

# Washington, D.C.:

## An Economy in Transition

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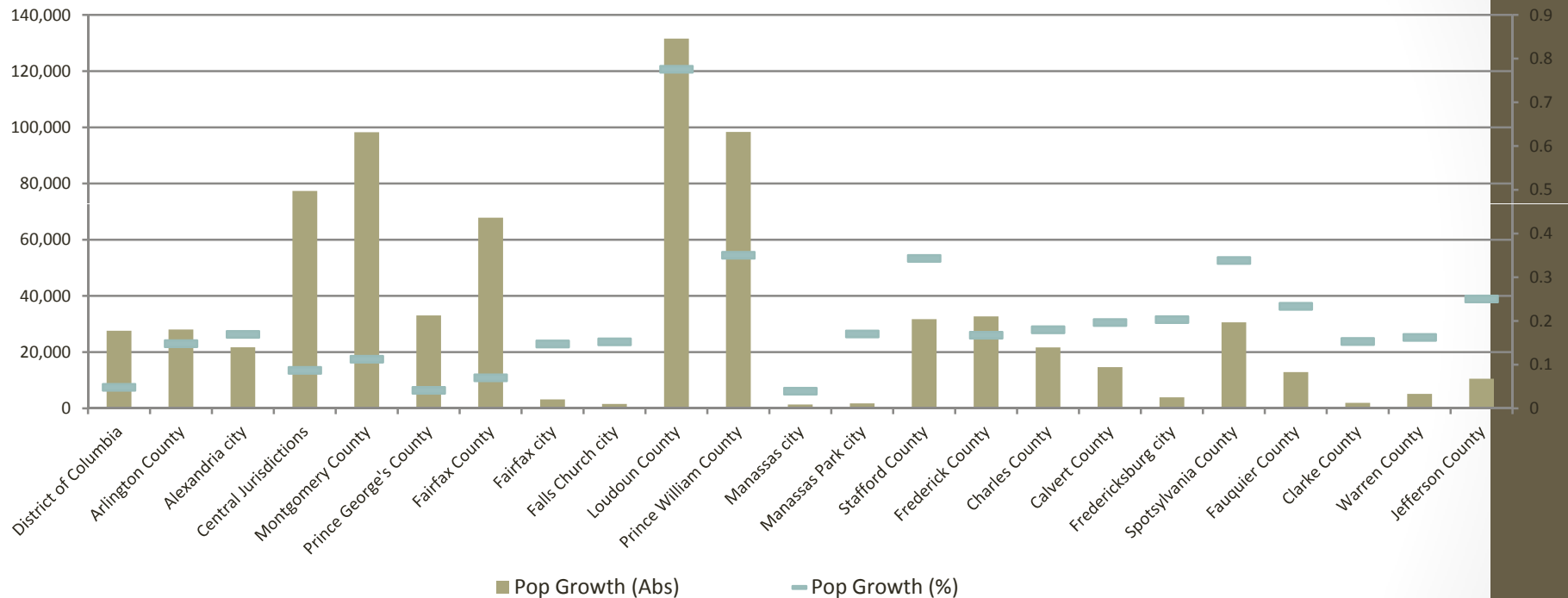
# Overview

- Population
- Housing
- Industrial Composition
- Major Revenue Sources
  - Individual Income
  - Property
  - Sales and Use

The views expressed in this presentation are the author's alone and do not constitute an official statement from the DC Office of Revenue Analysis, nor the Government of the District of Columbia, generally.

# Metro Area is Growing Generally

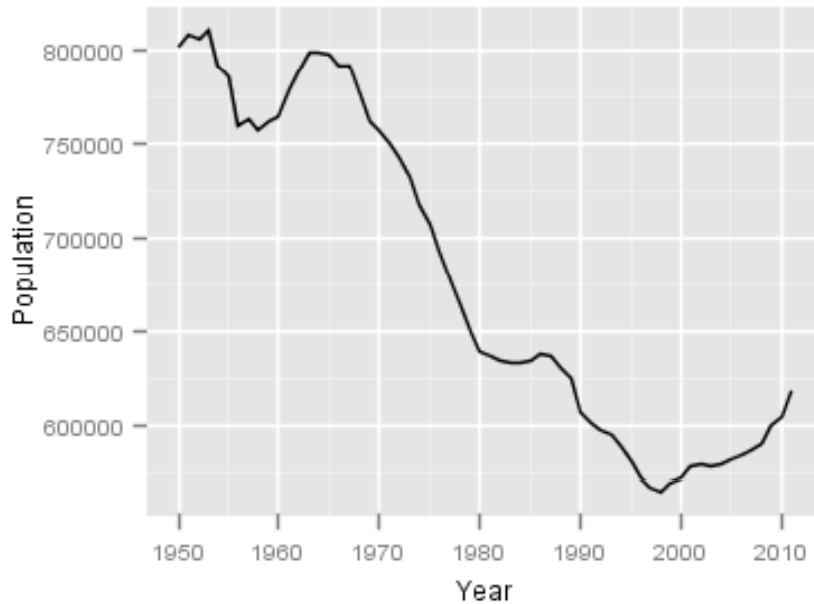
Population Change: 2000-2009



Census population estimates reveal that DC's impressive growth is characteristic of the larger metropolitan area.

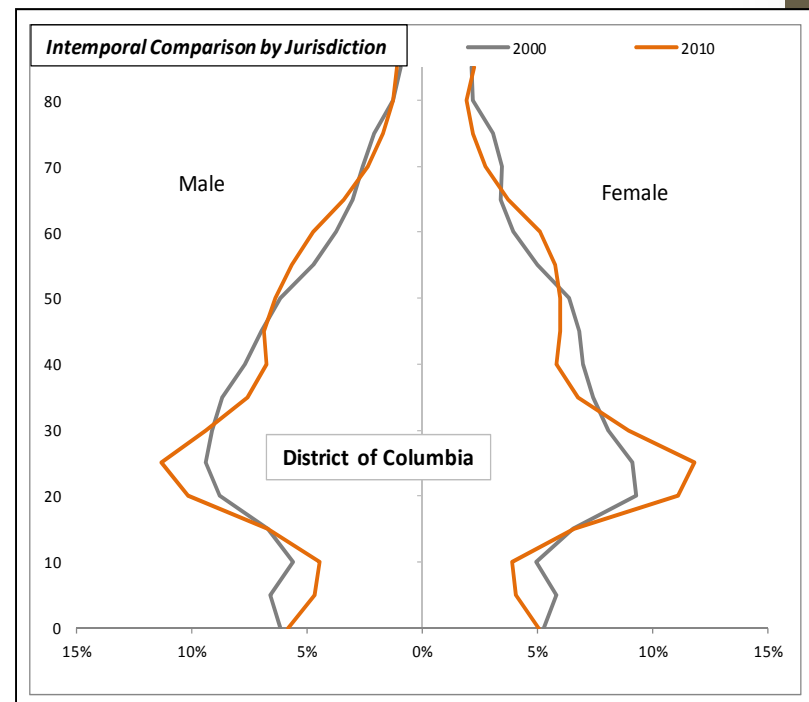
- Loudoun County experienced the greatest growth (131,572; + 77.6%)
- 18 of the 23 jurisdictions in the greater metro area experienced double digit growth over the period

# A New Population Regime



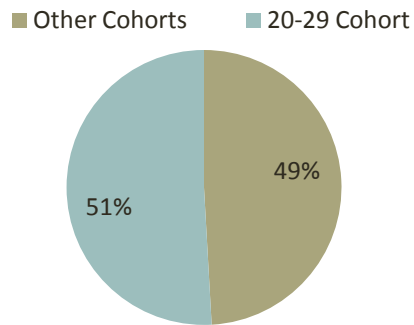
Intercensal comparisons indicate strong increases in the 20-30 year segment of the population, a group characterized by high relative consumption rates in the services offered by District businesses and low dependent responsibility.

All told, from the peak (1953) to trough (1998), the District lost approximately 245,000 (30%) of its residents. Since 1998, the population has grown by over 52,000 (9.3%) to 617,996 in 2011.



# Female-Centric Growth Trajectory

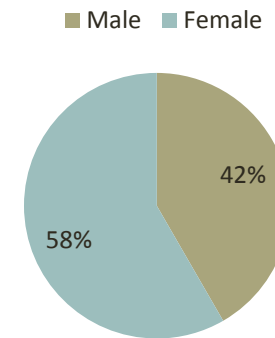
## Gross Growth



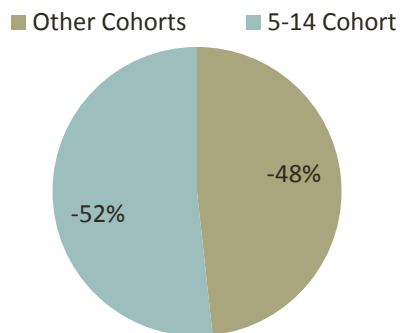
The gains in the 20-29 cohort account for 51% of gross gains for DC between 2000 and 2010. A majority of this cohort is comprised of women.

Across all groups, men grew faster (5.5%) than women (4.9%). Women still remain the larger component in absolute terms (52.8%).

