportation and Warehousing Sector, 2006) The spatial analysis performed shows 1,062 establishments divided into 5 categories. The first category is composed of 0 to 4 establishments, with a frequency of 39 municipalities. The second category is composed of 5 to 11 establishments, with a frequency of 22 municipalities. The third category is composed of 12 to 25 establishments, with a frequency of 10 municipalities. The fourth category is composed of 26 to 49 establishments, with a frequency of 4 municipalities. The fifth category is composed of 50 to 199 establishments, with a frequency of 3 municipalities.

Map 1B



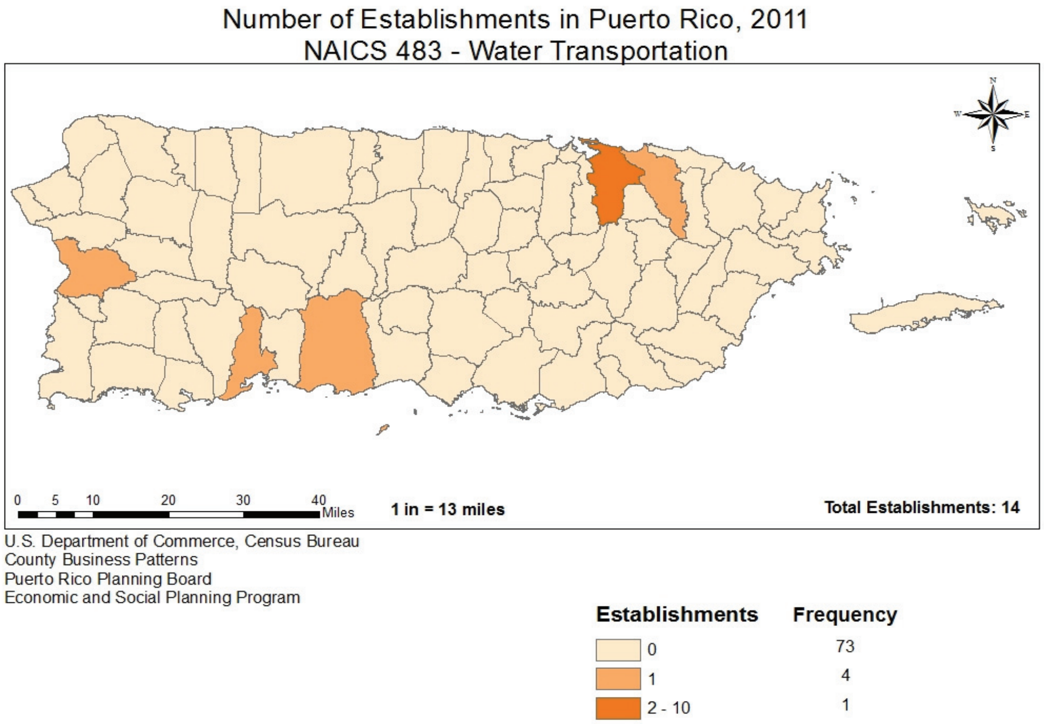
(NAICS 48 - Transportation and Warehousing Sector, 2011) The spatial analysis performed shows 1,001 establishments divided into 5 categories. The first category is composed of 0 to 5 establishments, with a frequency of 41 municipalities. The second category is composed of 6 to 16 establishments, with a frequency of 25 municipalities. The third category is composed of 17 to 39 establishments, with a frequency of 5 municipalities. The fourth category is composed of 40 to 73 establishments, with a frequency of 4 municipalities. The fifth category is composed of 74 to 187 establishments, with a frequency of 3 municipalities.

Map 2B



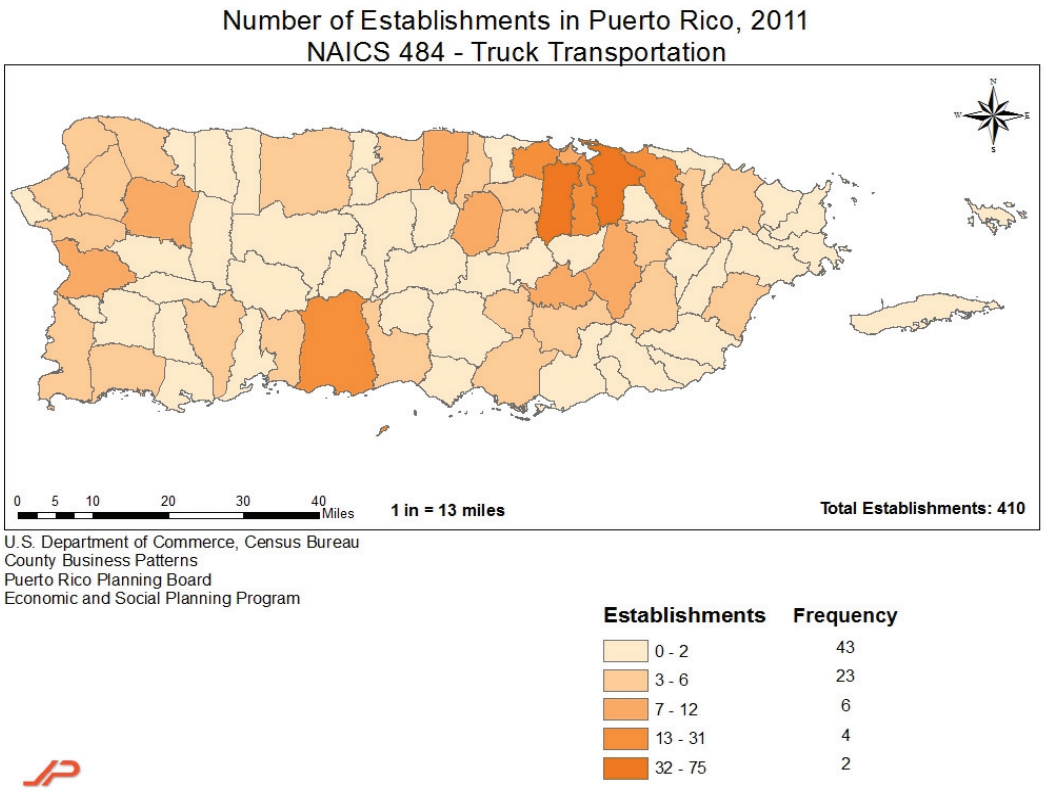
(NAICS 481 – Air Transportation Sub-sector, 2011) The spatial analysis performed shows 56 establishments divided into 5 categories. The first category is composed of 0 establishments, with a frequency of 66 municipalities. The second category is composed of 1establishment, with a frequency of 7 municipalities. The third category is composed of 2 to 3 establishments, with a frequency of 3 municipalities. The fourth category is composed of 4 to 5 establishments, with a frequency of 1 municipality. The fifth category is composed of 6 to 20 establishments, with a frequency of 2 municipalities.

Map 3B



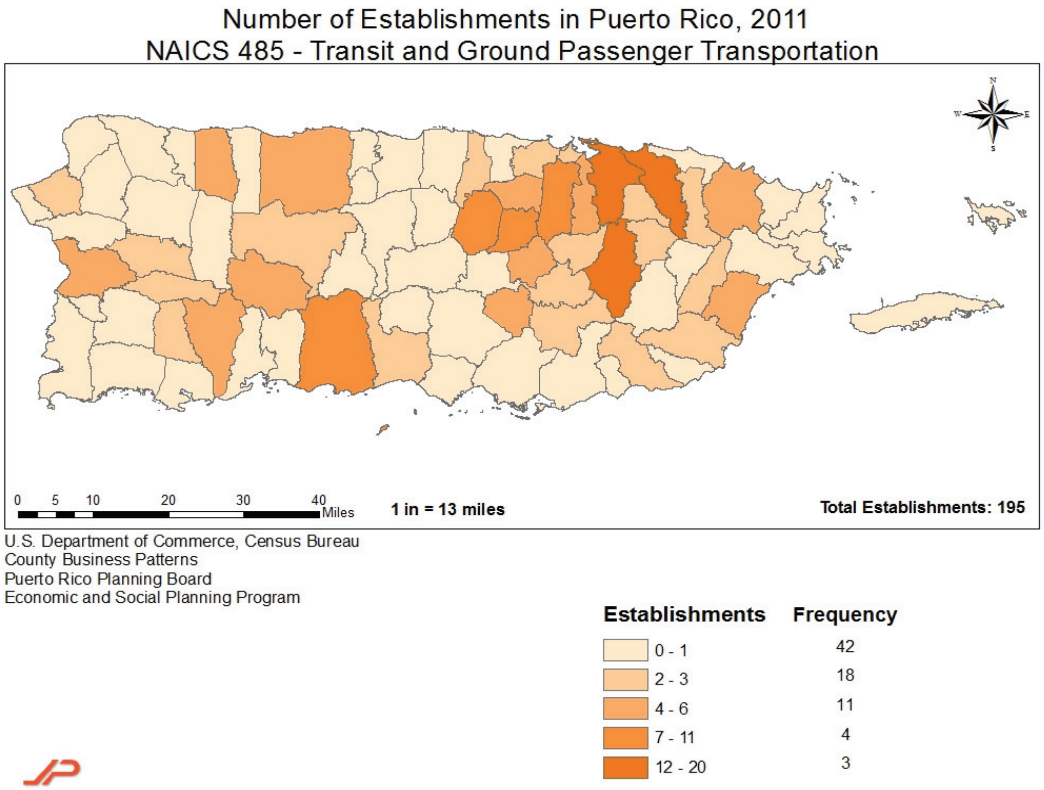
(NAICS 483 – Water Transportation Sub-sector, 2011) The spatial analysis performed shows 14 establishments divided into 3 categories. The first category is composed of 0 establishments, with a frequency of 1 municipality. The second category is composed of 1establishment, with a frequency of 4 municipalities. The third category is composed of 2 to 10 establishments, with a frequency of 1 municipalities.

Map 4B



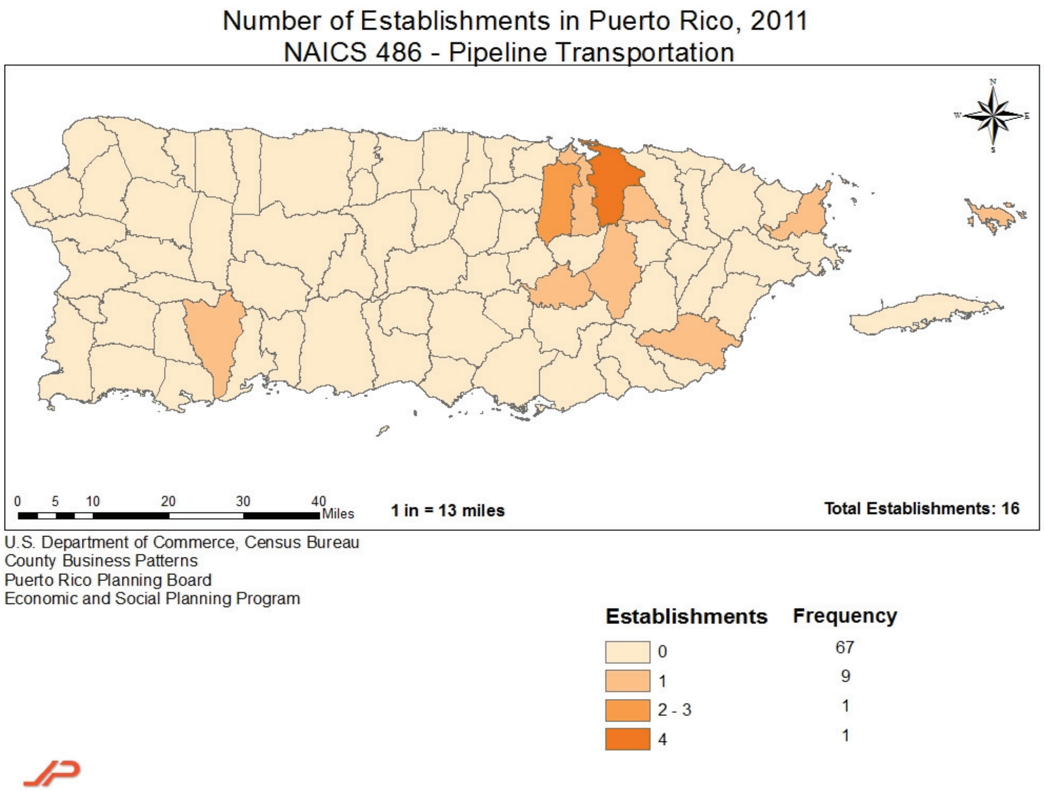
(NAICS 484 – Truck Transportation Sub-sector, 2011) The spatial analysis performed shows 410 establishments divided into 5 categories. The first category is composed of 0 to 2 establishments, with a frequency of 43 municipalities. The second category is composed of 3 to 6establishment, with a frequency of 23 municipalities. The third category is composed of 7 to 12 establishments, with a frequency of 6 municipalities. The fourth category is composed of 13 to 31 establishments, with a frequency of 4 municipalities. The fifth category is composed of 32 to 75 establishments, with a frequency of 2 municipalities.

Map 5B



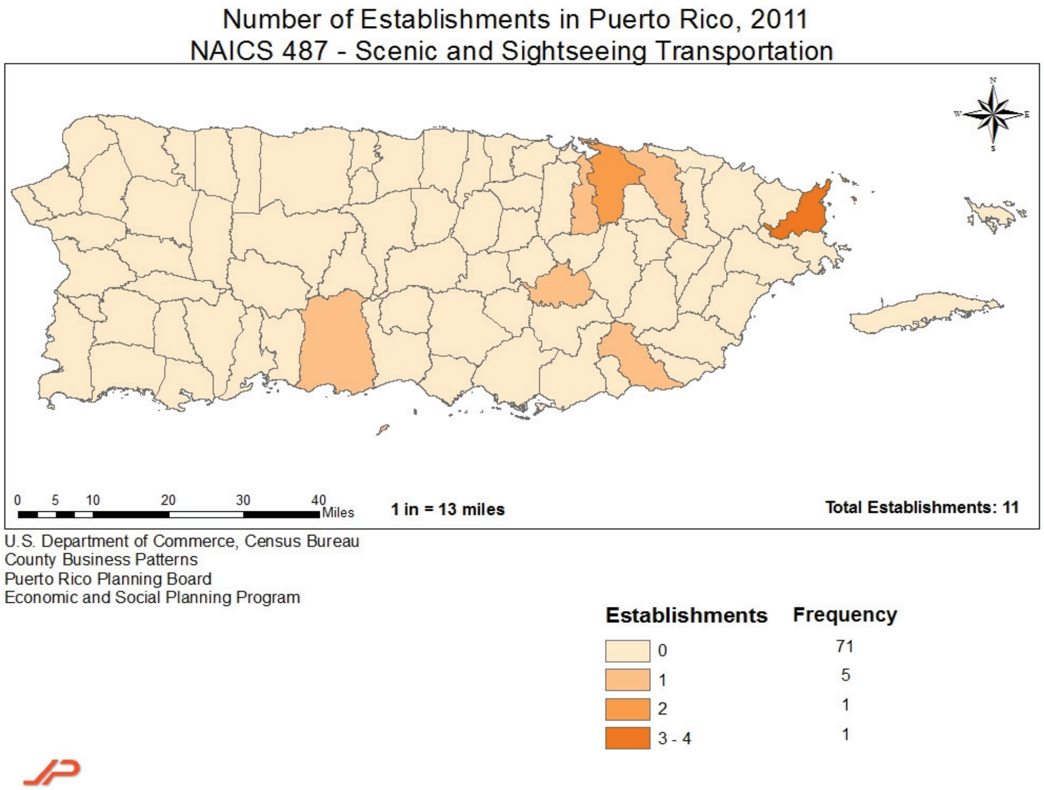
(NAICS 485 – Transit and Ground Passenger Transportation Sub-sector, 2011) The spatial analysis performed shows 195 establishments divided into 5 categories. The first category is composed of 0 to 1 establishments, with a frequency of 42 municipalities. The second category is composed of 2 to 3establishment, with a frequency of 18 municipalities. The third category is composed of 4 to 6 establishments, with a frequency of 11 municipalities. The fourth category is composed of 7 to 11 establishments, with a frequency of 4 municipalities. The fifth category is composed of 12 to 20 establishments, with a frequency of 3 municipalities.