## Gross Growth by Sex: 20-29 Cohort



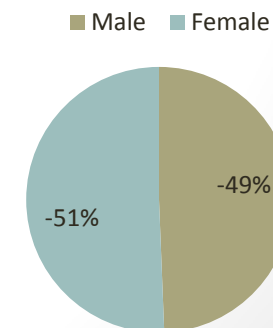
## Gross Loss



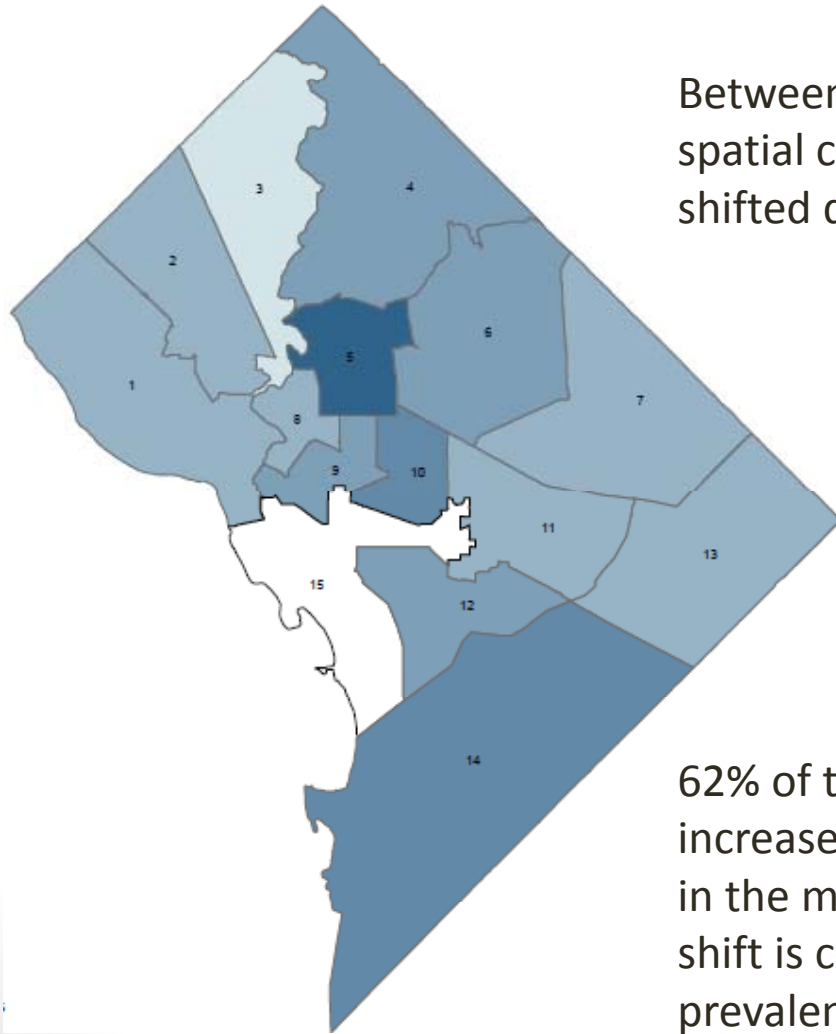
The losses in the 5-14 cohort account for 52% of the gross losses. While females constitute the majority of this group, it is a slim one (51%).

The rates of male gains and female losses are insufficient to overcome the female majority in the near future.

## Gross Loss by Sex: 5-14 Cohort

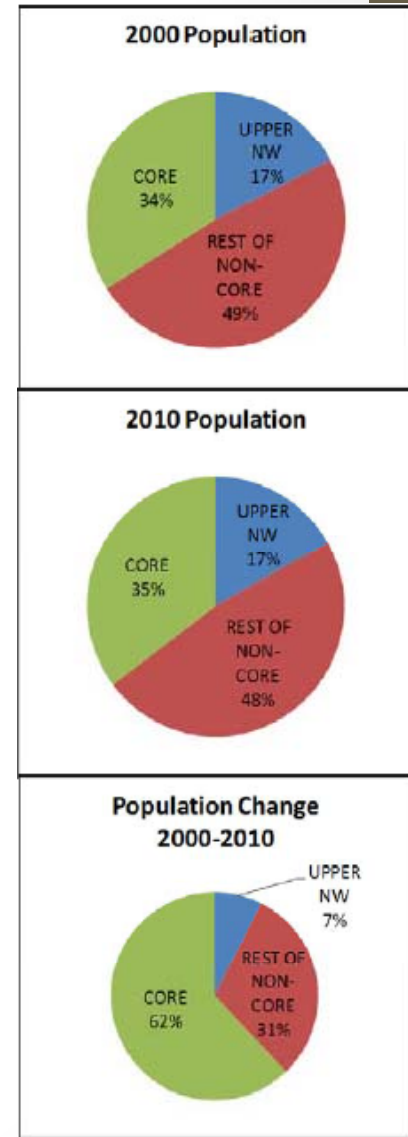


# Concentration in District's Core



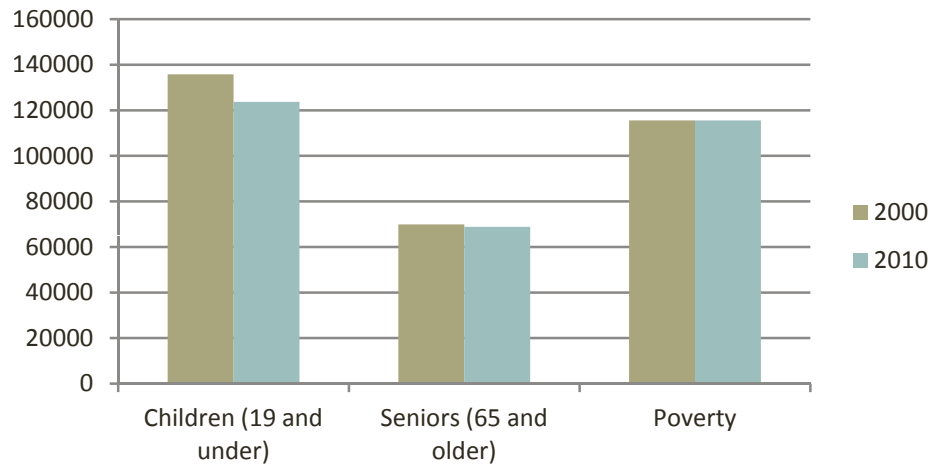
Between 2000 and 2010, the spatial composition in the city shifted dramatically.

62% of the net population increase in the District occurred in the middle of the city. This shift is commensurate with the prevalence of the 20-29 cohort.



# High Public Expenditure Populations

## Dependent Populations: 2000-2010

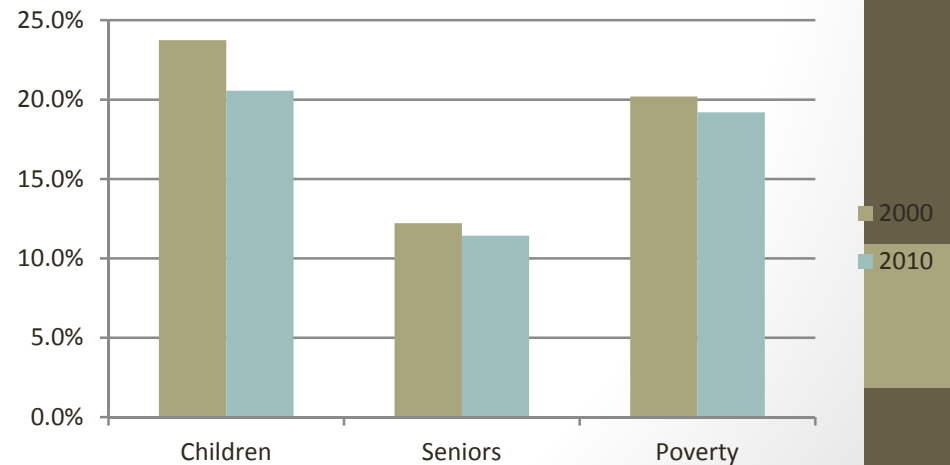


The biggest drop occurred in the 19 and under cohort (-8.9%), followed by the 65+ cohort (-1.6%). While the poverty rate has dropped 1%, the absolute level of impoverished residents remains virtually identical.

In absolute terms, 2010 saw “dependent” populations at or below the levels observed in 2000.

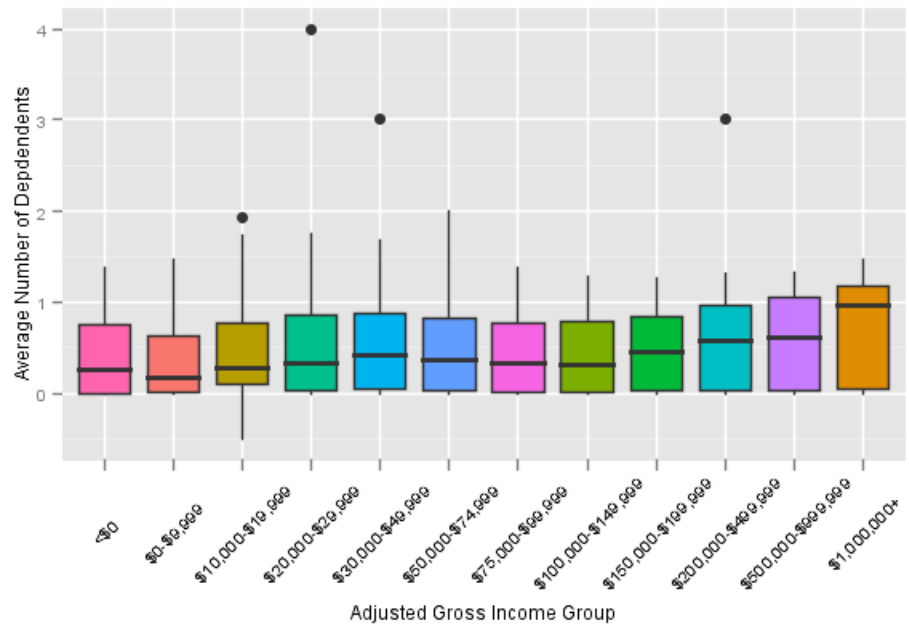
Given the general growth in the population, the dependency ratios exhibit a more noticeable decline.

## Dependent Pop (%): 2000-2010

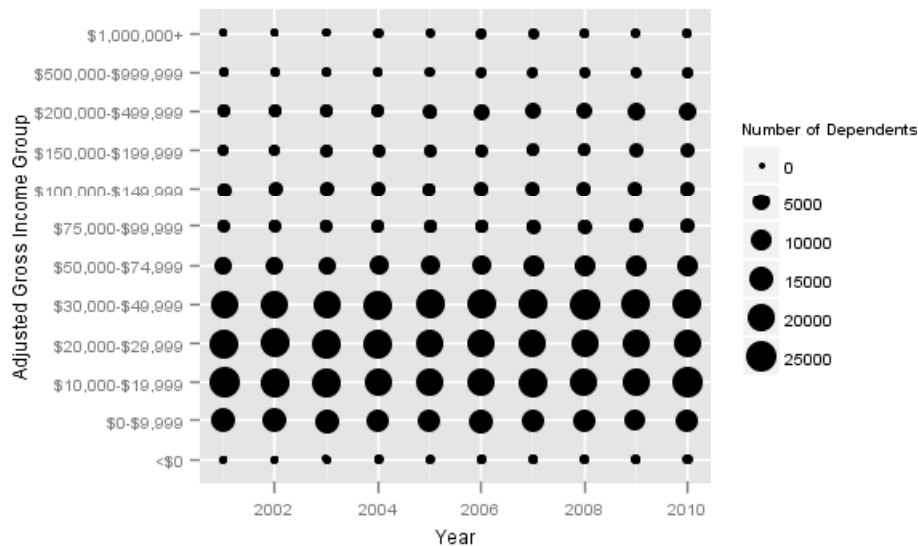


# Distribution of Children/Dependents

The propensity to claim dependents tends to rise with income. Micro-level variance also displays limited correlation with increasing incomes.

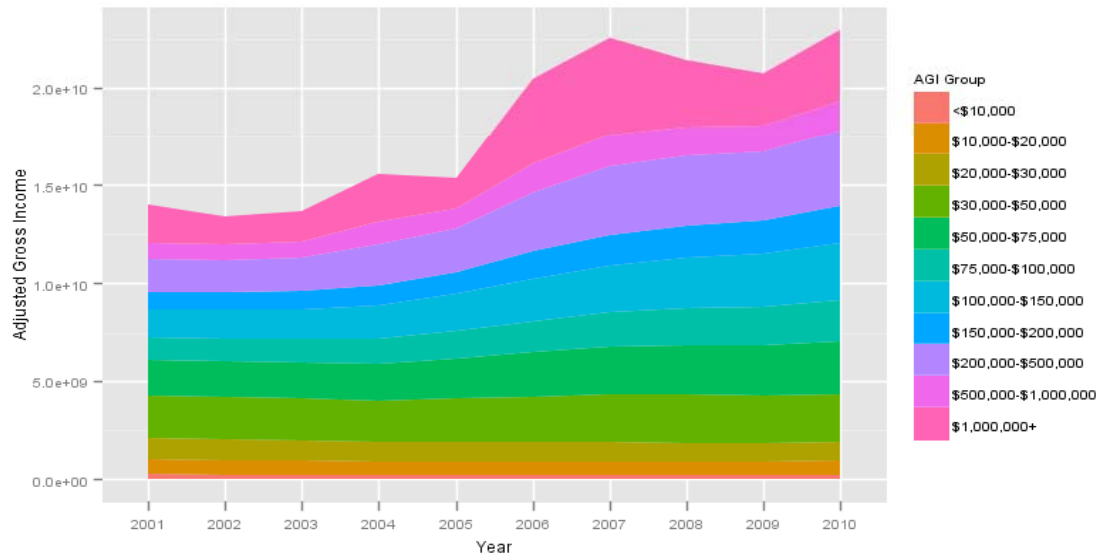


However, there are far more people on the lower end of the income spectrum. In absolute terms, dependents are far more prevalent on this end.



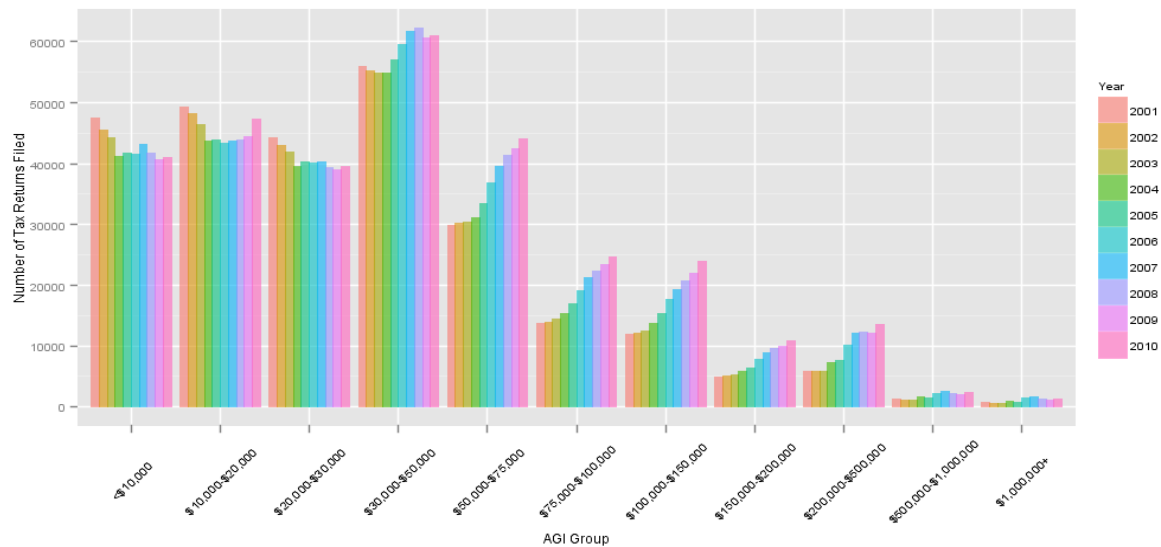


# Aggregate Income is Increasing

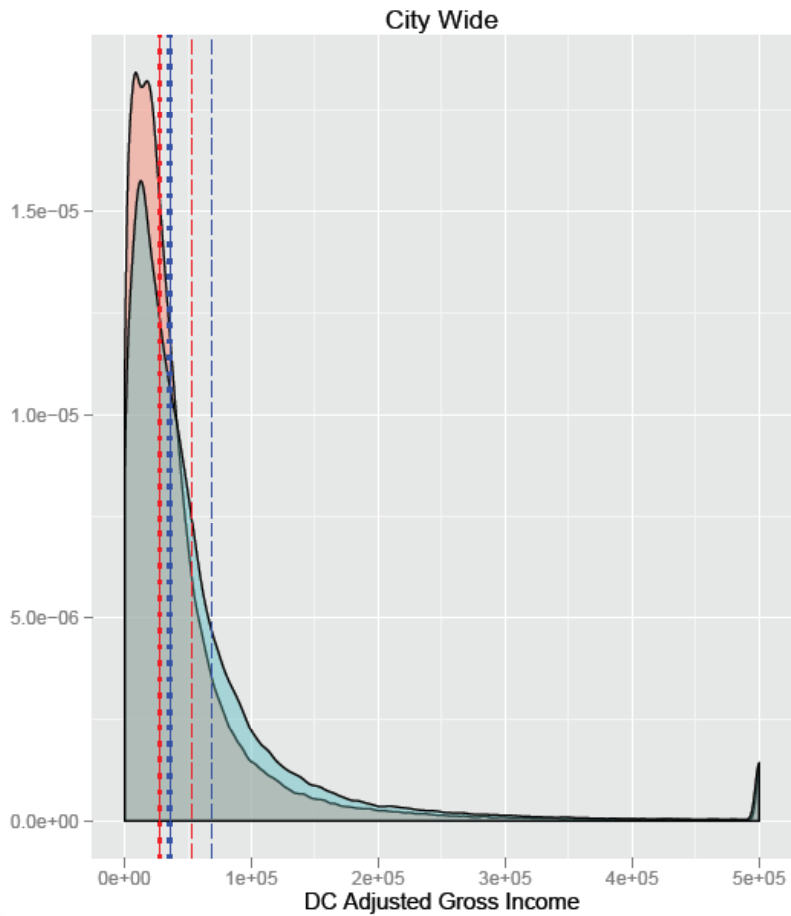


The total income of the District is increasing over time.

The increasing income is manifested in bracket creep here. The number of filers in higher income buckets is trending upward.