Map 6B



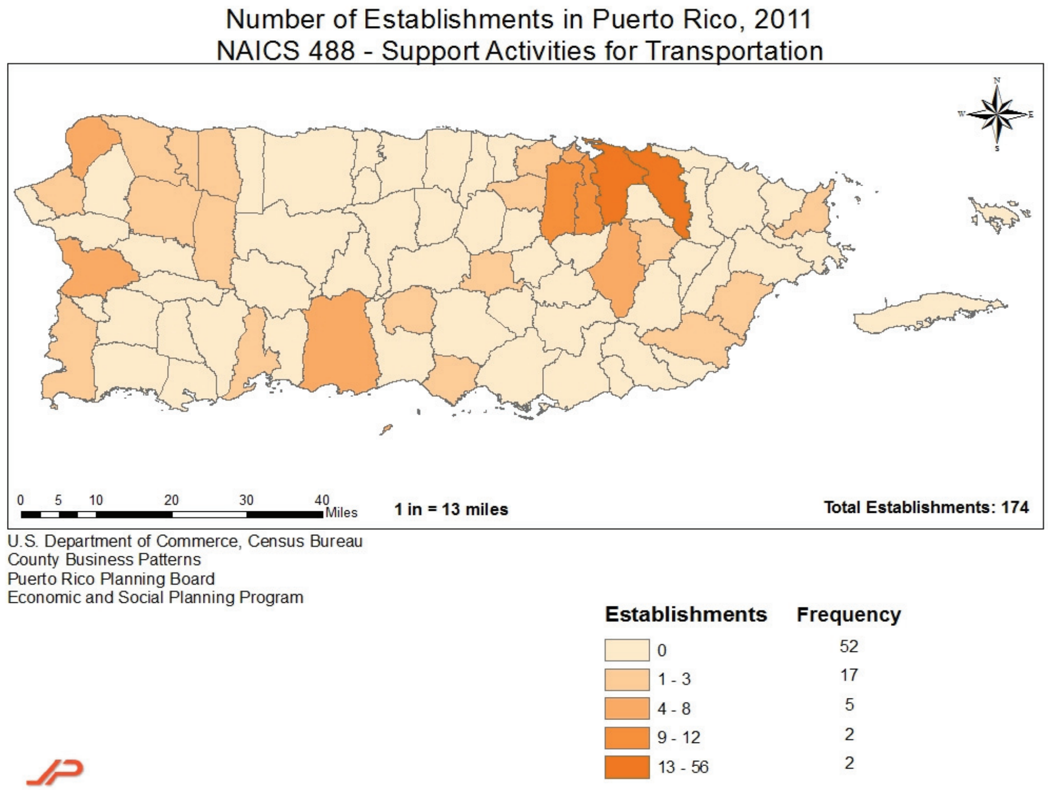
(NAICS 486 – Pipeline Transportation Sub-sector, 2011) The spatial analysis performed shows 16 establishments divided into 4 categories. The first category is composed of 0 establishments, with a frequency of 67 municipalities. The second category is composed of 1establishment, with a frequency of 9 municipalities. The third category is composed of 2 to 3 establishments, with a frequency of 1 municipality. The fourth category is composed of 4 establishments, with a frequency of 1 municipality.

Map 7B



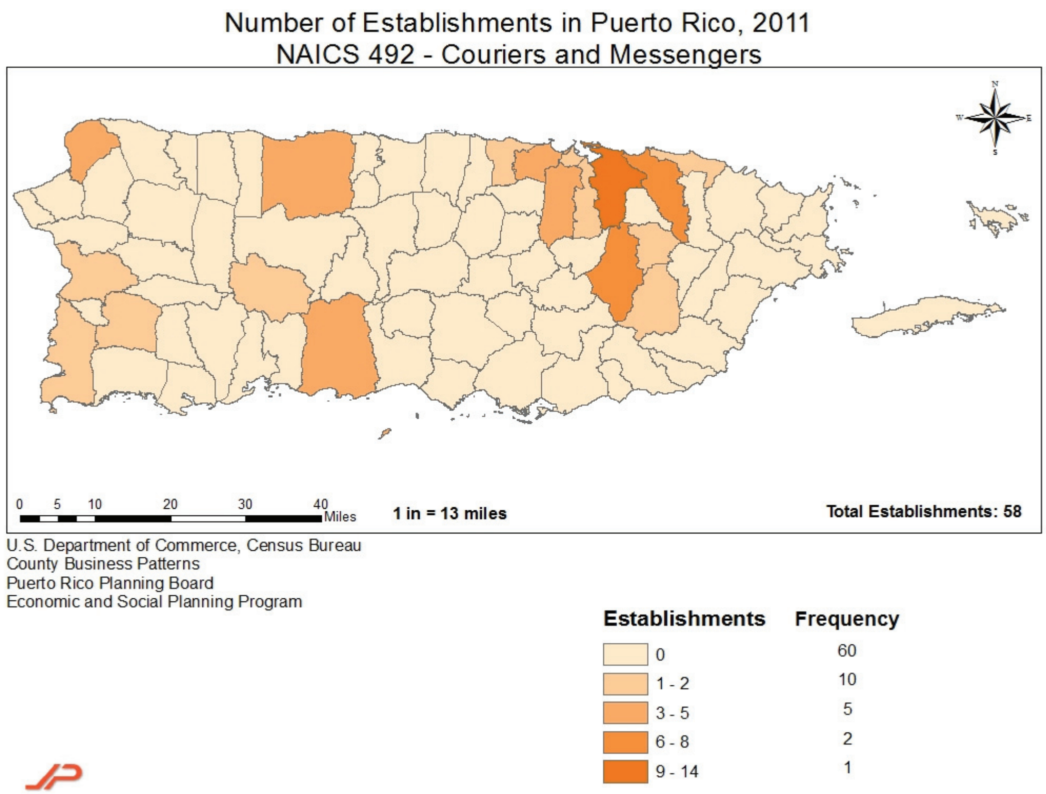
(NAICS 487 – Truck Transportation Sub-sector, 2011) The spatial analysis performed shows 11 establishments divided into 4 categories. The first category is composed of 0 establishments, with a frequency of 71 municipalities. The second category is composed of 1establishment, with a frequency of 5 municipalities. The third category is composed of 2 establishments, with a frequency of 1 municipality. The fourth category is composed of 3 to 4 establishments, with a frequency of 1 municipality.

Map 8B



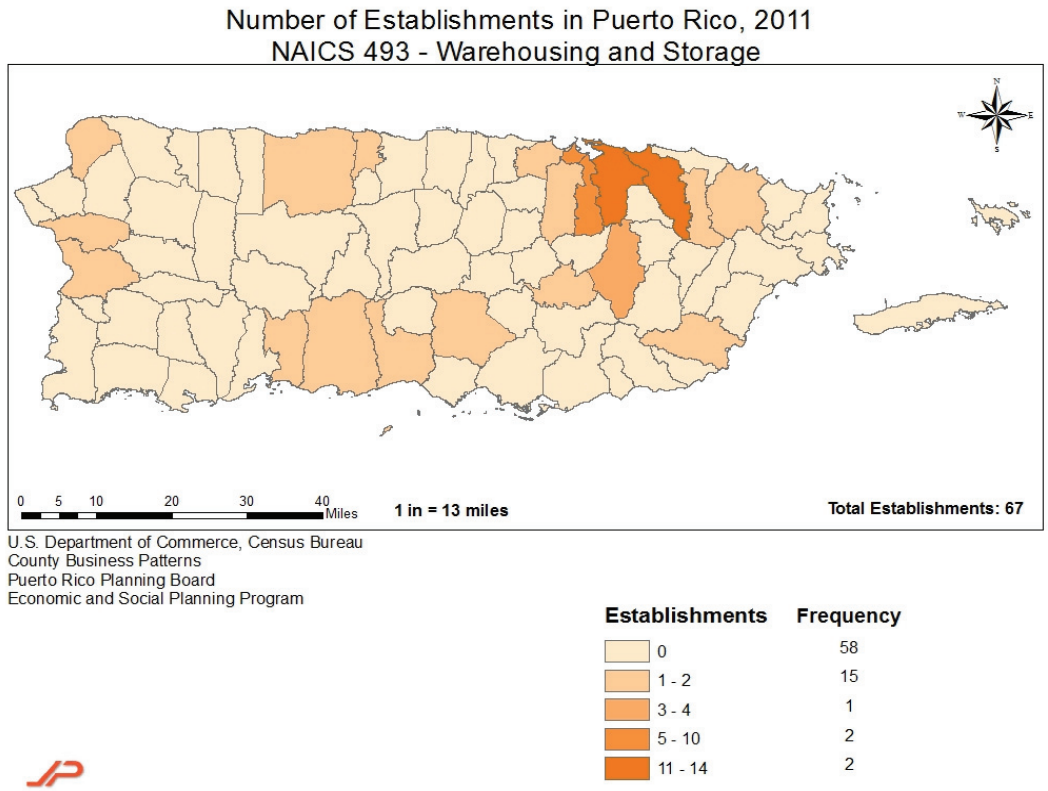
(NAICS 488 – Support Activities for Transportation Sub-sector, 2011) The spatial analysis performed shows 174 establishments divided into 5 categories. The first category is composed of 0 establishments, with a frequency of 52 municipalities. The second category is composed of 1 to 3establishments, with a frequency of 17 municipalities. The third category is composed of 4 to 8 establishments, with a frequency of 5 municipalities. The fourth category is composed of 9 to 12 establishments, with a frequency of 2 municipalities. The fifth category is composed of 13 to 56 establishments, with a frequency of 2 municipalities.

Map 9B



(NAICS 492 – Support Activities for Transportation Sub-sector, 2011) The spatial analysis performed shows 58 establishments divided into 5 categories. The first category is composed of 0 establishments, with a frequency of 60 municipalities. The second category is composed of 1 to 2establishments, with a frequency of 10 municipalities. The third category is composed of 3 to 5 establishments, with a frequency of 5 municipalities. The fourth category is composed of 6 to 8 establishments, with a frequency of 2 municipalities. The fifth category is composed of 9 to 14 establishments, with a frequency of 1 municipality.

Map 10B



(NAICS 493 – Warehousing and Storage Sub-sector, 2011) The spatial analysis performed shows 67 establishments divided into 5 categories. The first category is composed of 0 establishments, with a frequency of 58 municipalities. The second category is composed of 1 to 2establishments, with a frequency of 15 municipalities. The third category is composed of 3 to 4 establishments, with a frequency of 1 municipality. The fourth category is composed of 5 to 10 establishments, with a frequency of 2 municipalities. The fifth category is composed of 11 to 14 establishments, with a frequency of 2 municipalities.

Local (municipal) Location Quotients

Location Quotients, a tool to assess economic base of a place were performed at the three digit NAICS level. The aim was to identify what municipalities have more export capabilities or a comparative advantage in the sub sector over others. The municipalities in yellow are the ones that had subsector activities only in the year under they appear.

Wholesale Trade Puerto Rico Location Quotients by municipality. The next tables represent the Location Quotients by municipality by sub sector, for the years 2006 and 2011. They are as follows:

Table

425	LQ 2006	Wholesale Electronic Markets and Agents and Brokers	LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Aguadilla	0.46	Aguadilla	0.56
Aguas Buenas	5.60	Aguas Buenas	6.80
Bayamón	1.41	Bayamón	1.06
Cabo Rojo	1.17	Cabo Rojo	1.19
Caguas	0.81	Caguas	0.66
Carolina	1.46	Carolina	1.68
Cataño	0.58	Cataño	6.67
Coamo	1.94	Coamo	2.70
Guayama	0.69	Guayama	0.75
Guaynabo	3.40	Guaynabo	1.17
Hormigueros	3.70	Hormigueros	3.61
Humacao	0.40	Humacao	0.53
Juana Díaz	1.49	Juana Díaz	1.41
Juncos	1.14	Juncos	1.19
Las Piedras	0.86	Las Piedras	1.91
Manatí	0.52	Manatí	0.55
Mayagüez	0.21	Mayagüez	0.25
Ponce	0.88	Ponce	0.15
San Juan	1.29	San Juan	1.04
San Sebastián	1.60	San Sebastián	2.25
Toa Baja	0.57	Toa Baja	4.01
Arecibo	0.42	Barranquitas	3.78
Barceloneta	0.68	Camuy	2.54
Fajardo	0.63	Cayey	0.68
Isabela	1.44	Cidra	1.35
Quebradillas	4.91	Morovis	4.94
		Penuelas	3.41
		Sabana Grande	4.08
		San Germán	0.99
		Santa Isabel	2.05
		Trujillo Alto	0.70
		Yabucoa	18.39