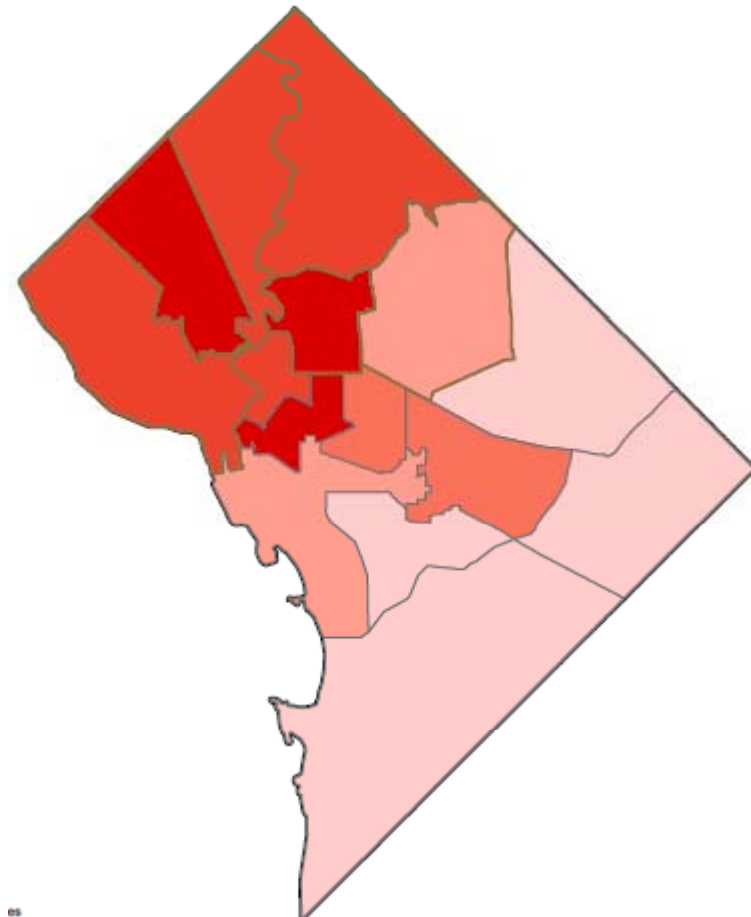
# Income Distribution is Shifting



Year

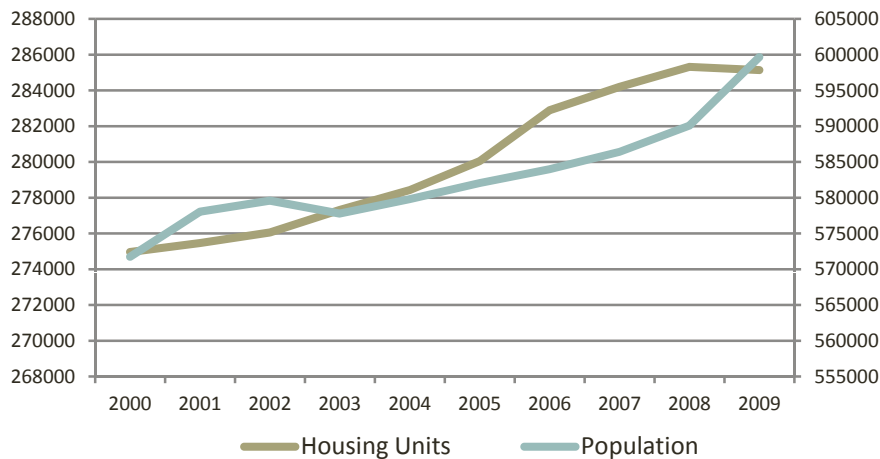
2001

2010



# Housing Market Keeping Pace

**Population and Housing Units (2000-2009)**

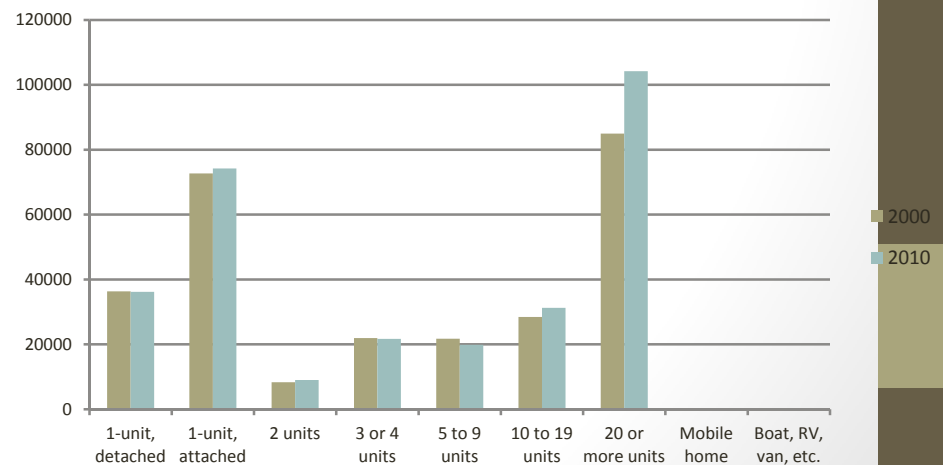


Note: The population curve corresponds with the secondary axis on the left.

Although the pace of new construction started to taper during the recession, the rapid increase in housing units proved prescient.

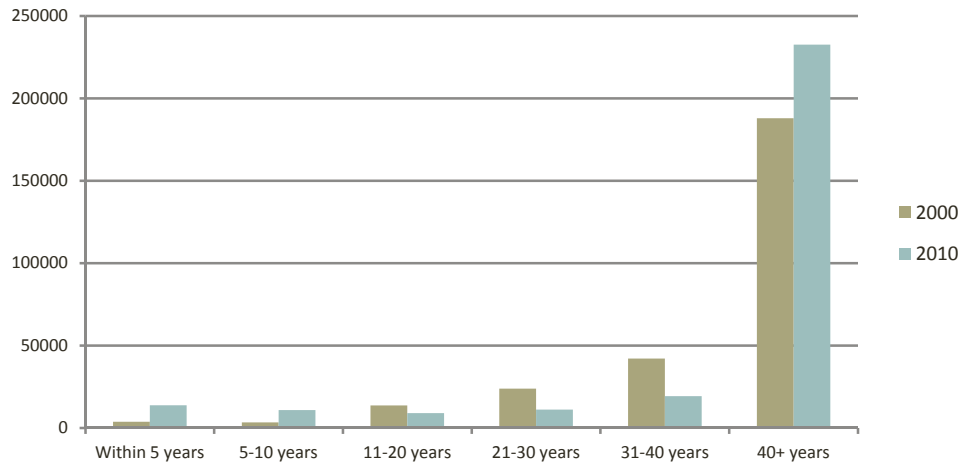
Consistent with the concentration in the core where lateral space is at a premium, the largest increases in housing units were a function of high volume residential assets (condos and apartments).

**Housing Stock by Number of Units**



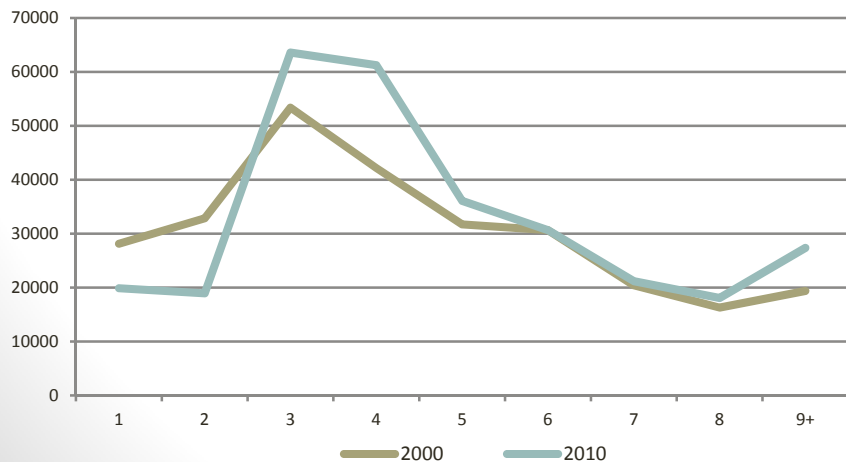
# Housing Stock Composition Shift

## Housing Stock by Year Built



Housing stock is aging, but we do see a wave of new housing stock coming into existence. Much of this is heavily driven by the condos and apartments mentioned above.

## Housing Stock by Size of Dwelling

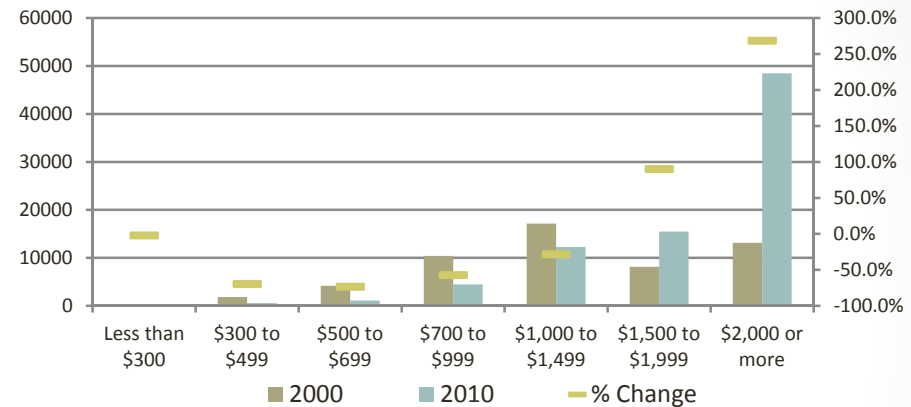


Despite this increase in condos and apartments, we see a general increase in the size of housing over time. The median dwelling size increased from 4 to 4.3 over the 2000-2010 period.

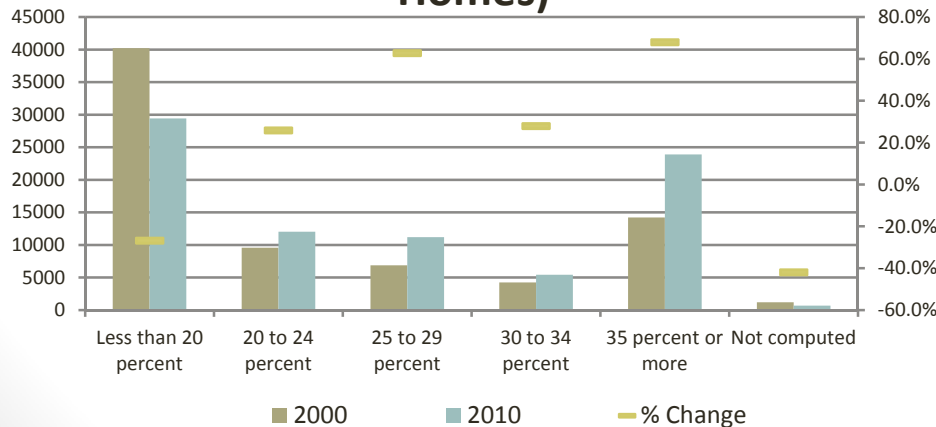
# Costs of Ownership are Increasing

In absolute terms, the amount of mortgage payments has increased dramatically. The most striking data point is the increase in the number of mortgages of \$2,000 or more by 268%.

### Mortgage Cost Change



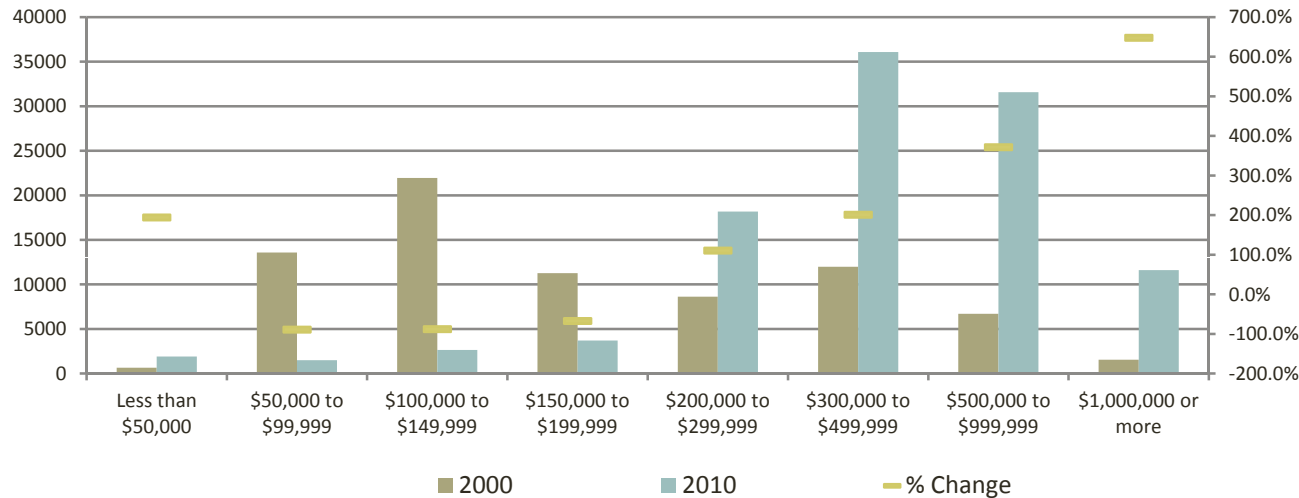
### Change in Owner Cost (Mortgaged Homes)



Ownership costs for owner occupied homes have also gone up as a % of income. The number of people spending over 35% of their income on ownership costs has increased by 68%.

# Home Values are Also Increasing

## Owner Occupied Home Value



The dramatic increase in the cost of ownership as a portion of income suggests that, even if incomes are rising, the cost of housing is rising even faster. The median cost of housing has increased by 171.6% to almost \$426,900 in 2010.