Table

423	Merchant Wholesalers, Durable Goods		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.46	Adjuntas	0.49
Aguada	0.75	Aguada	1.05
Aguadilla	0.66	Aguadilla	0.21
Aguas Buenas	0.44	Aguas Buenas	0.42
Aibonito	0.15	Aibonito	0.15
Añasco	8.27	Añasco	0.08
Arecibo	0.90	Arecibo	0.92
Arroyo	0.33	Arroyo	0.25
Barceloneta	1.02	Barceloneta	0.84
Bayamón	1.11	Bayamón	1.18
Cabo Rojo	0.57	Cabo Rojo	0.81
Caguas	1.45	Caguas	1.73
Camuy	1.56	Camuy	0.98
Carolina	1.91	Carolina	1.40
Cataño	3.56	Cataño	4.58
Cayey	0.34	Cayey	0.06
Cidra	0.46	Cidra	0.52
Coamo	0.16	Coamo	0.17
Corozal	0.20	Corozal	0.16
Dorado	0.66	Dorado	1.21
Fajardo	0.04	Fajardo	0.04
Guánica	0.43	Guánica	0.28
Guayama	0.05	Guayama	0.05
Guaynabo	1.11	Guaynabo	1.91
Gurabo	0.51	Gurabo	0.40
Hatillo	0.16	Hatillo	0.28
Hormigueros	0.63	Hormigueros	0.33
Humacao	0.20	Humacao	0.03
Isabela	0.71	Isabela	0.09
Juana Díaz	0.12	Juana Díaz	0.16
Lajas	0.88	Lajas	1.17
Lares	0.23	Lares	0.19
Las Marías	0.72	Las Marías	0.56

Table

423		Merchant Wholesalers, Durable Goods (cont)	
	LQ 2006		LQ 2011
Las Piedras	0.07	Las Piedras	0.20
Loíza	0.76	Loíza	3.92
Manatí	0.26	Manatí	0.56
Maunabo	10.25	Maunabo	1.49
Mayagüez	0.30	Mayagüez	0.42
Moca	0.19	Moca	0.47
Morovis	0.29	Morovis	0.30
Naranjito	0.16	Naranjito	0.16
Orocovis	0.67	Orocovis	0.40
Penuelas	0.21	Penuelas	0.21
Ponce	0.43	Ponce	0.40
Quebradillas	0.38	Quebradillas	0.34
Rincón	0.37	Rincón	0.27
Río Grande	0.26	Río Grande	0.53
San Germán	0.45	San Germán	0.38
San Juan	1.18	San Juan	1.20
San Lorenzo	0.10	San Lorenzo	0.11
San Sebastián	0.78	San Sebastián	0.45
Santa Isabel	0.66	Santa Isabel	0.79
Toa Alta	0.24	Toa Alta	1.05
Toa Baja	3.49	Toa Baja	2.59
Trujillo Alto	0.85	Trujillo Alto	0.98
Vega Alta	0.75	Vega Alta	0.67
Vega Baja	0.54	Vega Baja	0.09
Yauco	0.36	Yauco	0.72
Canóvanas	0.10	Barranquitas	0.23
Comerío	0.69	Ceiba	0.65
Jayuya	0.22	Ciales	0.33
Juncos	0.09	Guayanilla	0.38
Luquillo	0.33	Patillas	0.46
Villalba	0.21	Sabana Grande	0.25
Yabucoa	0.14	Salinas	0.16
Statewide	0.75	Utuado	2.51

Table

424	LQ 2006	Merchant Wholesalers, Nondurable Goods	LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.36	Adjuntas	0.31
Aguada	0.09	Aguada	0.07
Aguadilla	0.32	Aguadilla	0.72
Aguas Buenas	2.06	Aguas Buenas	1.68
Aibonito	0.68	Aibonito	0.59
Añasco	3.08	Añasco	3.83
Arecibo	0.15	Arecibo	0.35
Arroyo	0.26	Arroyo	0.16
Barceloneta	0.25	Barceloneta	0.18
Barranquitas	0.73	Barranquitas	0.57
Bayamón	1.88	Bayamón	1.98
Cabo Rojo	0.43	Cabo Rojo	0.52
Caguas	0.74	Caguas	0.96
Camuy	1.17	Camuy	0.68
Canóvanas	0.08	Canóvanas	0.05
Carolina	0.75	Carolina	0.66
Cataño	7.27	Cataño	8.91
Cayey	0.25	Cayey	0.17
Ceiba	0.84	Ceiba	0.42
Ciales	0.10	Ciales	3.90
Cidra	0.34	Cidra	0.05
Coamo	0.12	Coamo	0.11
Comerío	0.54	Comerío	1.11
Corozal	0.92	Corozal	0.64
Dorado	0.95	Dorado	0.50
Fajardo	0.23	Fajardo	0.18
Florida	0.78	Florida	0.47
Guánica	0.34	Guánica	0.18
Guayama	0.74	Guayama	0.16
Guaynabo	2.41	Guaynabo	2.38
Gurabo	0.53	Gurabo	0.60
Hatillo	0.45	Hatillo	0.18
Hormigueros	0.23	Hormigueros	0.14

Table

424	LQ 2006	Merchant Wholesalers, Nondurable Goods (cont)	LQ 2011
Humacao	0.32	Humacao	0.13
Isabela	1.01	Isabela	0.06
Juana Díaz	0.55	Juana Díaz	0.35
Juncos	0.07	Juncos	0.29
Lares	0.18	Lares	0.12
Las Piedras	0.05	Las Piedras	0.03
Luquillo	1.54	Luquillo	0.86
Manatí	0.28	Manatí	0.25
Mayagüez	0.48	Mayagüez	0.60
Moca	0.15	Moca	0.77
Morovis	0.23	Morovis	0.19
Naguabo	0.18	Naguabo	0.22
Naranjito	0.12	Naranjito	0.31
Orocovis	3.13	Orocovis	0.26
Penuelas	0.17	Penuelas	0.53
Ponce	0.65	Ponce	0.22
Quebradillas	0.30	Quebradillas	0.17
Rincón	0.29	Rincón	0.05
Río Grande	0.28	Río Grande	1.01
Sabana Grande	3.12	Sabana Grande	1.85
Salinas	0.15	Salinas	0.04
San Germán	0.06	San Germán	0.96
San Juan	1.11	San Juan	0.07
San Lorenzo	0.09	San Lorenzo	0.56
San Sebastián	0.46	San Sebastián	0.50
Santa Isabel	0.08	Santa Isabel	0.95
Toa Alta	0.74	Toa Alta	3.45
Toa Baja	2.56	Toa Baja	1.30
Trujillo Alto	1.02	Trujillo Alto	0.17
Utuado	0.25	Utuado	0.26
Vega Baja	0.16	Vega Baja	0.33
Vieques	0.47	Vieques	0.13
Villalba	0.17	Villalba	0.12
Yabucoa	0.11	Yabucoa	0.06
Yauco	0.22	Yauco	0.07
Guayanilla	0.35	Patillas	0.13
Las Marías	0.56		
Maunabo	1.28		
Vega Alta	0.09		
Statewide	0.58		

Transportation and Warehousing Puerto Rico Location Quotients by municipality

Table

481		Air Transportation	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Aguadilla	0.82	Aguadilla	**1.81**
Carolina	7.04	Carolina	**5.62**
Guaynabo	0.04	Guaynabo	0.09
Las Piedras	0.25	Las Piedras	0.43
Mayagüez	0.06	Mayagüez	0.13
Ponce	0.04	Ponce	0.50
San Juan	1.90	San Juan	**1.73**
Vieques	13.62	Vieques	**27.14**
		Caguas	0.08
		Cataño	**2.00**
		Culebra	**17.48**
		Fajardo	0.37
		Trujillo Alto	0.36

Table

483		Water Transportation	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Carolina	0.58	Carolina	0.18
Fajardo	2.75	Guayanilla	**49.75**
Guayanilla	154.87	Mayagüez	0.32
Guaynabo	0.59	Ponce	0.20
San Juan	2.13	San Juan	**3.12**
Caguas	0.57		
Toa Baja	2.45		

Table

484		Truck Transportation	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	1.41	Adjuntas	1.89
Aguada	2.31	Aguada	0.44
Aguadilla	0.59	Aguadilla	5.21
Aguas Buenas	1.34	Aguas Buenas	1.61
Aibonito	2.80	Aibonito	0.57
Añasco	0.32	Añasco	0.30
Arecibo	0.65	Arecibo	0.73
Barceloneta	0.16	Barceloneta	0.18
Bayamón	1.79	Bayamón	1.37
Cabo Rojo	1.27	Cabo Rojo	2.06
Caguas	0.85	Caguas	0.29
Camuy	0.76	Camuy	0.60
Canóvanas	1.92	Canóvanas	1.74
Carolina	2.93	Carolina	1.36
Cataño	1.77	Cataño	11.48
Cayey	1.03	Cayey	1.01
Ceiba	3.29	Ceiba	2.52
Cidra	1.41	Cidra	2.00
Coamo	0.47	Coamo	0.64
Comerío	2.12	Comerío	1.07
Corozal	1.50	Corozal	0.61
Dorado	1.21	Dorado	0.25
Fajardo	0.15	Fajardo	0.17
Florida	19.20	Florida	17.88
Guayama	1.03	Guayama	0.18
Guayanilla	1.37	Guayanilla	1.45
Guaynabo	0.52	Guaynabo	0.60
Gurabo	1.94	Gurabo	0.62
Hatillo	0.15	Hatillo	0.17
Hormigueros	5.57	Hormigueros	15.70
Humacao	0.36	Humacao	0.43

Table

484	Truck Transportation (cont.) LQ 2006		LQ 2011
Isabela	0.35	Isabela	0.65
Juana Díaz	2.23	Juana Díaz	0.33
Lajas	2.70	Lajas	4.52
Lares	0.69	Lares	0.73
Las Marías	2.21	Las Marías	2.18
Manatí	0.79	Manatí	0.82
Mayagüez	0.28	Mayagüez	0.24
Moca	3.59	Moca	1.64
Morovis	0.42	Morovis	1.17
Naranjito	1.81	Naranjito	0.61
Orocovis	2.04	Orocovis	1.54
Penuelas	4.07	Penuelas	5.06
Ponce	1.20	Ponce	0.99
Quebradillas	1.18	Quebradillas	1.30
Rincón	1.12	Rincón	1.04
Sabana Grande	0.70	Río Grande	0.32
Salinas	3.24	Salinas	3.80
San Juan	0.58	San Juan	0.39
San Lorenzo	0.38	San Lorenzo	0.23
San Sebastián	1.67	San Sebastián	0.53
Toa Alta	3.76	Toa Alta	6.26
Toa Baja	2.58	Toa Baja	3.87
Trujillo Alto	0.17	Trujillo Alto	0.16
Vega Alta	0.37	Vega Alta	0.33
Vega Baja	1.04	Vega Baja	1.57
Barranquitas	0.93	Villalba	0.80
Guánica	1.32	Yabucoa	0.70
Las Piedras	1.00	Yauco	2.25
Maunabo	5.02		
Naguabo	0.90		
Río Grande	0.36		
Santa Isabel	0.32		
Utuado	0.98		

Table

485	Transit and Ground Passenger Transportation		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	3.79	Adjuntas	22.26
Aguada	0.99	Aguada	0.83
Aibonito	1.20	Aibonito	6.64
Arecibo	0.27	Arecibo	1.37
Barranquitas	15.61	Barranquitas	1.68
Bayamón	0.08	Bayamón	0.55
Cabo Rojo	7.03	Cabo Rojo	0.53
Caguas	0.09	Caguas	0.65
Camuy	14.92	Camuy	1.13
Canóvanas	0.83	Canóvanas	0.88
Carolina	0.12	Carolina	1.12
Cataño	4.02	Cataño	1.71
Cayey	2.76	Cayey	0.30
Ciales	2.68	Ciales	2.40
Cidra	0.60	Cidra	3.98
Coamo	7.84	Coamo	1.20
Comerío	5.71	Comerío	2.01
Corozal	1.62	Corozal	31.89
Florida	195.16	Florida	5.36
Guánica	3.56	Guánica	2.06
Guayanilla	3.68	Guayanilla	2.72
Guaynabo	0.09	Guaynabo	2.94
Gurabo	32.88	Gurabo	0.46
Humacao	0.26	Humacao	0.77
Jayuya	1.80	Jayuya	1.60
Juana Díaz	0.96	Juana Díaz	0.63
Juncos	0.74	Juncos	0.53
Lares	1.87	Lares	1.36
Las Marías	5.94	Las Marías	4.09
Las Piedras	0.56	Las Piedras	0.37
Loíza	39.16	Loíza	4.54

Table

485	Transit and Ground Passenger Transportation (cont.)		
	LQ 2006		LQ 2011
Maunabo	13.50	Maunabo	10.78
Mayagüez	0.14	Mayagüez	0.11
Naranjito	5.17	Naranjito	7.18
Orocovis	5.50	Orocovis	2.89
Patillas	3.72	Patillas	3.36
Ponce	0.57	Ponce	0.43
Quebradillas	3.17	Quebradillas	2.44
Río Grande	6.13	Río Grande	3.72
Sabana Grande	1.88	Sabana Grande	1.81
San Juan	0.21	San Juan	0.53
Toa Alta	2.59	Toa Alta	7.52
Toa Baja	0.37	Toa Baja	0.28
Trujillo Alto	0.46	Trujillo Alto	1.13
Utuado	2.64	Utuado	1.93
Vega Alta	0.98	Vega Alta	0.61
Villalba	10.93	Villalba	1.50
Yabucoa	1.15	Yabucoa	8.18
Yauco	4.77	Yauco	1.76
Isabela	5.82	Aguadilla	0.25
Vega Baja	0.45	Aguas Buenas	3.02
		Añasco	0.56
		Dorado	0.48
		Fajardo	0.32
		Hatillo	0.33
		Lajas	1.35
		Manatí	0.25
		Maricao	3.49
		Morovis	2.20
		Salinas	1.14

Table

486	Pipeline Transportation		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Bayamón	3.24	Bayamón	0.17
Guaynabo	0.60	Guaynabo	0.80
San Juan	0.74	San Juan	0.60
Yauco	5.22	Yauco	7.26
Aguas Buenas	155.12	Caguas	0.74
Arecibo	1.86	Cataño	18.40
Hatillo	2.81	Cidra	6.45
Toa Baja	15.67	Culebra	161.10
		Fajardo	3.41
		Trujillo Alto	3.33
		Yabucoa	88.02

Table

487	Scenic and Sightseeing Transportation		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Carolina	2.28	Carolina	1.28
Fajardo	10.75	Fajardo	41.59
Guaynabo	0.37	Guaynabo	1.56
Ponce	0.38	Ponce	1.43
San Juan	0.45	San Juan	0.28
Bayamón	0.32	Cidra	12.58
Dorado	2.18	Patillas	70.43
Mayagüez	10.49		
Río Grande	25.74		