The number of people owning homes worth between \$200,000 and \$299,000 has doubled, and the increases are more dramatic further up the scale. \$1,000,000+ homes have increased by 648% in the intercensal period.

# Labor Force Composition Maintains

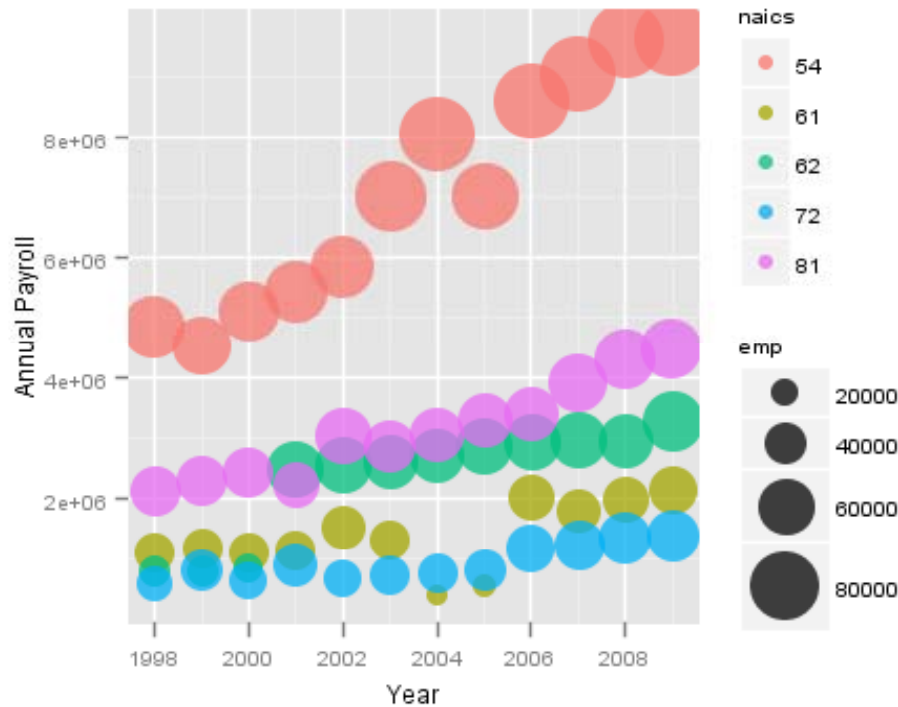
| INDUSTRY   | 2000          | 2010          | Abs. Change  | % Change   |
|--|---------------|---------------|--------------|------------|
| <i>Agriculture, forestry, fishing and hunting, and mining</i>                              | 203           | 174           | -29          | -14%       |
| <i>Construction</i>  | 10337         | 8866          | -1471        | -14%       |
| <i>Manufacturing</i>   | 4024          | 3113          | -911         | -23%       |
| <i>Wholesale trade</i>   | 2385          | 2717          | 332          | 14%        |
| <i>Retail trade</i>  | 15678         | 15923         | 245          | 2%         |
| <i>Transportation and warehousing, and utilities</i>                                       | 9521          | 11159         | 1638         | 17%        |
| <i>Information</i>   | 16846         | 11748         | -5098        | -30%       |
| <i>Finance, insurance, real estate, and rental and leasing</i>                             | 19388         | 15640         | -3748        | -19%       |
| <i>Professional, scientific, management, administrative, and waste management services</i> | 49564         | 66452         | 16888        | 34%        |
| <i>Educational, health and social services</i>   | 47312         | 55973         | 8661         | 18%        |
| <i>Arts, entertainment, recreation, accommodation and food services</i>                    | 23904         | 26169         | 2265         | 9%         |
| <i>Other services (except public administration)</i>                                       | 24445         | 26834         | 2389         | 10%        |
| <i>Public administration</i>   | 39501         | 54359         | 14858        | 38%        |
| <b>TOTAL</b>   | <b>263108</b> | <b>299127</b> | <b>36019</b> | <b>14%</b> |

The growth in the labor force has carried some shifts in the composition. The shifts, however, are not significant in the sense that ranking importance is qualitatively different.

The largest increases in absolute and relative terms have come in professional services (34%) and public administration (38%).

The most notable declines have been in the information (-30%) and finance/insurance/real estate industries (-19%).

# Top 5 Industries



Professional, Scientific, & Technical Services has exhibited extraordinary growth over the 1998-2009 period. This growth has come in terms of number of employees and average earnings.

Education and Health Care/Social Assistance services have also experienced growth.

These growth patterns highlight the service oriented nature of the District's economy.

| NAICS Code | Industry  |
|------------|---|
| 54         | <i>Professional, Scientific, &amp; Technical Services</i> |
| 61         | <i>Educational Services</i>                               |
| 62         | <i>Health Care and Social Assistance</i>                  |
| 72         | <i>Accommodation and Food Services</i>                    |
| 81         | <i>Other Services other than Public Administration</i>    |



# Industry Trends (GSP \$M)

## 5 Fastest Growing Industries (1997-2009)

| Rank | Absolute Change   | Percentage Change   |
|------|---|---|
| 1    | Federal civilian<br>12496                                 | Arts, entertainment, and recreation<br>11.94%             |
| 2    | Professional, scientific, and technical services<br>12436 | Professional, scientific, and technical services<br>8.00% |
| 3    | Real estate and rental and leasing<br>4267                | Management of companies and enterprises<br>7.26%          |
| 4    | Other services, except government<br>3525                 | Administrative and waste management services<br>7.04%     |
| 5    | Finance and insurance<br>2730                             | Construction<br>6.91%                                     |

## 5 Slowest Growing Industries (1997-2009)

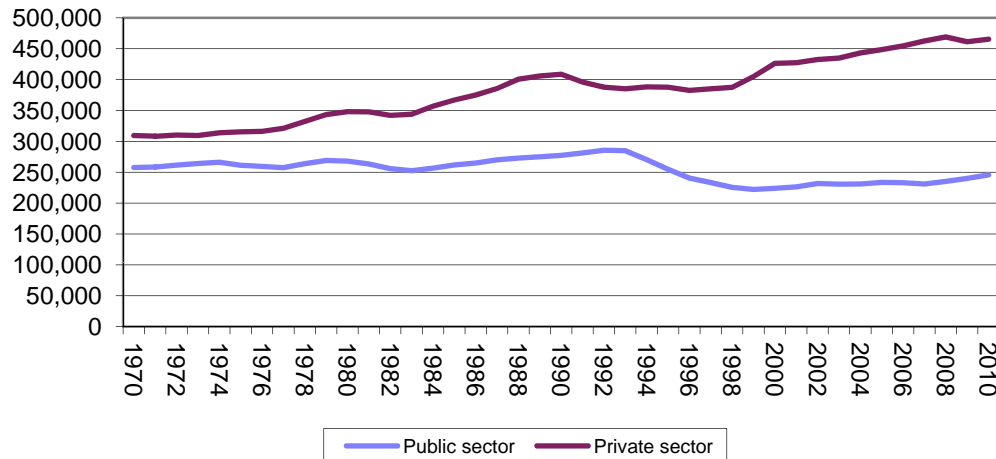
| Rank | Absolute Change                                    | Percentage Change  |
|------|--|--|
| 1    | Mining*<br>-13                                     | Agriculture, forestry, fishing, and hunting*<br>-100.00% |
| 2    | Agriculture, forestry, fishing, and hunting*<br>-1 | Mining*<br>-100.00%                                      |
| 3    | Manufacturing<br>8                                 | Manufacturing<br>0.67%                                   |
| 4    | Transportation and warehousing<br>20               | Transportation and warehousing<br>1.08%                  |
| 5    | Wholesale trade<br>239                             | Retail trade<br>2.96%                                    |

\*Note: Accuracy here is suspect. Omitted values due to small population size skewed calculation.

Nevertheless, these values were omitted due to the relatively inconsequential nature of these industries.

# Employment Growth

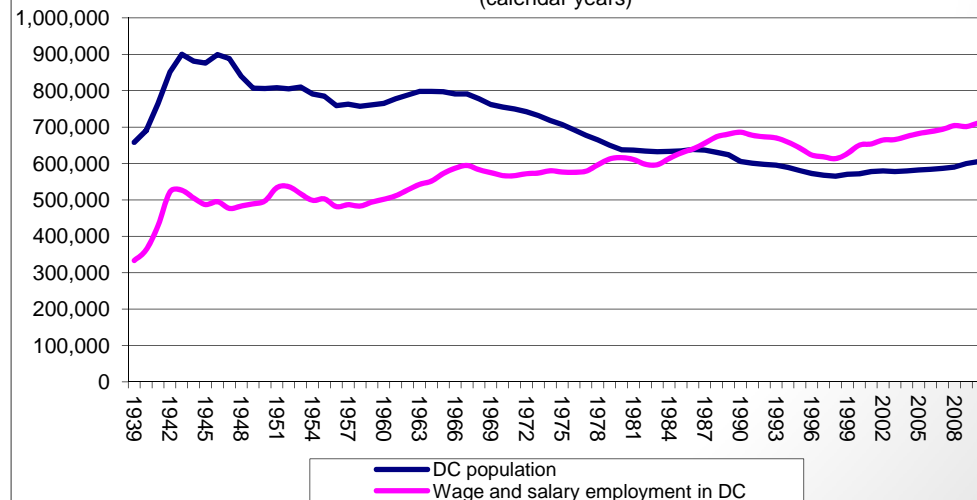
Public and Private Sector Wage and Salary Employment in DC: 1970 - 2010



Public sector employment has remained relatively flat for some time. We expect declines in the future given the current posture (particularly as a consequence of sequestration).