Table

488	LQ 2006	Support Activities for Transportation	LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Aguada	0.43	Aguada	0.43
Aguadilla	6.78	Aguadilla	2.35
Bayamón	0.60	Bayamón	2.39
Cabo Rojo	0.33	Cabo Rojo	0.27
Carolina	3.82	Carolina	2.93
Cataño	1.01	Cataño	2.88
Fajardo	1.11	Fajardo	1.02
Guaynabo	0.88	Guaynabo	0.56
Gurabo	0.36	Gurabo	0.24
Humacao	0.11	Humacao	0.12
Isabela	0.40	Isabela	0.32
Mayagüez	1.02	Mayagüez	1.05
Ponce	1.55	Ponce	0.65
San Juan	1.24	San Juan	1.44
Santa Isabel	0.38	Santa Isabel	0.47
Toa Baja	0.99	Toa Baja	0.15
Adjuntas	1.64	Barranquitas	0.87
Arecibo	0.12	Caguas	0.29
Cayey	0.19	Camuy	0.58
Hatillo	0.18	Guayanilla	1.40
Manatí	0.15	Lares	0.70
Moca	0.67	Quebradillas	1.26
Patillas	1.61	San Sebastián	0.52
Penuelas	4.74	Toa Alta	0.69
Río Grande	0.42	Villalba	0.77
San Germán	0.26	Yabucoa	0.67
Yauco	0.33		

Table

496	Couriers and Messengers		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Arecibo	2.92	Arecibo	1.64
Bayamón	0.13	Bayamón	0.05
Caguas	0.92	Caguas	0.57
Carolina	5.85	Carolina	6.71
Guaynabo	0.15	Guaynabo	0.11
Mayagüez	1.46	Mayagüez	1.04
Ponce	0.97	Ponce	0.64
San Juan	1.16	San Juan	0.37
San Lorenzo	1.74	San Lorenzo	1.14
Toa Baja	3.92	Toa Baja	2.67
Aguas Buenas	6.19	Adjuntas	5.32
Humacao	0.45	Aguadilla	6.82
Yauco	1.30	Cabo Rojo	0.79
		Cataño	7.50
		Dorado	0.72
		Gurabo	0.69
		Loíza	6.79
		San Germán	4.11

Table

493	Warehousing and Storage		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Aguadilla	3.22	Aguadilla	0.37
Añasco	0.51	Añasco	0.84
Barceloneta	0.26	Barceloneta	0.50
Bayamón	0.60	Bayamón	0.09
Caguas	1.42	Caguas	1.88
Canóvanas	19.20	Canóvanas	4.86
Carolina	1.51	Carolina	3.64
Cataño	18.82	Cataño	7.47
Cidra	2.23	Cidra	16.42
Guaynabo	2.57	Guaynabo	2.29
Mayagüez	0.08	Mayagüez	0.16
Penuelas	6.45	Penuelas	14.16
Río Grande	0.58	Río Grande	0.91
San Juan	0.26	San Juan	0.54
Yabucoa	0.68	Yabucoa	1.95
Aguada	0.58	Arecibo	0.33
Aibonito	0.71	Coamo	1.79
Cabo Rojo	0.45	Juana Díaz	0.94
Toa Alta	20.33	Ponce	0.10
Utuado	1.56	Toa Baja	2.66
Vega Baja	0.26		

Retail Trade Puerto Rico Location Quotients by municipality

Table

441	Motor Vehicle and Parts Dealers		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.30	Adjuntas	0.55
Aguada	1.01	Aguada	2.36
Aguadilla	0.95	Aguadilla	0.88
Aguas Buenas	0.71	Aguas Buenas	0.47
Aibonito	0.18	Aibonito	0.16
Añasco	0.17	Añasco	0.55
Arecibo	1.32	Arecibo	1.86
Arroyo	0.15	Arroyo	0.28
Barceloneta	0.03	Barceloneta	0.03
Barranquitas	1.56	Barranquitas	5.34
Bayamón	1.74	Bayamón	1.80
Cabo Rojo	0.49	Cabo Rojo	0.51
Caguas	1.43	Caguas	1.60
Camuy	0.95	Camuy	0.74
Canóvanas	0.43	Canóvanas	0.44
Carolina	0.96	Carolina	0.95
Cataño	0.06	Cataño	0.04
Cayey	2.40	Cayey	1.30
Ceiba	0.69	Ceiba	0.73
Cidra	0.75	Cidra	1.98
Coamo	0.49	Coamo	1.56
Comerío	0.45	Comerío	0.31
Corozal	1.63	Corozal	1.78
Dorado	1.86	Dorado	1.48
Fajardo	0.96	Fajardo	1.38
Florida	0.64	Florida	0.83
Guayama	0.82	Guayama	0.97
Guayanilla	0.29	Guayanilla	0.42
Guaynabo	0.48	Guaynabo	0.46
Gurabo	0.08	Gurabo	0.07
Hatillo	1.57	Hatillo	1.78
Hormigueros	5.87	Hormigueros	6.34
Humacao	0.97	Humacao	1.30
Isabela	1.88	Isabela	1.88
Jayuya	0.25	Jayuya	0.25
Juana Díaz	0.90	Juana Díaz	0.83
Juncos	0.35	Juncos	0.70
Lajas	0.65	Lajas	0.61
Lares	0.65	Lares	0.21

Table

441	Motor Vehicle and Parts Dealers (cont)		
	LQ 2006		LQ 2011
Las Marías	0.46	Las Marías	0.63
Las Piedras	0.35	Las Piedras	0.41
Loíza	0.49	Loíza	0.70
Luquillo	2.18	Luquillo	3.03
Manatí	0.39	Manatí	0.38
Maunabo	1.06	Maunabo	1.67
Mayagüez	1.19	Mayagüez	0.96
Moca	0.95	Moca	1.48
Morovis	1.21	Morovis	3.35
Naguabo	1.05	Naguabo	2.07
Naranjito	1.49	Naranjito	1.72
Orocovis	1.00	Orocovis	1.37
Patillas	0.29	Patillas	0.52
Penuelas	0.54	Penuelas	0.23
Ponce	0.86	Ponce	0.84
Quebradillas	1.63	Quebradillas	2.11
Río Grande	1.24	Río Grande	1.73
Sabana Grande	0.13	Sabana Grande	0.28
Salinas	0.50	Salinas	0.70
San Germán	0.61	San Germán	0.76
San Juan	0.95	San Juan	0.77
San Lorenzo	0.47	San Lorenzo	0.74
San Sebastián	2.03	San Sebastián	2.64
Santa Isabel	0.25	Santa Isabel	0.51
Toa Alta	0.34	Toa Alta	0.21
Toa Baja	2.07	Toa Baja	1.77
Trujillo Alto	0.80	Trujillo Alto	0.68
Utuado	1.69	Utuado	0.30
Vega Alta	0.63	Vega Alta	0.59
Vega Baja	1.15	Vega Baja	1.13
Vieques	0.39	Vieques	0.57
Villalba	0.66	Villalba	1.17
Yabucoa	1.53	Yabucoa	1.27
Yauco	1.10	Yauco	1.68
Ciales	0.21	Guánica	0.32
Rincón	0.24		

Table

442	2006	Furniture and Home Furnishings Stores	LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	3.22	Adjuntas	2.52
Aguada	1.07	Aguada	0.71
Aguadilla	0.81	Aguadilla	1.63
Aibonito	1.02	Aibonito	1.01
Añasco	0.37	Añasco	0.40
Arecibo	2.12	Arecibo	1.23
Barranquitas	3.25	Barranquitas	3.69
Bayamón	1.10	Bayamón	1.33
Cabo Rojo	0.32	Cabo Rojo	0.37
Caguas	0.67	Caguas	1.09
Camuy	0.88	Camuy	0.80
Canóvanas	0.35	Canóvanas	0.37
Carolina	1.65	Carolina	0.79
Cataño	0.40	Cataño	0.19
Cayey	0.90	Cayey	0.21
Cidra	0.72	Cidra	2.23
Coamo	0.53	Coamo	0.85
Comerío	2.43	Comerío	8.93
Corozal	1.57	Corozal	0.82
Dorado	0.22	Dorado	0.34
Fajardo	0.42	Fajardo	0.22
Guayama	0.86	Guayama	1.48
Guaynabo	0.44	Guaynabo	0.58
Hatillo	0.63	Hatillo	0.23
Humacao	0.49	Humacao	0.54
Isabela	1.42	Isabela	0.95
Jayuya	0.31	Jayuya	1.13
Juana Díaz	1.09	Juana Díaz	0.45
Juncos	0.88	Juncos	0.38
Lajas	0.83	Lajas	0.96
Lares	1.38	Lares	0.78
Las Piedras	0.24	Las Piedras	0.26
Manatí	1.47	Manatí	2.48
Mayagüez	0.36	Mayagüez	1.13
Moca	0.66	Moca	2.47
Morovis	1.36	Morovis	1.56
Naguabo	1.03	Naguabo	1.51
Naranjito	0.52	Naranjito	0.81
Orocovis	2.81	Orocovis	2.05

Table

442		Furniture and Home Furnishings Stores (cont.)	LQ
	2006		2011
Patillas	1.90	Patillas	2.38
Penuelas	0.74	Penuelas	1.08
Ponce	0.79	Ponce	1.13
Quebradillas	1.35	Quebradillas	1.73
Río Grande	1.11	Río Grande	0.43
Sabana Grande	1.28	Sabana Grande	1.29
Salinas	0.95	Salinas	0.81
San Germán	0.57	San Germán	0.31
San Juan	1.37	San Juan	1.14
San Lorenzo	0.58	San Lorenzo	0.54
San Sebastián	1.52	San Sebastián	0.71
Santa Isabel	0.37	Santa Isabel	0.65
Toa Alta	0.58	Toa Alta	0.95
Toa Baja	0.23	Toa Baja	0.20
Trujillo Alto	1.17	Trujillo Alto	1.37
Utuado	3.00	Utuado	1.37
Vega Alta	0.42	Vega Alta	0.43
Vega Baja	0.25	Vega Baja	2.09
Villalba	0.74	Villalba	1.06
Yabucoa	1.76	Yabucoa	0.93
Yauco	1.64	Yauco	3.00
Aguas Buenas	1.54	Ciales	1.70
Barceloneta	0.19	Las Marías	2.90
Ciales	1.14		
Florida	3.51		
Guayanilla	1.57		
Gurabo	0.36		
Maunabo	5.75		
Rincón	1.28		

Table

443	Electronics and Appliance Stores		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Aguada	0.46	Aguada	0.30
Aguadilla	0.69	Aguadilla	0.56
Aibonito	1.06	Aibonito	0.39
Añasco	0.20	Añasco	0.20
Arecibo	0.86	Arecibo	0.42
Barceloneta	0.47	Barceloneta	0.76
Barranquitas	0.58	Barranquitas	0.77
Bayamón	0.93	Bayamón	1.85
Cabo Rojo	0.42	Cabo Rojo	1.20
Caguas	0.75	Caguas	1.57
Camuy	0.48	Camuy	0.41
Canóvanas	1.49	Canóvanas	1.18
Carolina	1.42	Carolina	1.36
Cataño	0.09	Cataño	0.62
Cayey	0.98	Cayey	0.69
Cidra	0.14	Cidra	0.22
Coamo	0.93	Coamo	2.69
Comerío	1.33	Comerío	0.73
Corozal	0.38	Corozal	0.42
Dorado	0.12	Dorado	0.17
Fajardo	0.60	Fajardo	0.87
Guayama	0.84	Guayama	0.76
Guaynabo	2.41	Guaynabo	1.83
Gurabo	0.19	Gurabo	3.39
Hormigueros	0.56	Hormigueros	3.65
Humacao	0.91	Humacao	0.54
Isabela	1.36	Isabela	1.41
Jayuya	0.42	Jayuya	0.58
Juana Díaz	0.22	Juana Díaz	1.43
Juncos	0.17	Juncos	0.19
Lajas	2.83	Lajas	3.08

Table

443	Electronics and Appliance Stores LQ 2006		LQ 2011
Lares	0.44	Lares	0.50
Las Piedras	0.13	Las Piedras	0.13
Manatí	0.69	Manatí	0.76
Mayagüez	1.60	Mayagüez	0.76
Moca	1.50	Moca	0.38
Naranjito	1.90	Naranjito	0.42
Ponce	0.52	Ponce	0.65
Rincón	0.70	Rincón	0.71
Río Grande	0.23	Río Grande	0.22
Sabana Grande	0.44	Sabana Grande	0.66
San Germán	0.86	San Germán	0.16
San Juan	1.15	San Juan	0.99
San Lorenzo	0.24	San Lorenzo	0.50
San Sebastián	0.81	San Sebastián	0.36
Toa Alta	0.94	Toa Alta	1.86
Toa Baja	0.96	Toa Baja	0.10
Trujillo Alto	1.88	Trujillo Alto	0.70
Utuado	0.62	Utuado	0.70
Vega Alta	1.43	Vega Alta	1.39
Vega Baja	0.27	Vega Baja	1.07
Vieques	1.15	Vieques	1.35
Yabucoa	0.27	Yabucoa	0.47
Yauco	1.11	Yauco	1.53
Aguas Buenas	0.84	Adjuntas	1.29
Florida	1.92	Salinas	0.41
Hatillo	1.44	Santa Isabel	0.33
Morovis	0.56	Villalba	0.54

Table

444	Building Material and Garden Equipment and Supplies Dealers LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.98	Adjuntas	4.75
Aguada	2.03	Aguada	3.26
Aguadilla	1.85	Aguadilla	1.97
Aguas Buenas	3.38	Aguas Buenas	3.32
Aibonito	1.29	Aibonito	1.61
Anasco	0.84	Añasco	0.75
Arecibo	0.82	Arecibo	0.84
Arroyo	0.36	Arroyo	2.41
Barceloneta	0.24	Barceloneta	0.07
Barranquitas	1.39	Barranquitas	2.25
Bayamon	1.33	Bayamón	1.42
Cabo Rojo	1.53	Cabo Rojo	1.05
Caguas	1.53	Caguas	1.23
Camuy	2.46	Camuy	2.62
Canovanas	0.53	Canóvanas	0.26
Carolina	1.58	Carolina	1.52
Catano	0.84	Cataño	2.04
Cayey	1.11	Cayey	0.87
Ceiba	1.15	Ceiba	1.01
Ciales	1.12	Ciales	0.51
Cidra	0.85	Cidra	0.80
Coamo	1.15	Coamo	1.57
Comerío	0.74	Comerío	0.43
Corozal	1.00	Corozal	0.79
Culebra	2.85	Culebra	3.20
Dorado	0.81	Dorado	0.85
Fajardo	0.70	Fajardo	0.70
Florida	2.63	Florida	1.14
Guanica	0.46	Guánica	0.44
Guayama	1.10	Guayama	0.78
Guayanilla	0.48	Guayanilla	0.58
Guaynabo	0.58	Guaynabo	0.63
Gurabo	1.74	Gurabo	0.87
Hatillo	1.55	Hatillo	2.44

Table

444	LQ 2006	Building Material and Garden Equipment and Supplies Dealers (cont.)	LQ 2011
Hormigueros	2.95	Hormigueros	2.14
Humacao	0.78	Humacao	1.10
Isabela	1.59	Isabela	0.83
Jayuya	0.46	Jayuya	0.34
Juana Díaz	0.99	Juana Díaz	0.84
Juncos	1.47	Juncos	0.74
Lajas	3.90	Lajas	2.85
Lares	1.52	Lares	1.50
Las Piedras	0.45	Las Piedras	0.49
Lofza	0.81	Loíza	0.97
Luquillo	0.35	Luquillo	0.33
Manatf	1.01	Manatí	0.88
Maricao	0.67	Maricao	0.75
Maunabo	9.13	Maunabo	2.30
Mayagüez	0.92	Mayagüez	1.20
Moca	1.14	Moca	1.39
Morovis	2.15	Morovis	2.94
Naguabo	0.92	Naguabo	0.46
Naranjito	0.99	Naranjito	2.01
Orocovis	0.88	Orocovis	1.20
Patillas	0.48	Patillas	0.72
Penuelas	0.45	Penuelas	0.81
Ponce	1.19	Ponce	1.20
Quebradillas	0.57	Quebradillas	0.52
Rincon	3.24	Rincón	0.42
Rfo Grande	1.91	Río Grande	0.89
Sabana Grande	0.75	Sabana Grande	0.39
Salinas	1.66	Salinas	1.15
San German	0.86	San Germán	0.79
San Juan	0.57	San Juan	0.56
San Lorenzo	1.64	San Lorenzo	1.58
San Sebastian	2.81	San Sebastián	2.56
Santa Isabel	0.23	Santa Isabel	0.19
Toa Alta	2.07	Toa Alta	2.51
Toa Baja	1.21	Toa Baja	1.27
Trujillo Alto	1.02	Trujillo Alto	0.67
Utuado	3.21	Utuado	2.58
Vega Alta	1.27	Vega Alta	0.82
Vega Baja	0.60	Vega Baja	0.63
Vieques	2.65	Vieques	4.96
Villalba	0.94	Villalba	0.71
Yabucoa	1.30	Yabucoa	1.75
Yauco	1.08	Yauco	1.72
Las Marías	0.77		

Table

445	Food and Beverage Stores		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	4.04	Adjuntas	1.77
Aguada	1.85	Aguada	1.93
Aguadilla	1.18	Aguadilla	0.96
Aguas Buenas	3.86	Aguas Buenas	4.41
Aibonito	2.75	Aibonito	2.22
Anasco	0.50	Añasco	1.13
Arecibo	1.07	Arecibo	0.68
Arroyo	1.00	Arroyo	0.97
Barceloneta	0.54	Barceloneta	0.49
Barranquitas	1.87	Barranquitas	0.13
Bayamon	0.94	Bayamón	1.15
Cabo Rojo	2.17	Cabo Rojo	2.37
Caguas	0.74	Caguas	0.70
Camuy	2.21	Camuy	0.56
Canovanas	1.13	Canóvanas	0.90
Carolina	1.06	Carolina	0.63
Catano	0.59	Cataño	0.80
Cayey	1.19	Cayey	0.91
Ceiba	0.51	Ceiba	2.35
Ciales	0.92	Ciales	1.29
Cidra	1.01	Cidra	1.49
Coamo	1.34	Coamo	0.73
Comerfo	5.86	Comerío	6.97
Corozal	1.73	Corozal	1.68
Culebra	1.27	Culebra	1.19
Dorado	1.03	Dorado	1.50
Fajardo	1.35	Fajardo	0.80
Florida	1.97	Florida	2.66
Guanica	3.20	Guánica	3.00
Guayama	1.39	Guayama	1.55
Guayanilla	1.34	Guayanilla	1.35
Guaynabo	0.84	Guaynabo	0.70
Gurabo	0.89	Gurabo	0.67
Hatillo	1.04	Hatillo	1.59
Hormigueros	2.55	Hormigueros	2.96
Humacao	1.51	Humacao	1.13
Isabela	2.27	Isabela	4.01
Jayuya	1.26	Jayuya	1.60
Juana Díaz	1.24	Juana Díaz	1.97

Table

445	Food and Beverage Stores		
	LQ 2006		LQ 2011
Juncos	1.88	Juncos	1.66
Lajas	2.25	Lajas	1.72
Lares	4.27	Lares	7.20
Las Marfas	2.16	Las Marías	2.03
Las Piedras	1.27	Las Piedras	0.68
Lofza	1.85	Loíza	2.26
Luquillo	2.88	Luquillo	2.26
Manatf	1.48	Manatí	0.53
Maricao	0.30	Maricao	0.28
Maunabo	1.71	Maunabo	0.86
Mayagnez	0.60	Mayagüez	0.73
Moca	1.45	Moca	1.42
Morovis	2.57	Morovis	4.11
Naguabo	1.11	Naguabo	6.68
Naranjito	1.79	Naranjito	0.57
Orocovis	2.00	Orocovis	1.44
Patillas	5.99	Patillas	5.79
Penuelas	1.13	Penuelas	2.21
Ponce	0.99	Ponce	0.84
Quebradillas	3.30	Quebradillas	1.21
Rincon	3.22	Rincón	2.85
Rfo Grande	2.25	Río Grande	3.81
Sabana Grande	0.63	Sabana Grande	0.90
Salinas	2.66	Salinas	2.12
San German	0.84	San Germán	0.65
San Juan	0.42	San Juan	0.44
San Lorenzo	2.82	San Lorenzo	2.39
San Sebastian	2.10	San Sebastián	1.96
Santa Isabel	3.99	Santa Isabel	2.85
Toa Alta	1.44	Toa Alta	2.30
Toa Baja	1.48	Toa Baja	1.50
Trujillo Alto	2.17	Trujillo Alto	3.02
Utuado	2.82	Utuado	4.89
Vega Alta	2.25	Vega Alta	1.80
Vega Baja	0.93	Vega Baja	1.54
Vieques	3.15	Vieques	2.81
Villalba	0.58	Villalba	0.75
Yabucoa	2.63	Yabucoa	4.09
Yauco	2.59	Yauco	2.82

Table

446	Health and Personal Care Stores LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.79	Adjuntas	1.17
Aguada	1.10	Aguada	2.80
Aguadilla	1.14	Aguadilla	1.22
Aguas Buenas	1.94	Aguas Buenas	2.06
Aibonito	1.21	Aibonito	1.59
Añasco	1.11	Añasco	1.16
Arecibo	1.21	Arecibo	1.51
Arroyo	1.48	Arroyo	1.83
Barceloneta	0.41	Barceloneta	0.66
Barranquitas	1.34	Barranquitas	2.29
Bayamón	1.60	Bayamón	1.34
Cabo Rojo	1.39	Cabo Rojo	1.25
Caguas	0.86	Caguas	0.81
Camuy	1.16	Camuy	1.40
Canóvanas	2.04	Canóvanas	1.46
Carolina	1.07	Carolina	1.15
Cataño	0.39	Cataño	0.35
Cayey	1.28	Cayey	0.91
Ceiba	0.76	Ceiba	0.51
Ciales	1.51	Ciales	1.63
Cidra	1.05	Cidra	1.39
Coamo	1.95	Coamo	2.41
Comerío	1.65	Comerío	1.26
Corozal	2.00	Corozal	2.30
Dorado	0.90	Dorado	1.05
Fajardo	1.14	Fajardo	1.00
Florida	1.51	Florida	0.58
Guánica	1.59	Guánica	1.40
Guayama	1.17	Guayama	0.73
Guayanilla	1.06	Guayanilla	1.15
Guaynabo	1.01	Guaynabo	0.55
Gurabo	0.84	Gurabo	0.74
Hatillo	1.03	Hatillo	1.05
Hormigueros	0.21	Hormigueros	2.71

Table

446		Health and Personal Care Stores	
	LQ 2006		LQ 2011
Humacao	1.13	Humacao	0.96
Isabela	0.89	Isabela	0.90
Jayuya	0.15	Jayuya	1.05
Juana Díaz	1.19	Juana Díaz	0.94
Juncos	0.87	Juncos	0.94
Lajas	1.04	Lajas	1.87
Lares	1.47	Lares	2.72
Las Marías	0.51	Las Marías	0.44
Las Piedras	0.44	Las Piedras	0.51
Loíza	3.36	Loíza	3.09
Luquillo	2.16	Luquillo	2.52
Manatí	1.14	Manatí	1.48
Maunabo	1.16	Maunabo	1.17
Mayagüez	0.95	Mayagüez	0.92
Moca	1.52	Moca	2.01
Morovis	1.83	Morovis	2.41
Naguabo	0.99	Naguabo	1.10
Naranjito	2.07	Naranjito	2.42
Orocovis	0.79	Orocovis	1.22
Patillas	2.58	Patillas	3.15
Penuelas	0.62	Penuelas	1.57
Ponce	0.98	Ponce	0.99
Quebradillas	2.28	Quebradillas	3.21
Rincón	2.45	Rincón	1.28
Río Grande	1.32	Río Grande	1.49
Sabana Grande	1.43	Sabana Grande	2.19
Salinas	2.01	Salinas	2.19
San Germán	1.16	San Germán	1.02
San Juan	0.63	San Juan	0.63
San Lorenzo	1.08	San Lorenzo	1.06
San Sebastián	2.15	San Sebastián	2.43
Santa Isabel	0.19	Santa Isabel	0.53
Toa Alta	1.50	Toa Alta	2.27
Toa Baja	1.86	Toa Baja	1.29
Trujillo Alto	0.83	Trujillo Alto	1.06
Utuado	3.50	Utuado	3.38
Vega Alta	1.09	Vega Alta	1.46
Vega Baja	1.61	Vega Baja	1.84
Vieques	0.45	Vieques	0.40
Villalba	1.42	Villalba	1.78
Yabucoa	1.79	Yabucoa	2.68
Yauco	1.93	Yauco	2.17
		Statewide	0.09

Table

447		Gasoline Stations	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	1.62	Adjuntas	2.10
Aguada	1.50	Aguada	1.55
Aguadilla	0.75	Aguadilla	1.00
Aguas Buenas	2.15	Aguas Buenas	1.01
Aibonito	0.36	Aibonito	0.35
Añasco	0.83	Añasco	1.18
Arecibo	1.01	Arecibo	0.86
Arroyo	0.62	Arroyo	0.60
Barceloneta	0.16	Barceloneta	0.70
Barranquitas	1.97	Barranquitas	3.23
Bayamón	1.16	Bayamón	1.27
Cabo Rojo	1.97	Cabo Rojo	2.29
Caguas	0.74	Caguas	1.00
Camuy	1.69	Camuy	1.33
Canóvanas	1.52	Canóvanas	1.28
Carolina	0.76	Carolina	0.96
Cataño	0.96	Cataño	0.90
Cayey	0.84	Cayey	0.58
Ceiba	1.98	Ceiba	1.58
Ciales	2.74	Ciales	3.07
Cidra	1.06	Cidra	0.97
Coamo	0.99	Coamo	0.40
Comerío	2.45	Comerío	1.48
Corozal	2.09	Corozal	2.15
Dorado	3.24	Dorado	1.06
Fajardo	0.93	Fajardo	0.62
Florida	6.79	Florida	1.79
Guánica	0.80	Guánica	1.21
Guayama	0.58	Guayama	0.87
Guayanilla	1.82	Guayanilla	0.91
Guaynabo	0.61	Guaynabo	0.68
Gurabo	1.46	Gurabo	0.95

Table

447		Gasoline Stations	
	LQ 2006		LQ 2011
Hatillo	0.49	Hatillo	0.82
Hormigueros	1.10	Hormigueros	0.53
Humacao	0.48	Humacao	1.26
Isabela	1.90	Isabela	1.47
Jayuya	0.59	Jayuya	1.65
Juana Díaz	0.92	Juana Díaz	0.21
Juncos	0.92	Juncos	1.27
Lajas	3.26	Lajas	2.83
Lares	2.77	Lares	2.85
Las Marías	1.33	Las Marías	1.36
Las Piedras	0.73	Las Piedras	0.72
Loíza	6.59	Loíza	9.48
Manatí	0.98	Manatí	0.51
Maunabo	3.02	Maunabo	3.59
Mayagüez	1.07	Mayagüez	0.72
Moca	2.95	Moca	2.45
Morovis	2.46	Morovis	1.40
Naguabo	2.16	Naguabo	4.46
Naranjito	1.59	Naranjito	2.39
Orocovis	2.17	Orocovis	0.96
Patillas	3.31	Patillas	1.12
Penuelas	2.30	Penuelas	1.94
Ponce	1.30	Ponce	1.61
Quebradillas	3.55	Quebradillas	0.81
Rincón	1.59	Rincón	4.08
Río Grande	3.03	Río Grande	2.27
Sabana Grande	1.11	Sabana Grande	3.79
Salinas	1.79	Salinas	0.38
San Germán	0.51	San Germán	1.04
San Juan	0.80	San Juan	0.50
San Lorenzo	1.27	San Lorenzo	2.55
San Sebastián	1.02	San Sebastián	1.73
Santa Isabel	1.09	Santa Isabel	0.30
Toa Alta	2.00	Toa Alta	2.81
Toa Baja	1.20	Toa Baja	4.04
Trujillo Alto	1.22	Trujillo Alto	1.40
Utuado	2.61	Utuado	4.03
Vega Alta	0.91	Vega Alta	1.33
Vega Baja	1.18	Vega Baja	1.14
Villalba	0.39	Villalba	0.50
Yabucoa	1.40	Yabucoa	1.67
Yauco	1.43	Yauco	1.23
Maricao	1.14	Luquillo	0.52