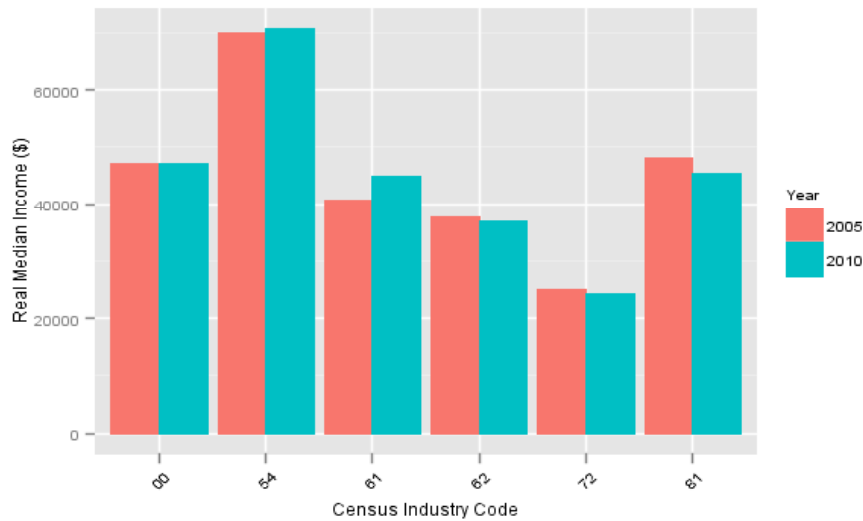
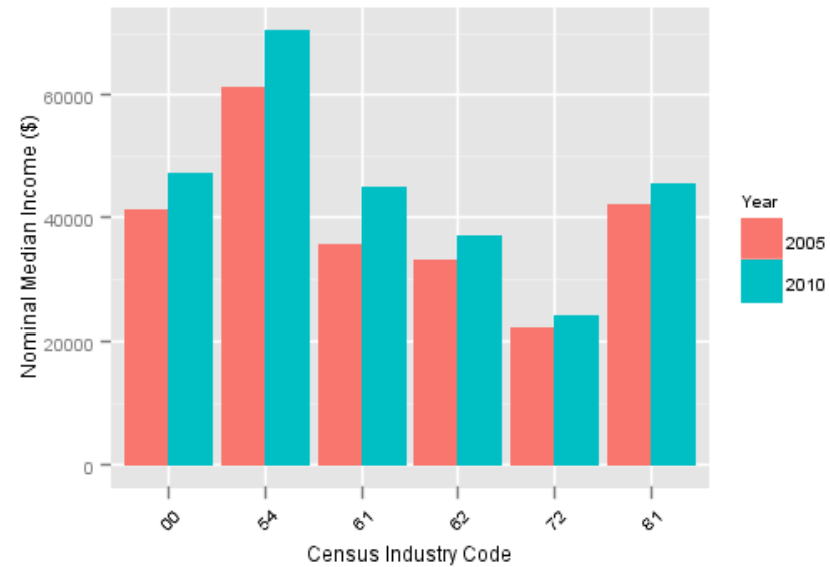
Employment opportunities in the District continue to encourage large day time populations.

Population and Wage and Salary Employment located in DC: 1939 to 2010  
(calendar years)



# Real Industry Wages are Growing

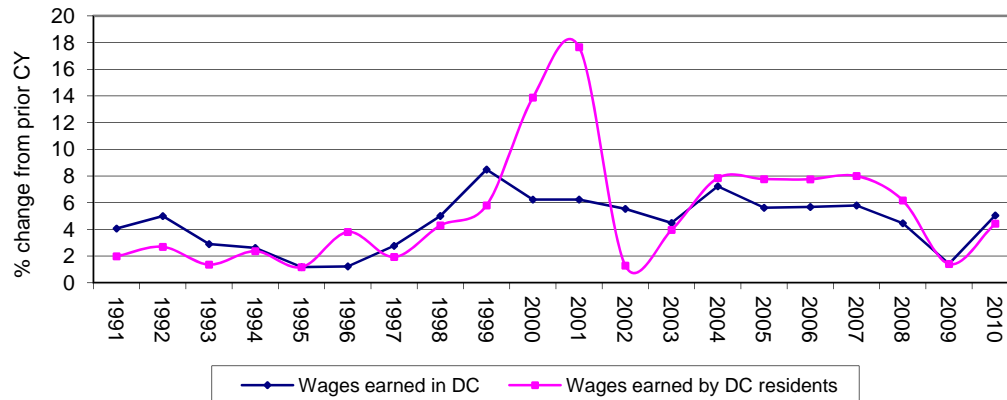
There are clear nominal increases in the median wages of the top five industries. (Code 00 covers all industries.)



However, real wage growth gains are less impressive over the 2005 to 2010 period.

# Income Has Been Volatile

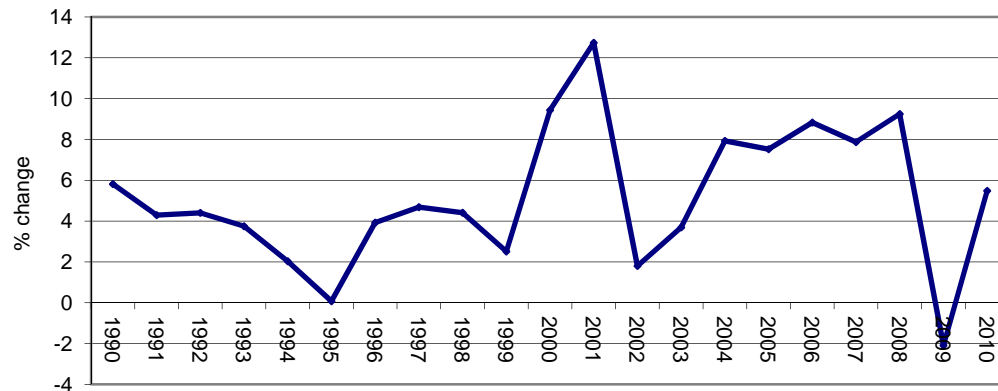
**Wages Earned in DC and by DC Residents: 1991 to 2010**  
(% change from prior calendar year)



By and large, the wages of DC residents have grown faster than wages earned in DC.

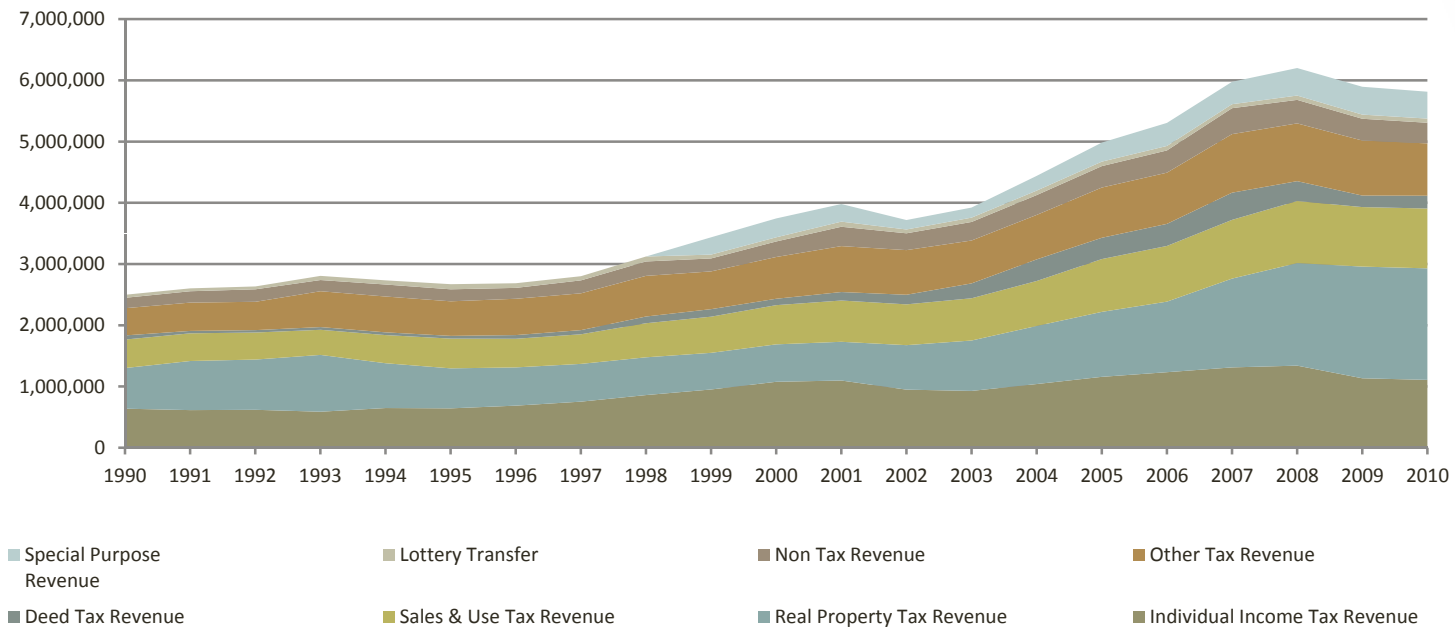
However, the growth has experienced wide variation from year to year.

**DC Personal Income: 1990 to 2010**  
(% change from prior calendar year)



# What About Collections?

Revenue Collections by Instrument: 1990-2009 (\$000)