Table

448		Clothing and Clothing Accessories Stores	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.39	Adjuntas	1.64
Aguada	0.56	Aguada	0.53
Aguadilla	0.77	Aguadilla	0.87
Aguas Buenas	0.17	Aguas Buenas	0.31
Aibonito	0.80	Aibonito	0.68
Añasco	0.14	Añasco	0.35
Arecibo	0.99	Arecibo	0.88
Barceloneta	2.01	Barceloneta	3.79
Barranquitas	1.29	Barranquitas	1.03
Bayamón	1.83	Bayamón	1.39
Cabo Rojo	0.46	Cabo Rojo	0.42
Caguas	1.17	Caguas	1.39
Camuy	0.21	Camuy	0.72
Canóvanas	4.22	Canóvanas	6.00
Carolina	1.00	Carolina	0.92
Cataño	0.49	Cataño	0.21
Cayey	1.49	Cayey	1.17
Ciales	0.79	Ciales	0.53
Cidra	0.40	Cidra	0.38
Coamo	1.52	Coamo	2.11
Comerío	0.84	Comerío	0.20
Corozal	0.66	Corozal	1.10
Dorado	0.29	Dorado	0.35
Fajardo	1.27	Fajardo	1.12
Guayama	1.62	Guayama	1.53
Guayanilla	0.17	Guayanilla	0.28
Guaynabo	0.54	Guaynabo	0.42
Gurabo	0.18	Gurabo	0.29
Hatillo	1.96	Hatillo	2.01
Humacao	1.03	Humacao	0.95
Isabela	1.95	Isabela	1.93
Jayuya	0.80	Jayuya	0.52
Juana Díaz	1.21	Juana Díaz	1.18
Juncos	0.44	Juncos	0.34
Lajas	0.09	Lajas	0.27
Lares	0.57	Lares	0.63
Las Piedras	0.15	Las Piedras	0.23
Loíza	2.14	Loíza	2.90

Table

448	Clothing and Clothing Accessories Stores		
	LQ 2006		LQ 2011
Luquillo	0.13	Luquillo	0.16
Manatí	1.29	Manatí	0.98
Maunabo	0.64	Maunabo	1.10
Mayagüez	1.20	Mayagüez	1.31
Moca	0.44	Moca	0.41
Morovis	0.71	Morovis	1.40
Naguabo	0.61	Naguabo	0.22
Naranjito	1.79	Naranjito	1.68
Orocovis	0.81	Orocovis	1.85
Patillas	1.07	Patillas	0.34
Penuelas	0.08	Penuelas	0.97
Ponce	1.17	Ponce	1.25
Quebradillas	0.15	Quebradillas	0.25
Rincón	0.14	Rincón	0.20
Río Grande	0.14	Río Grande	0.39
Sabana Grande	0.45	Sabana Grande	0.18
Salinas	0.41	Salinas	0.39
San Germán	0.83	San Germán	0.87
San Juan	0.88	San Juan	0.82
San Lorenzo	0.98	San Lorenzo	0.62
San Sebastián	1.46	San Sebastián	4.03
Santa Isabel	0.26	Santa Isabel	1.70
Toa Alta	1.45	Toa Alta	2.52
Toa Baja	0.08	Toa Baja	0.18
Trujillo Alto	0.31	Trujillo Alto	0.33
Utuado	1.20	Utuado	1.23
Vega Alta	3.96	Vega Alta	1.63
Vega Baja	0.47	Vega Baja	0.59
Vieques	0.23	Vieques	0.38
Villalba	0.15	Villalba	0.15
Yabucoa	0.51	Yabucoa	0.83
Yauco	2.44	Yauco	2.48
Guánica	0.17	Statewide	0.08
		Las Marías	0.42

Table

451	Sporting Goods, Hobby, Book, and Music Stores		
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Aguada	0.43	Aguada	1.40
Aguadilla	1.18	Aguadilla	1.03
Arecibo	0.80	Arecibo	0.93
Barceloneta	1.19	Barceloneta	1.42
Barranquitas	1.37	Barranquitas	1.15
Bayamón	1.37	Bayamón	1.70
Cabo Rojo	0.33	Cabo Rojo	0.36
Caguas	0.68	Caguas	1.00
Canóvanas	2.23	Canóvanas	2.22
Carolina	1.45	Carolina	1.10
Cayey	1.19	Cayey	0.21
Ciales	1.16	Ciales	1.63
Coamo	0.54	Coamo	0.82
Corozal	0.70	Corozal	0.78
Dorado	0.50	Dorado	0.33
Fajardo	0.56	Fajardo	0.22
Guayama	0.91	Guayama	0.23
Guaynabo	0.67	Guaynabo	1.02
Hatillo	2.22	Hatillo	1.40
Humacao	0.93	Humacao	0.16
Isabela	1.53	Isabela	1.26
Juana Díaz	0.41	Juana Díaz	0.43
Juncos	0.32	Juncos	2.26
Lares	0.80	Lares	0.93
Las Piedras	0.24	Las Piedras	0.25
Luquillo	1.16	Luquillo	1.05
Mayagüez	1.81	Mayagüez	1.58
Moca	0.66	Moca	0.71
Naranjito	0.56	Naranjito	0.78

Table

451	LQ 2006	Sporting Goods, Hobby, Book, and Music Stores	LQ 2011
Orocovis	2.37	Orocovis	1.97
Ponce	1.05	Ponce	0.85
Río Grande	2.65	Río Grande	0.41
Salinas	0.60	Salinas	0.78
San Germán	0.26	San Germán	0.30
San Juan	1.24	San Juan	1.25
San Lorenzo	0.44	San Lorenzo	0.52
San Sebastián	0.44	San Sebastián	0.68
Toa Alta	0.58	Toa Alta	0.92
Toa Baja	0.16	Toa Baja	0.64
Trujillo Alto	0.20	Trujillo Alto	1.32
Vega Alta	1.42	Vega Alta	0.42
Vega Baja	0.40	Vega Baja	0.32
Villalba	0.75	Villalba	1.02
Yabucoa	0.49	Yabucoa	0.89
Yauco	1.83	Yauco	0.46
Aibonito	0.52	Aguas Buenas	2.06
Añasco	0.37	Camuy	0.77
Comerío	2.46	Cidra	0.41
Manatí	0.51	Hormigueros	1.09
Patillas	1.60	Maunabo	45.97
Quebradillas	1.37	Naguabo	1.45
Rincón	1.30	Sabana Grande	1.24
Utuado	1.14		

Table

452		General Merchandise Stores	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	1.57	Adjuntas	0.39
Aguada	0.32	Aguada	0.57
Aguadilla	0.69	Aguadilla	1.07
Aguas Buenas	0.24	Aguas Buenas	0.33
Aibonito	0.50	Aibonito	0.73
Añasco	0.36	Añasco	0.06
Arecibo	0.71	Arecibo	0.94
Arroyo	0.18	Arroyo	0.20
Barceloneta	0.03	Barceloneta	2.88
Barranquitas	1.04	Barranquitas	0.18
Bayamón	1.62	Bayamón	1.19
Cabo Rojo	0.58	Cabo Rojo	0.36
Caguas	1.24	Caguas	1.39
Camuy	0.85	Camuy	0.12
Canóvanas	0.34	Canóvanas	4.50
Carolina	1.87	Carolina	1.23
Cataño	0.15	Cataño	0.03
Cayey	2.61	Cayey	2.62
Ciales	0.71	Ciales	0.26
Cidra	0.25	Cidra	0.07
Coamo	1.11	Coamo	0.69
Corozal	0.50	Corozal	0.18
Dorado	0.22	Dorado	0.05
Fajardo	1.92	Fajardo	2.74
Guayama	2.31	Guayama	2.19
Guayanilla	0.24	Guayanilla	0.30
Guaynabo	0.28	Guaynabo	0.32
Gurabo	0.35	Gurabo	0.32
Hatillo	4.56	Hatillo	6.62

Table

452	General Merchandise Stores		
	LQ 2006		LQ 2011
Humacao	1.87	Humacao	2.05
Isabela	2.43	Isabela	2.69
Jayuya	0.75	Jayuya	0.18
Juana Díaz	1.17	Juana Díaz	1.26
Lares	0.78	Lares	0.15
Las Marías	0.39	Las Marías	0.45
Las Piedras	0.21	Las Piedras	0.04
Loíza	2.60	Loíza	3.12
Luquillo	15.03	Luquillo	0.17
Manatí	0.02	Manatí	2.13
Mayagüez	0.06	Mayagüez	2.23
Moca	0.64	Moca	0.11
Morovis	0.16	Morovis	0.24
Patillas	0.25	Patillas	0.37
Penuelas	36.12	Penuelas	0.17
Ponce	0.01	Ponce	1.38
Quebradillas	0.21	Quebradillas	1.68
Sabana Grande	0.78	Sabana Grande	0.20
Salinas	1.70	Salinas	0.12
San Germán	18.55	San Germán	0.88
San Juan	0.01	San Juan	0.50
San Lorenzo	0.42	San Lorenzo	0.08
San Sebastián	0.19	San Sebastián	0.69
Santa Isabel	0.31	Santa Isabel	0.10
Toa Alta	0.53	Toa Alta	0.30
Toa Baja	0.44	Toa Baja	0.20
Trujillo Alto	0.20	Trujillo Alto	0.62
Utuado	4.86	Utuado	1.32
Vega Alta	2.57	Vega Alta	1.23
Vega Baja	0.03	Vega Baja	0.95
Villalba	0.12	Villalba	0.16
Yabucoa	0.48	Yabucoa	0.14
Yauco	1.90	Yauco	1.97
Comerío	0.38	Rincón	0.21
Florida	3.42	Vieques	0.41
Juncos	0.31		
Lajas	0.13		
Maunabo	191.54		
Naguabo	0.39		
Naranjito	0.09		
Orocovis	0.36		
Río Grande	0.06		

Table

453		Miscellaneous Store Retailers	
	LQ		LQ
	2006		2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	0.90	Adjuntas	1.57
Aguada	3.43	Aguada	2.29
Aguadilla	0.07	Aguadilla	0.43
Aibonito	0.34	Aibonito	0.47
Arecibo	0.98	Arecibo	0.60
Arroyo	0.65	Arroyo	0.79
Barranquitas	1.54	Barranquitas	0.54
Bayamón	1.83	Bayamón	1.35
Cabo Rojo	0.82	Cabo Rojo	1.46
Caguas	3.07	Caguas	5.57
Camuy	0.49	Camuy	0.50
Carolina	1.53	Carolina	0.94
Cataño	0.09	Cataño	0.12
Cayey	0.65	Cayey	0.40
Cidra	1.26	Cidra	0.89
Coamo	0.59	Coamo	0.53
Corozal	0.23	Corozal	0.51
Dorado	0.12	Dorado	0.21
Fajardo	1.18	Fajardo	0.87
Guayama	0.63	Guayama	0.21
Guaynabo	0.96	Guaynabo	1.06
Gurabo	0.20	Gurabo	0.20
Hatillo	0.43	Hatillo	0.92
Hormigueros	0.57	Hormigueros	0.71
Humacao	0.62	Humacao	0.79
Isabela	0.31	Isabela	0.27
Jayuya	0.42	Jayuya	0.70
Juana Díaz	0.23	Juana Díaz	0.28
Juncos	0.14	Juncos	0.23
Lajas	0.46	Lajas	0.60
Lares	0.44	Lares	0.60

Table

453	Miscellaneous Store Retailers		
	LQ 2006		LQ 2011
Manatí	1.18	Manatí	0.73
Mayagüez	1.74	Mayagüez	1.40
Moca	0.36	Moca	0.46
Orocovis	1.30	Orocovis	1.27
Patillas	0.88	Patillas	1.48
Ponce	0.95	Ponce	0.87
Quebradillas	0.75	Quebradillas	1.08
Rincón	0.71	Rincón	0.86
Río Grande	1.30	Río Grande	0.39
Sabana Grande	0.44	Sabana Grande	0.80
Salinas	0.33	Salinas	0.50
San Germán	0.20	San Germán	0.19
San Juan	0.81	San Juan	0.63
San Lorenzo	0.24	San Lorenzo	0.34
San Sebastián	0.68	San Sebastián	0.44
Toa Alta	0.32	Toa Alta	0.59
Toa Baja	0.54	Toa Baja	0.91
Trujillo Alto	0.56	Trujillo Alto	0.85
Utuado	0.63	Utuado	0.85
Vega Alta	0.23	Vega Alta	0.27
Vega Baja	0.70	Vega Baja	0.21
Villalba	0.41	Villalba	0.66
Yauco	0.18	Yauco	0.30
Aguas Buenas	0.86	Añasco	0.25
Barceloneta	0.10	Canóvanas	1.44
Comerío	1.35	Culebra	6.60
Guayanilla	0.87	Guánica	0.91
Las Piedras	0.29	Luquillo	0.68
Naguabo	0.58	Maunabo	4.75
Naranjito	0.31	Morovis	0.97
Vieques	1.17		
Yabucoa	0.27		

Table

454		Nonstore Retailers	
	LQ 2006		LQ 2011
Puerto Rico	1.00	Puerto Rico	1.00
Adjuntas	3.20	Adjuntas	4.33
Aguada	5.25	Aguada	6.34
Aguadilla	0.25	Aguadilla	0.30
Aguas Buenas	3.06	Aguas Buenas	3.68
Añasco	0.73	Añasco	0.69
Arecibo	1.13	Arecibo	2.15
Bayamón	0.77	Bayamón	0.54
Cabo Rojo	5.65	Cabo Rojo	4.03
Caguas	1.33	Caguas	1.54
Camuy	1.74	Camuy	1.38
Canóvanas	1.88	Canóvanas	0.63
Carolina	0.07	Carolina	0.25
Cataño	1.97	Cataño	0.33
Cayey	0.37	Cayey	0.62
Ciales	2.27	Ciales	2.92
Cidra	0.51	Cidra	0.45
Corozal	1.37	Corozal	1.40
Fajardo	2.17	Fajardo	2.41
Guánica	3.01	Guánica	2.51
Guayama	0.53	Guayama	0.41
Guaynabo	1.37	Guaynabo	0.79
Hatillo	0.77	Hatillo	2.50
Humacao	0.17	Humacao	0.29
Jayuya	1.52	Jayuya	1.94
Juana Díaz	0.81	Juana Díaz	0.77
Juncos	0.62	Juncos	0.64
Lajas	1.64	Lajas	1.65
Lares	1.58	Lares	1.66
Loíza	5.29	Loíza	5.53
Manatí	0.36	Manatí	0.46
Maricao	4.32	Maunabo	13.13
Mayagüez	0.72	Mayagüez	0.84

Table

454		Nonstore Retailers	
	LQ 2006		LQ 2011
Moca	1.85	Moca	1.26
Morovis	2.03	Morovis	2.67
Naguabo	2.05	Naguabo	2.60
Ponce	0.38	Ponce	0.52
Quebradillas	2.68	Quebradillas	2.97
Sabana Grande	1.59	Sabana Grande	2.21
Salinas	17.68	Salinas	21.81
San Germán	0.50	San Germán	0.53
San Juan	1.06	San Juan	0.72
San Lorenzo	0.86	San Lorenzo	0.93
San Sebastián	0.87	San Sebastián	1.22
Toa Alta	1.14	Toa Alta	10.25
Toa Baja	0.31	Toa Baja	0.35
Trujillo Alto	0.39	Trujillo Alto	2.30
Utuado	2.23	Utuado	2.35
Vega Alta	0.83	Vega Alta	5.01
Vega Baja	2.37	Vega Baja	0.44
Vieques	4.16	Vieques	4.52
Villalba	1.48	Villalba	1.82
Yabucoa	0.97	Yabucoa	1.59
Yauco	0.64	Yauco	0.82
Hormigueros	2.02	Aibonito	0.59
Patillas	3.14	Coamo	1.46
Rincón	2.55	Dorado	0.58
Río Grande	0.83	Florida	6.52
Santa Isabel	0.74	Guayanilla	3.32
		Gurabo	0.56
		Las Marías	4.98
		Las Piedras	0.44
		Luquillo	1.89
		Naranjito	1.40
		Orocovis	3.52
		Penuelas	1.85

CHAPTER II:

ANALYSIS OF STRENGHTS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

SWOT analysis

The SWOT analysis is a useful feature for understanding business and government authorities' decision-making process and for all sorts of situations. SWOT is an acronym for Strengths, Weaknesses, Opportunities, and Threats. SWOT analysis is paramount importance for business planning, strategic planning, competitor evaluation, marketing means, business and product development and research reports. It enables companies to identify the positive and negative influencing factors inside and outside of a company, organization or strategic development of a region or even national economies.