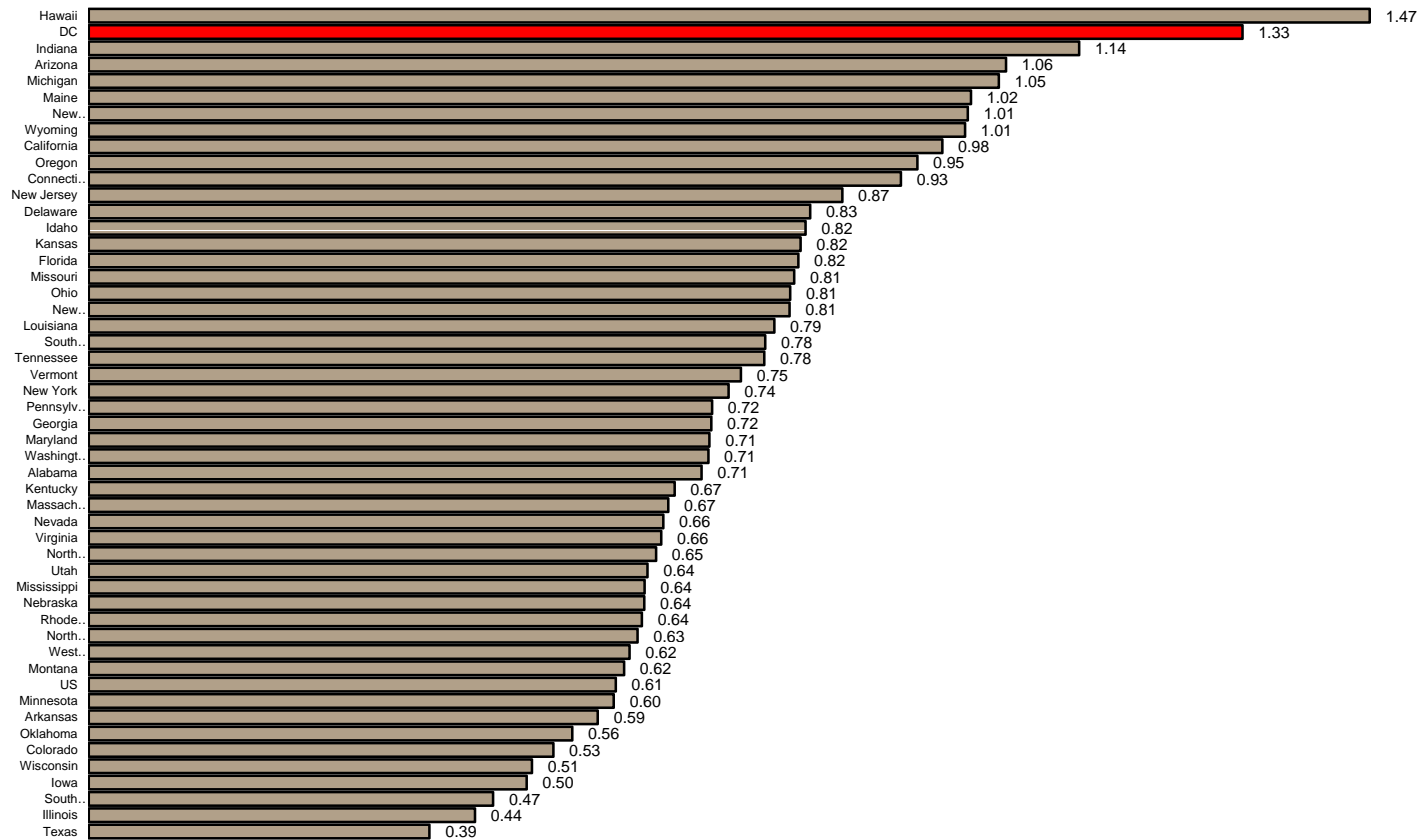


The property, sales and use, and individual income taxes dominate tax revenue in the District. They constituted 31.3%, 16.8%, and 19.1% of own source revenues in 2010, respectively.

In relative terms, their growth over the period was exceeded by Deed Taxes (+212.1%). Property (+174.1%) and Sales/Use (+109.3%) were the next two fastest growers.

# Volatile Revenue Streams

Figure 2.4: State and local tax revenue volatility<sup>1</sup> by state for the period 1992-2009<sup>2</sup>



Source: ORA calculations; *U.S. Census Bureau, Governments*

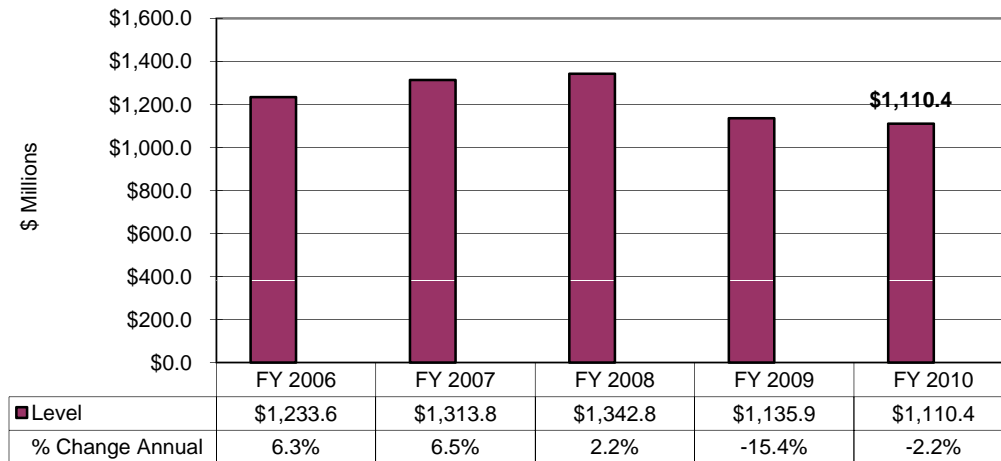
<sup>1</sup>Alaska with a measure of 2.73 is an outlier and not shown here because of its distortionary effect on the chart.

<sup>2</sup>There was no state level tax revenue data for 2001 and 2003. As a result, annual percentage changes could not be calculated for years 2001-2004.

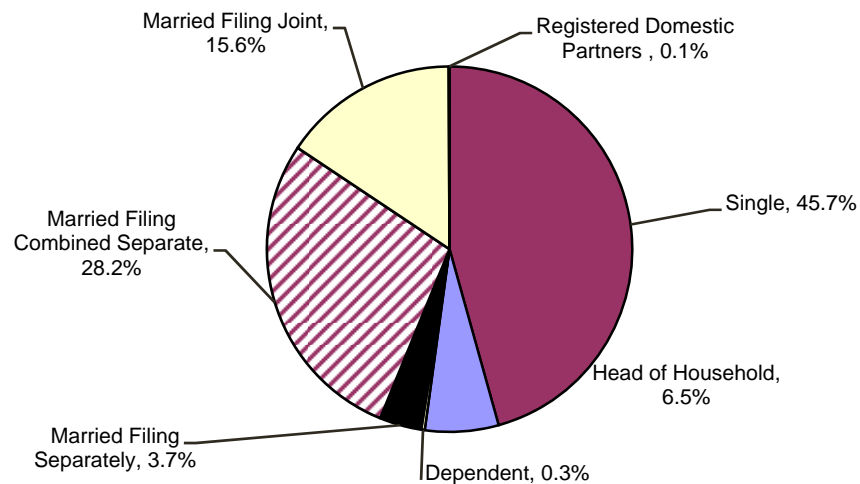
# Income Tax Revenue

The recession took a toll on our income revenues.

Individual Income Tax Revenue, FY 2006 - 2010



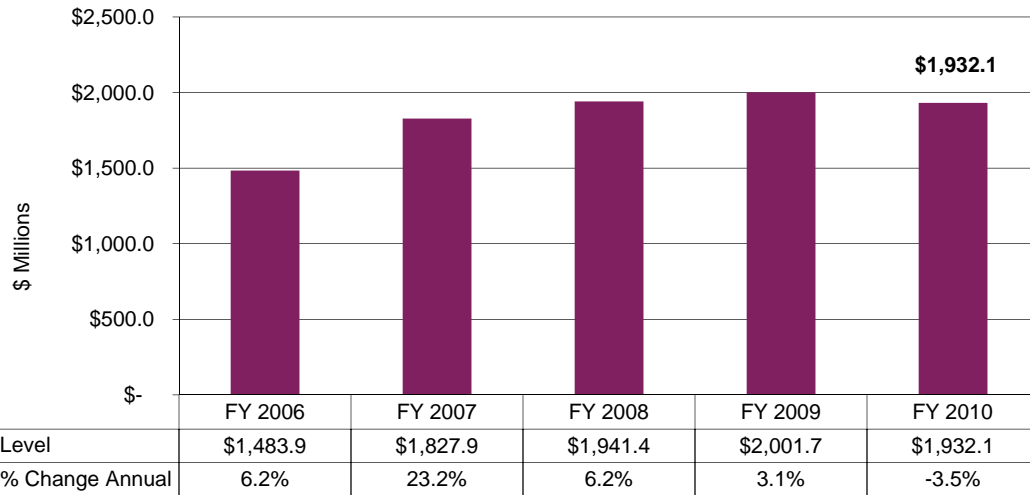
Distribution of Taxes by Filer Type, TY 2009



Single filers are being driven by our fastest growing demographic.

# Real Property

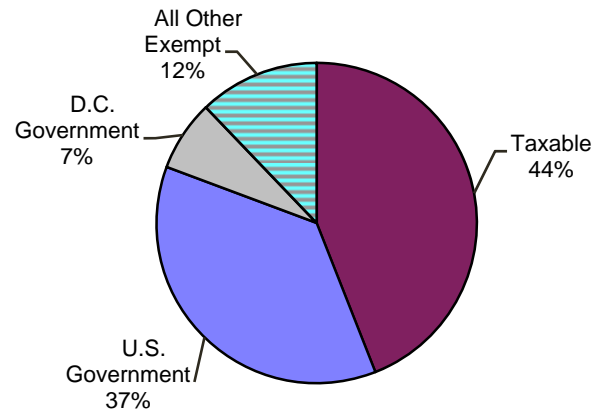
Real Property and Deed Taxes, FY 2006 - 2010



Real property also suffered as a result of the recession. It remains, however, our dominant source of revenue.

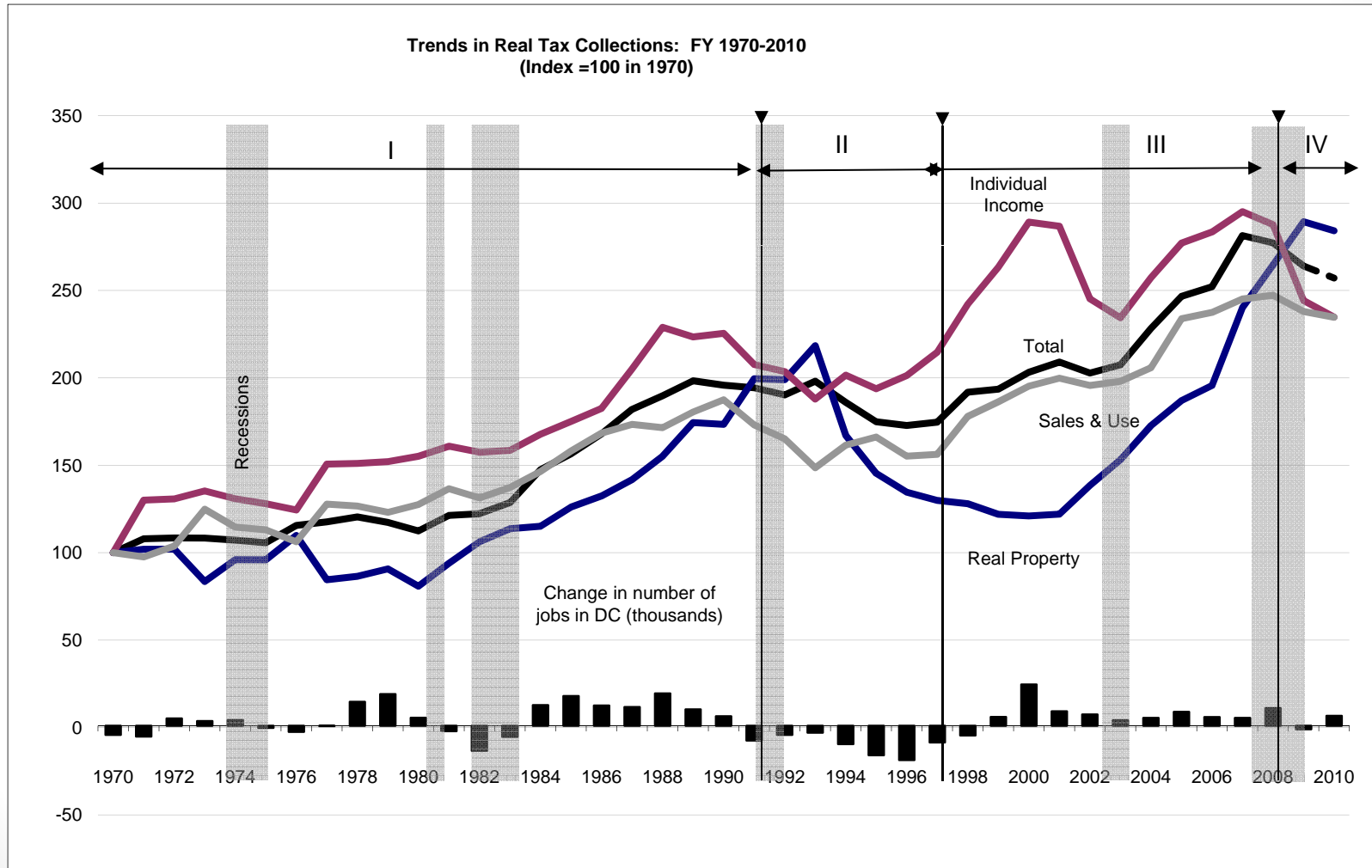
As you must have heard from us before, much of our property is not taxable.

Percent of Land Area in the District of Columbia



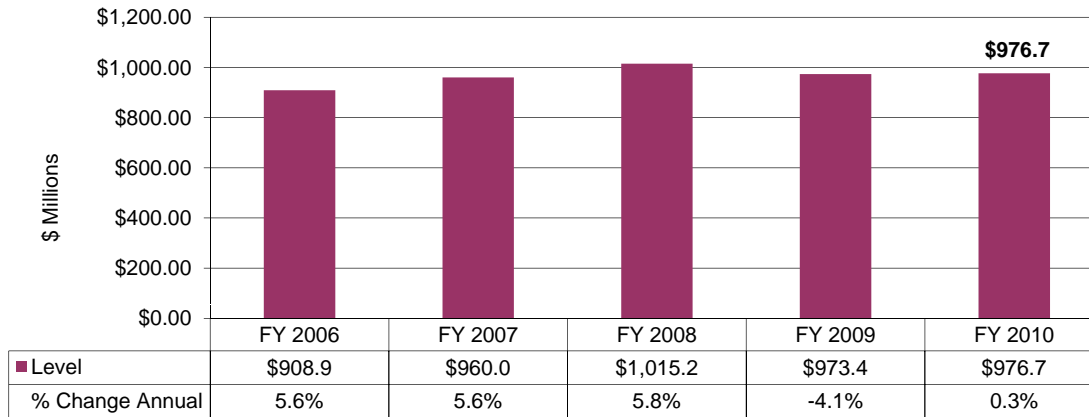


# Real Property – Lag Properties



# Sales and Use

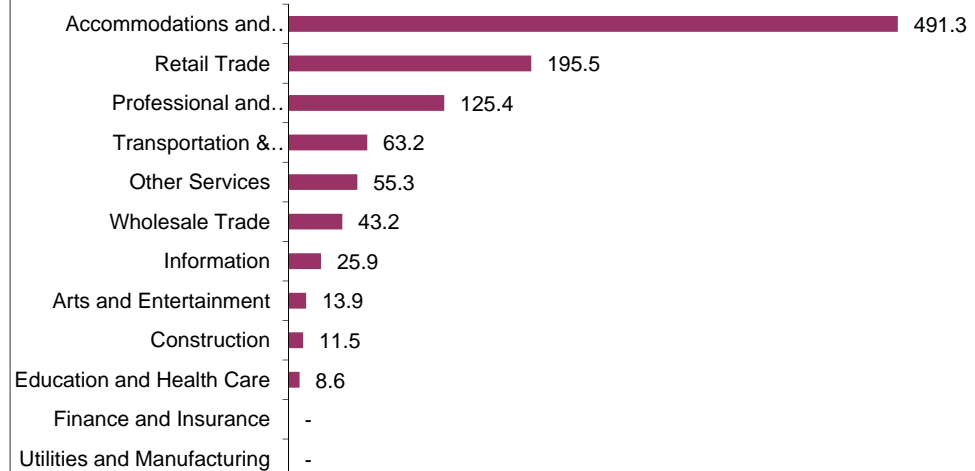
Sales Tax Revenue, FY 2006 - 2010



Sales and use proved to be less responsive to the downturn than income taxes, but reductions were substantive.

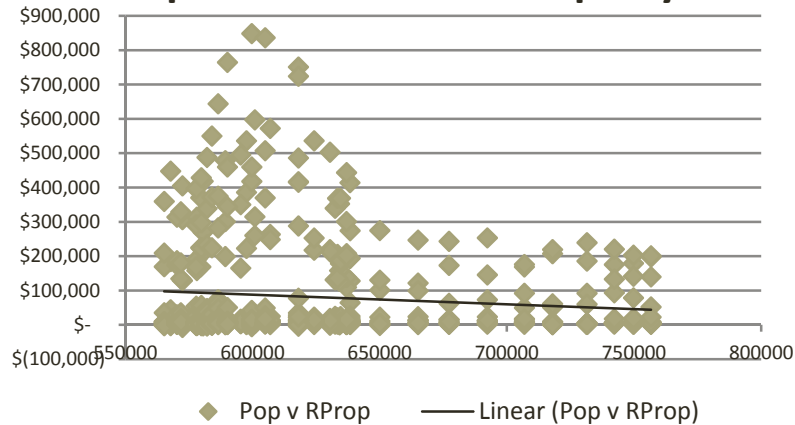
Accommodations and food services remain the dominant element in the sales and use activity portfolio, though retail trade and professional services continue to be critical.

Sales Tax Liability by NAICS Category, TY 2007 (\$Millions)

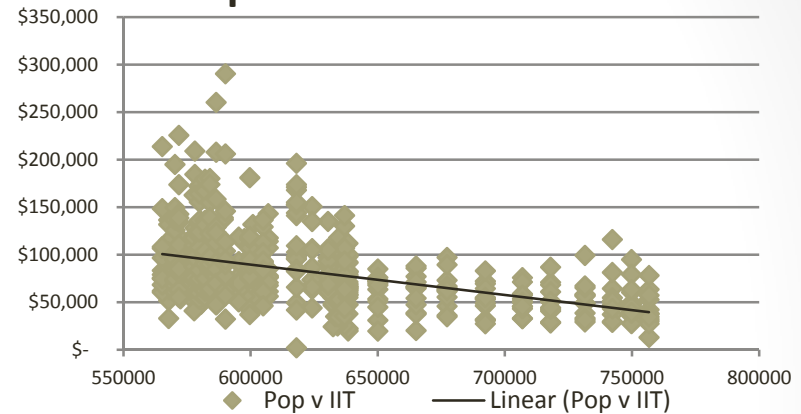


# Impact of Population?

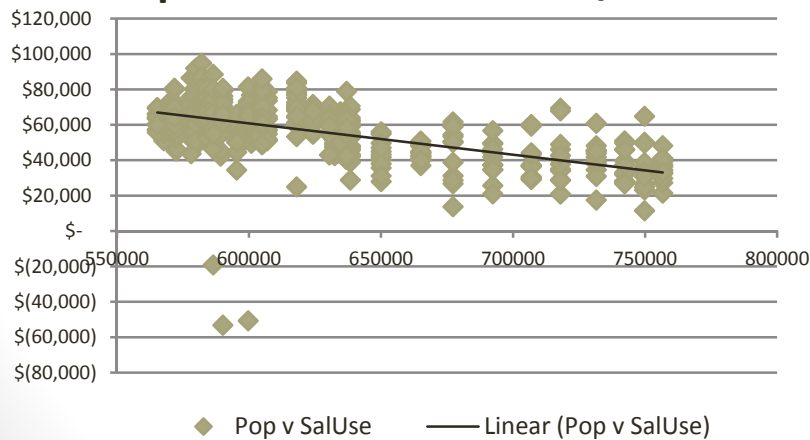
## Population vs. Real Property



## Population vs. Real IIT



## Population vs. Real Sales/Use

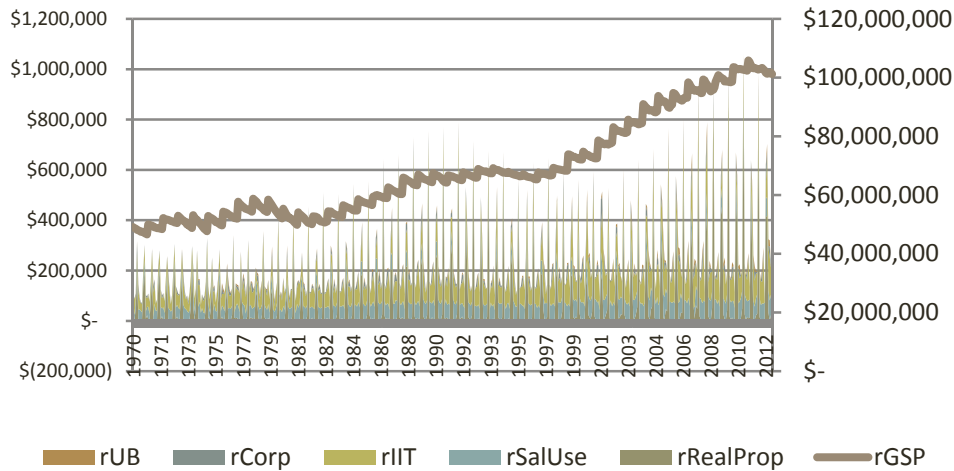


At first pass, population appears to be a hindrance to revenue collection!

Obviously, this is a function of omitted variable bias.

# How to Explain...

## Cash Collections by Type



In fact, collections are responding to increases in the gross state product generated in the District over time.

GSP has exhibited an upward trend for decades, *whether or not population has increased.*

Note that the rate of increase in GSP ratchets up when population grows as well.

## Population & Real GSP