Strengths and weaknesses can be considered as internal aspects. That is, these features are considered within the control of the business or decisional-making mechanism. They may refer to aspects of marketing, finance, manufacturing, organization or governmental consideration.

Opportunities and threats are external factors. They imply that they are outside the control of the business or plan. These may include the environment, the economic situation, social changes or technological advances, such as the internet. This section pays attention to development SWOT for Retail, Wholesale and Transportation sectors, attempting to understand their capacities and pitfalls in order to achieve a higher overall level of economic development.

The Retail sector
SWOT for Retail Industry in Puerto Rico
Strengths

- Relative high per capita income and personal spending; High average propensity to consume.
- Transfer payments to individuals or families such as Food Stamps, WIC plans;
- Strong financial capabilities of banking sector, cooperative and mortgage banks;
- Significant presence of mega-outlet and mega boxes such as Wal-Mart, Walgreens, CVS, Cost-Co, Home Depot, Sears, etc.;
- Strong communication network system;
- Human resources –strong managerial capabilities and skills

Weaknesses

- Income from salaries and production has been stagnated due to strong and long-lasting Depression since 2006;
- Small and medium local firms are not strong enough to afford mega boxes competition
- High relative utilities bills --electricity and water

Opportunities

- Puerto Rico can leverage its better infrastructure and its logistic- businesses to become the distribution hub center for the Caribbean;
- Promotion of Puerto Rico as a top retailer destination for shopping centers and businesses would create a stronger linkages between retail and tourism sectors

Threats

- Growing cost-based competition from well-organized multinational retailers and wholesaler clubs could undercut local firms;
- Limitations in critical infrastructure related to trade and business overseas transactions

- Lack of modern communication and business to consumer marketing refers to the via-web site transactions.
- Significant presence of mega-outlet and mega boxes such as Wal-Mart, Walgreens, CVS, Cost-Co, Home Depot, Sears, etc.;
- Long Depression with strong out-migratory trend reduce local purchases;
- Strong out-migration of youth human resources;
- Financial difficulties of private commercial banks have driven to a credit crunch

SWOT for Wholesale Industry in Puerto Rico

Strengths

- Relative high per capita income and personal spending, and high level of propensity to consume;
- Transfer payments to individuals or families such as Food Stamps, WIC plans;
- Strong financial capabilities of banking sector, cooperative and mortgage banks;
- Significant presence of mega-outlet such as Wal-Mart, Walgreens, CVS, Cost-Co, Home Depot, Sears, etc.; because of them, supply chain could be more effective.
- Strong communication network system; access by air, water and land
- Strong pharmaceutical sector which is significantly presence and worldwide known.
- Human resources –strong managerial capabilities and skills

Weaknesses

- Income from salaries and production has been stagnated due to strong and long-lasting Depression since 2006;
- Small and medium local firms are not strong enough to afford mega boxes competition;
- High relative utilities bills --electricity and water;

Opportunities

- Puerto Rico can leverage its better infrastructure and its logistics businesses to become the distribution hub center for the Caribbean;
- Promotion of Puerto Rico as a top retailer destination for shopping centers and businesses would create a stronger linkages between retail and tourism sectors;
- A Foreign Trade Zone will be developed at Aguadilla International Airport; new bonded warehouses are expected to start operation within 2 or 3 years.

Threats

- Growing cost-based competition from well-organized multinational retailers and wholesaler clubs could undercut local firms;
- Limitations in critical infrastructure related to trade and business overseas transactions;
- Lack of modern communication and business to consumer marketing refers to the via-web site transactions;
- Significant presence of mega-outlet and mega boxes such as Wal-Mart, Walgreens, CVS, Cost-Co, Home Depot, etc., threating local small and mid-sized enterprises.
- Long Depression with strong out-migratory trend reduce local purchases; strong out-migration of youth human resources;
- Transfer payments to individuals or families such as Food Stamps, WIC plans
- Degradation of some private commercial banks has driven to a credit crunch.

Detail of SWOT for Retail and Wholesale Industry in Puerto Rico

Strengths

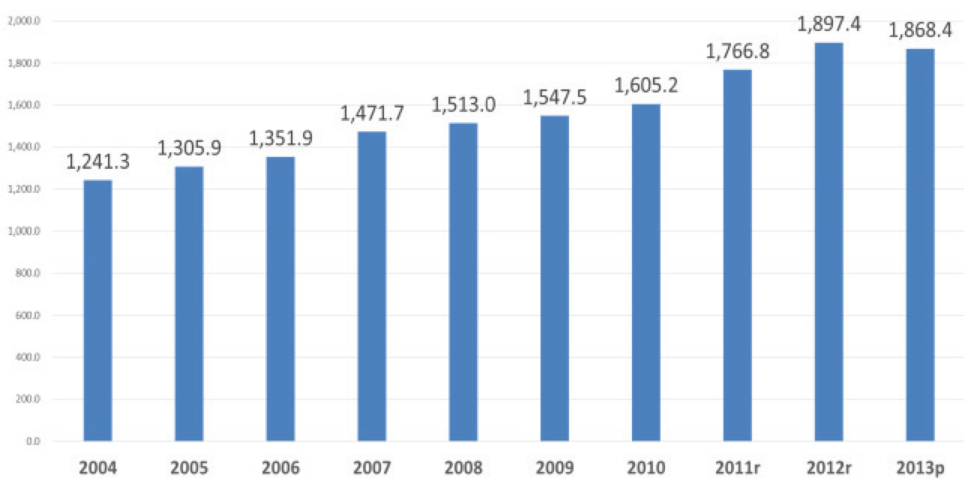
Relative high per capita income and personal spending; high average propensity to consume

Retailers in Puerto Rico takes the advantage of approximately 46 percent of consumers' discretionary income is spent on retail purchases. In the United States this rate is between 25 to 27 percent, in spite of products sold at the states are quite similar to that local. The shopping centers or Malls in Puerto Rico made retail landscapes different as compare to United States because these facilities are also entertainment destinations as well. Food courts that generate $150 per s.f. in the states of U.S, in Puerto Rico takes the figure of $1,500 per s.f.[2] In Puerto Rico, carts and kiosk are nearly 100 percent leased at rents double those charged state-side, on one to three-year terms, rather than month-to-month. Plaza Las Américas ranked among the 15 largest shopping centers in the U.S. and a major economic engine within the local economy with sales over $1.0 billion each year.

Transfer payments to individuals or families such as Food Stamps, WIC plans.

Puerto Rico participates in federal nutritional assistance and welfare programs of United States. These programs represent a significant amount of payments every year. According to the U.S. Department of Agriculture (USDA), the Nutrition Assistance Program (NAP) for Puerto Rico, local residents subject to NAP earned near $1.9 billion in Nutrition Assistance Block Grants by the fiscal year 2012 (See Graph). In Puerto Rico, there are over 1/3 of households under the Food Stamps programs; while U.S. is 1/10. NAP expenditures represents 3% of total disposable personal income.

Figure? Nutritional Assistance Programs: Fiscal Years 2004 to 2013 in millions ($)



Source: Puerto Rico Planning Board.

Another program, Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a federal assistance program of the Food and Nutritional Service (FNS) of the U.S. Department of Agriculture (USDA) for healthcare and nutrition of low-income pregnant women, breastfeeding women, and infants and children under the age of five.

Strong financial capabilities of banking sector, cooperative and mortgage banks; Puerto Rico accounts for a strong financial sector, in which assets totaled $148 billion at 2014, and credit unions accounted for $8.3 billion. Meanwhile, international bank entities and government banks grappled $42 and $15 billion on assets, respectively.

[2] *Specialty Retail Report Fall 2005, On Location: Puerto Rico by Marcia Layton Turner. http://specialtyretail.com/issue/2005/10/retailing-locations/market-profiles/puerto_rico_retail/#sthash.8pn1DCS5.dpuf*

Significant presence of mega-outlet such as Wal-Mart, Walgreens, CVS, Cost-Co, Home Depot, Sears, etc.; because of them, supply chain could be effective

Puerto Rico is the U.S. jurisdiction and world leader in terms of number of Walgreens and Walmart establishments per square mile. These mega-retailers have the opportunity to link supply from local producers or sellers. For instance, Wal Mart supported TV personality Giselle Blondet line of beddings and jewelry inspired by peace and pleasant night rest. Strong communication network system; access by air, water and land.

By June, 2014, Puerto Rico announced a $17 million investment project aimed to create an ultra-high-speed Internet network. This network will serve to Puerto Rico economic development, especially at the growing technology sector. The multi-phase infrastructure project, nicknamed Gigabit Island, will establish a high-speed fiber-optic network; phase one will serve residents and businesses in Old San Juan, Miramar, Isla Verde and the Santurce district, which is the island's entrepreneurial and artistic center. This low profile investment is capable to enhance economic return over $280 million.

Meanwhile, Global Competitiveness Report 2012 - 2013 of the World Economic Forum's "Global Competitiveness Report," positioned Puerto Rico at the 30th place among 148 countries around the global economy. The island economy has been showing soundable improvements in the competitiveness index, moving from 31st place last year and 35th place in 2011. Puerto Rico fared well in key areas and issues which index attempted to assess: (1) financial market development (18 out of 148), (2) labor market efficiency (38), (3) innovation (24) and (4) business sophistication (19), placing among the world's 37 in the area of "innovation-driven technologies". Puerto Rico's provides to businesses a legal and regulatory framework and effectively communication system. The island fared well in terms of its infrastructure — quality of roads (#31), port infrastructure (#28), and air transport (#32).

Strong pharmaceutical sector which is significantly presence and worldwide known

Puerto Rico is also the third-largest biotechnology manufacturer with more than two million square feet and the seventh-largest medical-device exporter with more than 50 plants. As of 2014, Puerto Rico produces 16 of the top 20-selling drugs in the mainland United States. However, expired patents, cheaper manufacturers in countries such as those in Brazil, China, India, and South Korea, the rise of generic drugs, and high production costs pose a challenge to the industry.

U.S. corporations operating in Puerto Rico can be benefited from tax shelters and lower tax rates than operations in the U.S. mainland. Puerto Rico companies pay no Federal income tax, although they do pay Commonwealth tax to the municipal government. This is because the IRS standpoint, Puerto Rico companies are viewed as foreign corporations. The corporate rate paid to the Commonwealth government by locally –based- Puerto Rico companies can be lowered by investments in International Banking Entities (IBEs). Such income on qualified investments, such as mortgage-backed securities, constitutes a tax sheltered.

U.S. corporations operating in Puerto Rico pay local taxes and U.S. Federal taxes, but can lower their consolidated tax charges and can benefit from lower all-in costs of operations in Puerto Rico. U.S. companies may receive a credit on their Federal returns for the local Commonwealth taxes paid in Puerto Rico, and then lowered the consolidated rate. Finally, Puerto Rico offers companies duty-free and quota-free access to U.S. markets.

Human resources –strong managerial capabilities and skills

Puerto Rico places two of the top 20 largest engineering programs in the United States at the Polytechnic University of Puerto Rico and the University of Puerto Rico, Mayagüez campus. More than 10,000 degrees in science, engineering and technology are awarded each year by colleges on the island. The island's is also well known due to the bilingual workforce is well known for its high productivity with significant expertise in process development, automation, quality control/assurance, and warehousing and other business logistics.

Weakness

Income from salaries and production has been stagnated due to strong and long-lasting Depression since 2006;

The economy of Puerto Rico has been experiencing a long recession of over eight (8) consecutive years. The onset is marked as the first quarter of 2006, as a consequences of a series of causal events coupled with those “amplifier” factors, such as the repealing of the section 936 (1996 to 2006) and its multiplier negative effects; Free -trade agreements of United States with other nations; high energy costs due to oil dependency; and so on. Nowadays, the local economy has an unclear future in term of economic activities or investment projects that would be capable to encourage sustainable economic growth.

Small and medium local firms are not strong enough to afford mega boxes competition;

Large retailers or U.S. based chain stores like Walgreens, CVS, Sam’s, Home Depot, K-Mart or Big K-Mart, Wal–Mart, Home Depot and Macy’s, have been established since the 1990’s in Puerto Rico at extraordinary rates. They are not only competing with locally small scale enterprises but also competing with older or already established retailers like Sears and JC Penney. The impact of these superstores is not merely esthetic but they have had adverse impact on the economy and ecological system of Puerto Rico. From 2006 to 2011, small and medium sized retailers (establishments with 19 employees or less), have decreased by 538 units, and accounted for 90% of total retail establishments closed.

High utility rates—electricity and water-sewage.

The government-owned electricity utility -PREPA- charges to customers more than double the U.S. average because is it highly oil dependent and it is also highly indebted with $9 billion in long-term debt, mainly. Now those problems are spiraling into a crisis that could result in billions of dollars in investor losses, push power bills even higher and deepen worries about two other debt-ridden utilities here. The three main utilities—PREPA, PRASA and Highway Authority--owed a combined $19.4 billion, according to Barclays PLC. This amount is slightly more than Detroit’s total debt.

Opportunities

Puerto Rico can leverage its better infrastructure and its logistic-businesses to become the distribution hub center for the Caribbean.

A distribution center is a “facility from which wholesale and retail orders are filled” but is also a high-velocity operation. A distribution center offers value-added services, rather than simply offering static storage, provide a myriad of services for clients, whether those customers are external or internal company departments and functions. A distribution center is customer focused; a distribution center is technology-driven; a distribution center is relationship-centric.

Promotion of Puerto Rico as a top retailer destination for shopping centers and businesses would create a stronger linkages between retail and tourism sectors.

The retail sector-shopping centers, well-known retailers, and so on-influences but is also influenced by a the tourism. A well number of studies emphasized the dual causality between the retail sector and tourism.

Threats

Growing cost-based competition from well-organized multinational retailers and wholesaler clubs could undercut local firms;

Local retailers faced the challenge not only from direct competition but also from wholesalers that sell either intermediary consumption or final consumers. Mega- stores such as CostCo and Sam's are examples.

Limitations in critical infrastructure related to trade and business overseas transactions;

The four merchant marine enterprises operating in Puerto Rico and under Jones Act constitute an oligopoly structure, and because of that is often cited as a factor that raises business costs reducing the potential effects on the Island's economy. However, according to a study conducted by the Federal Bank of New York, the data showed ….

> *…….that shipping is more costly to Puerto Rico than to regional peers and that Puerto Rican ports have lagged other regional ports in activity in recent years. While causality from the Jones Act has not been established, it stands to reason that the act is an important contributor insofar as it reduces competition (shipments between the Island and the U.S. mainland are handled by just four carriers). It costs an estimated $3,063 to ship a twenty-foot container of household and commercial goods from the East Coast of the United States to Puerto Rico; the same shipment costs $1,504 to nearby Santo Domingo (Dominican Republic) and $1,687 to Kingston (Jamaica)—destinations that are not subject to Jones Act restrictions. More broadly, it should be noted that shipping costs between the commonwealth and the U.S. mainland are much more stable than international market-driven rates.*
> *(Report on the Competitiveness of Puerto Rio's Economy, June 29, 2012, Federal Reserve Bank of New York.)*

Lack of modern communication and business to consumer marketing refers to the via-web site transactions;

In the ultra-modern world of business and commerce, the growth in the adoption of modern technologies and their utilization for the growth of business has achieved a major role as the business initiator for the concerned business firm. The Internet is cited as a powerful technological revolution that affects all aspects of business. Businesses accomplish their goals by moving beyond automating their existing processes and reaching a wider customer base. More than 22% of Internet users in Puerto Rico are in the 18 to 24 years old. A study of 2005 on Internet access commissioned by the Puerto Rico Sales & Marketing Executives Association (SME), tells that approximately one-third of the population 12 years and older–1,016,500 individuals–have access to the Internet. In addition, approximately one-third of those without access said they plan to connect within the next year.[3] This is still a low rate to reach all promotion and propaganda from a different source of the businesses.

Significant presence of mega-outlet and mega boxes such as Wal-Mart, Walgreens, CVS, Cost-Co, Home Depot, Sears, etc.;

At a first glance, Puerto Rico's $8.5 billion food and beverage industry remains solid, even the shaken taken on 2001. Total food sales represented about one-fourth of the total sales and 15% of total local consumer expenditures in a marketing process that includes food industry importers, distributors, retailers and wholesalers, restaurants, convenience stores and colmados. However, local recession since 2006 and mega-retailers competition have driven to changes in the food-retail sector, especially since the closing down of Supermercados Grande, followed by the corresponding growth of other locally owned supermarket chains, such as Selectos, SuperMax, Econo, Mr. Special,

[3] *Move over mass marketers; The digital age blurs line in reaching consumers through TV, radio, newspapers, and the Internet LORELEI ALBANESE of Caribbean Business. August, 2005.*
http://www.puertorico-herald.org/issues2/2005/vol09n32/CBMoveOverMrktrs.html

Hatillo Kash & Karry, Plaza Loíza and Pueblo. But even for the food and supermarket sub-sector, the big challenge still the amazing but almost unpredictable expansion of retailer stores such as WalMart and its businesses; CostCo, Walgreens and CVS, which also penetrate to the food market.

Long depression coupled with strong out-migratory trend reduce local purchases;

Puerto Rico real gross national product has contracted every year since fiscal 2006, except for a 0.1% increase in 2012. The Puerto Rico GDB economic activity index indicates that the fiscal 2013 economic contraction has been continuing so far into the first part of fiscal 2014. Some of the factors contributing to economic contraction have been the loss of federal tax breaks for offshore manufacturers in 2006, high energy costs due to the cost of imported oil, and the effect of the Great Recession and the Sub-prime rate banking crisis in the U.S.; and a strong out-migration of local workers to states of U.S. The current administration is focused on promoting job creation and overall economic development and investment, but these efforts have not offset overall decline. One hopeful sign is a recent pick up in tourism, although tourism is only about 2% of GDP.

Strong out-migration of youthagyAT human resources;

From 2000 to 2010, a net-outflow of 288,000 persons left the Island to the U.S. mainland. Nonetheless, the pace has been accelerated in the past few years as the economic situation has worsened, with a net loss of 54,000 migrants a year in 2011 and 2012 on an island of just over 3.6 million people. Preliminary assessment for the early 2013 suggests the outflow is still strong and over 30,000 per year. This pace of local population loss will pick up over the remainder of the decade and will decline by more than 8 percent overall by 2020, according to new projections from the island government's Planning Board, the population will be under 3.36 million by 2020, down by more than 300,000 from the current population of roughly 3.61 million. The potential 8.3 percent decline would far outpace the 2.2 percent drop registered between the 2000 and 2010 census counts.

Financial difficulties of private commercial banks have driven to a credit crunch.

Local banks have faced challenges from toxic assets, bad loans, stemming from delinquent mortgage loans and repossessed properties during the last decade. Banco Popular, Oriental Bank & Trust and Scotiabank acquired on April 30, 2010, the assets of Westernbank, Eurobank and R-G Premier Bank, respectively, from the Federal Deposit Insurance Corp. (FDIC), receiver of the failed banks. However, more recently they have felt the impact of credit degradation, similar to the central government of Puerto Rico. In a nutshell, local banks nowadays are playing it safe, mainly lending only to those individuals and businesses that have shown repayment capacity and soundable cash flows. The long recession has tempered the banks' desire to take risks and their need to expand lending. As property values have declined, businesses and individuals found themselves having less equity to offer as collateral, so it was only natural that lending activity would come down from its 2004-2005 peak.

A Foreign Trade Zone (FTZ) will be developed at Aguadilla International Airport; new bonded warehouses are expected to start operation within 2 or 3 years.

The expert economist, Ernst Frankel supported by the 1990's not only a full development of a Transshipment Port but also port-related for value-added activities coupled with FTZs. Former military Ramey Base in Aguadilla will be soonly considered as a sub-zone of FTZ. The plans are to open bonded distribution areas which are currently used exclusively for the storage and distribution of imported merchandise coming in from Central America, South America and elsewhere. A BW's mainly secured facility and supervised by U.S. customs authorities, where dutiable landed imports are stored pending their re-export, or release on assessment and payment (if any) of import duties, taxes, and other charges.

http://www.businessdictionary.com/definition/bonded-warehouse.html#ixzz388zpNakc

SWOT for Transportation and Warehousing

Strengths

- Existing transportation infrastructure;
- Know how;
- Municipal trolleys;
- Extensive road network;
- Airports; International Airport Luis Muñoz Marin is the international air hub for Caribbean;
- Sea ports; San Juan has the largest containers traffic port in Caribbean;
- Urban Train offers alternative for drivers but also opportunities to circumvent car culture;
- Marinas' infrastructure

Weaknesses

- Deterioration of infrastructure, primarily the road network;
- Very dense and congested transit with relative poor maintained road system;
- Reliability in the system (time constraints, congestion, lack of right of way for collective transportation)
- The financial weaknesses of the Puerto Rico Highway Authority and the Department of Transportation and Public Works; and Metropolitan Bus Authority (AMA);
- Urban Train cost was too high (over $2 billion); operating losses with low patronage. High debt services.
- Local residents are strongly tied to a car culture;

Opportunities

- Federal legislation and funds for transportation projects;
- Political stability ensures safe business conditions increasing location quality for the industries and sub-sectors.
- Relationship with the United States --cargo and passengers, high mobility between the two territories—because social, economic and political relationships;
- A new Land Plan will ensure the best natural resources and "green" infrastructures allocation;

Threats

- Relationship with United States--Cargo and passengers;
- Feasibility of Transshipment Port has been eroded;
- Local residents have been declining due to (a) low fertility rate, and (b) net migration outflows; and
- Jones Act and Cabotage laws needed changes.

Strengths

Puerto Rico has a well-developed infrastructure and transportation network, although has not overall Island railway system. Instead a public buses system operated by the Metropolitan Bus Authority (MBA) provides intercity passenger transport in the capital of San Juan and nearby cities. Historically, the island's minimal railways were used only for hauling the sugarcane by the 1920s to 1950s. The vast majority of the island's 14,400 kilometers (8,949 miles) of roadways are paved, and about 30 international and domestic airports allow for easy access to various cities on the island and provide transportation for industry and tourism. Nonetheless, the most important form of transportation in Puerto Rico is by water or ocean. Puerto Rico's location between the Americas and the route to the Panama Canal--coupled with its valuable ports and airports, can enhance the economy through trade and commerce. Puerto Rican does not possess any merchant marine but the majority of shipments are traded by U.S. owned firms. The advanced infrastructure and transportation systems also make it easier to profit from the booming tourism industry as well as manufacturing sectors.[4]

Marinas are visible strength but also, carry strong potentiality for its economic growth. Puerto Rico offers good facilities and support infrastructure for professionally crewed yachts with a selection of dedicated Super-Yacht marina facilities available, together with a choice of professional haul-out facilities to carry out refits / repairs. Beyond this, Puerto Rico also offers boats and clients some great shopping and provisioning opportunities, as well as quality shore-side itinerary options including golf, surfing, great nightlife, and historical sightseeing for nature tours.

San Juan is the fourth largest port in North America and the second largest in the East Coast of U.S. in term of container traffic. It is also located on established trade routes between North and South America and East and West at the center of the Caribbean basin. The time-route movements fulfill industrial expectation with an average of 3 to 4 days to North American and Mexican Gulf, and 10 days to the West Coast and 14 days to Europe. Then, Puerto Rico possesses a strong international trade orientation having largest domestic market for consumer goods; intermediate and raw materials for the industry.

Urban train moves persons from San Juan to suburbs such as Santurce, Bayamón, and Guaynabo. Costing about $2.28 billion, the system provides an easy mode of transportation to the most congested areas of metropolitan San Juan. During rush hour (5-9am and 3-6pm), the train operates every 8 minutes; otherwise, it runs every 12 minutes. The fare is low --75¢ one-way and includes a transfer to buses. It is considered a good ride and gives tourists a different experience of the city. The train passes on an elevated track through the modern, Hato Rey financial district, plunges underground in Río Piedras, and then snakes through upscale suburban neighborhoods, with tropical foliage and pools in many backyards. The train and accompanying buses keep special expanded schedules during big events, such as festivals in Old San Juan. They also extend schedules when big acts play at the Puerto Rico Coliseum, or the Tourism Company throws a New Year's Eve party at the Convention Center.

Weaknesses

Puerto Rico's inland transportation network consists primarily of roads and motor vehicles. Needless to say, Puerto Rico has a poor transportation grid on the island with scant presence of railroads, and over-reliance on trucking across a system of poorly maintained roads. The performance of such type of system affects public policy concerns like air quality, environmental resource consumption, social equity, land use, urban growth, economic development, safety, and security. Two main corporations such as Puerto Rico Highway Transportation Authority and Metropolitan Bus Authority are passing throughout a deep financial and operational troubles.

The Urban Train (Tren urbano) was perhaps, the first mass-transit project in the transportation history of Puerto Rico. Starting operations at 2005, the Urban Train took almost a decade of construction carrying a total cost of $2.28 billion. It is now moving an average of 45,000 persons during the work-week, while the original estimation was over 140,000 persons. The Urban Train is running at an operating loss of $80 million to $90 million a year, adding PRHA financial woes. The stations also include commercial spaces but the government has attracted very few leases. One of the factors contributing to the train's dismal performance has been the central government's failure to build a fully integrated mass transportation system in which component parts, such as the bus system,

Moody's as well as other grading firms, placed recently the rating of the Puerto Rico Highway and Transportation Authority revenue bonds at Baa2 that means junk bond rating.

[4] *http://www.nationsencyclopedia.com/economies/Americas/Puerto-Rico-INFRASTRUCTURE-POWER-ANDCOMMUNICATIONS. html#ixzz38nil312s*

On the other hand, Jones Act outdated the U.S.-imposed requirements that inflate costs and reduce competitiveness. Jones Act requires U.S. ships; U.S. flags, and U.S. employees on all ships transporting goods between U.S. ports. Puerto Rico depends much more on shipping than any U.S. port city, and has been hurt proportionally that much more as a result. Then, high costs for consumer goods and intermediated goods to the industry are a direct result of such U.S. imposition to Puerto Rican economy.

Opportunities

Puerto Rico participates from Federal program -aid for highway construction, including those directed to construction of new roads and repair and reconstruction of existing roads. The programs provide for matching federal assistance, ranging generally from 80% to 90% of the cost of a project. The level of federal highway aid is dependent upon Congressional authorizations that are apportioned or allocated to the states and the Commonwealth. The U.S. Department of Transportation has broad discretion to release funds for spending within the limits set by U.S. Congress; when state's program funds are reserved but not committed. Federal-aid funds are committed when the U.S. Department of Transportation approves the detailed plans for any given specific transportation or non-transportation projects.
Puerto Ricans are not technically speaking, immigrants to the United States, because they are U.S. citizens. Puerto Ricans entered the United States as citizens, served in the armed forces, traveled between homeland and mainland through open borders, came from a territory of strategic importance to the United States, and had a Caribbean, as opposed to a European, cultural and racial background.

Threats

Competing ports in the Caribbean and Latin American countries have been strengthening their position in the market backed with significant investments and improvements at their ports and facilities. Since shipping is essential to global trade; in our Western Hemisphere nearly 90% of goods exchanged are transported via cargo ships. To boost efficiency and take advantage of economies of scale, as well as plan for expected future growth in trade, the maritime industry has created a new class of megaships known as post-Panamax, which are capable of carrying more than 5,000 TEUs (20-foot-equivalent container units) across the world.

Because Puerto Rico has facing an eroding competitiveness within the region and its ability to attract future investment, while at the same time, the feasibility of a transshipment port at Ponce have vanished, there has been another proposal of shifting transshipment port to the former military base of Roosevelt Roads (RR). In spite of previous plans of development of RR, new economic development vision is quite necessary. The transshipment port at RR would be a cargo hub, much like airline hubs that currently operate out of large airports such as New York's John F. Kennedy Airport, Chicago's O'Hare or Miami's International Airport. Just as FedEx and UPS send personal and business' packages to their respective hubs, so too is a cargo transshipment port a hub for cargo containers; the containers are unloaded from the big cargo ships, concentrated, sorted and, in some cases, stored for a few days and put back on other smaller ships heading toward various ultimate destinations.