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Fiscal Architecture of Washington D.C.

Report for District of Columbia Tax Revision Commission

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Executive Summary

There are many demographic and economic factors that affect D.C.'s finances now and in the future. In this report, trends in the main demographic and economic characteristics are analyzed with respect to their impact on the future of D.C.'s system of revenue. The main findings are highlighted here.

There are overarching trends that will have substantial impact on D.C.'s finances in the next five to ten to twenty years:¹

- An increase in resident population
 - General increase in revenue potential
- A population that is relatively young with a strong cohort of working age population
 - Increase in individual income tax potential
 - Decrease consumption tax potential if entertainment, personal services, and public transit remain outside of the sales tax net
 - Property tax buoyancy through rental market
- An increasing elderly population but at smaller rates (relative to total population) than the U.S.
 - Reduced buoyancy in the income tax
 - Reduced buoyancy in the sales tax
 - May help stabilize property tax in the long run (aging in place)
- An increase in the number of school aged children
 - Increase in sales tax potential through increased consumption of apparel and educational supplies
- Smaller household size
 - Slight positive impact on consumption tax potential due to loss of economies of scale in consumption
 - Uncertain impact on property tax base
- An ethnically diverse population
 - Consumption trends are not clearly defined
 - Could reduce voluntary compliance with taxes that are complicated
- Relatively high median income and a growing income gap
 - Pressure on the acceptance of skewed income tax burden
- Employment and output growth in the health and education sectors, business and professional services, and decline in federal employment (relative to total employment); health and education sector growth in lower skilled/lower wage jobs

¹ The overarching list assumes that the federal budget/sequester/debt ceiling crisis will largely be averted in the coming months.

- Reduced tax handles for income tax
- Reduced tax handle for sales tax (consumption moves toward services)
- Reduced buoyancy of income tax due to relative growth in lower wage jobs
- Globalization and technology: competition will continue to increase—international as well as local for employment, residents, economic activity
 - Dampens ability to raise taxes on business-related income and capital investments
 - Reduction in wage share in income tax base
 - Increase in ability to avoid tax through shelters, transfer pricing, etc. reduce the buoyancy of business income-related taxes, individual income taxes, and sales taxes
 - E-commerce trends continue to erode sales tax collection efficiency (without changes to the taxation of interstate sales)
- Real Estate: Continued pressure on housing stock due to increase in residents and income diversity
 - Expansion of housing stock important to keep residents and provide stability for property tax base
 - 100 to 120 million square feet of future development capacity in D.C.
 - Unlikely increase in commercial real estate rents (densification and decisions on location of Federal employees)
- D.C. infrastructure (schools, Metro, telecommunications and other technology) will need to respond to government’s priority areas of growth and development and residents’ demands (education, transportation, health care)

While this list itself is not necessarily exhaustive, there are a handful of trends that might be deemed “most important” and these are listed below with a summary of policy options to address these trends:

- Population growth and employment mix
 - D.C. has been successful in attracting residents and a key to financial stability in the future is retaining a solid base of resident workers and employers
 - Projected job growth is in lower paid sectors of health and education, reducing natural growth in income tax revenue
 - Stability of commercial property tax base is uncertain (federal government decisions, densification)
 - OPTIONS TO ADDRESS:
 - Continue to make D.C. an attractive place to live and age in place (from young to old)
 - Target expansion of affordable housing
 - Use of property tax to incentivize development and commercial occupancy
- Service sector growth in employment and output
 - Reduces tax handles, service-based industries are more difficult to identify and possibly to value

- Employment in sector is less defined by location than by skill (outsourcing), reducing growth in income tax
- Services less heavily taxed under traditional sales tax systems
- OPTIONS TO ADDRESS:
 - Broadening the base of the sales tax
 - Substituting a simplified business tax for the corporate income tax
- Increase in share of elderly
 - Greater portion of their income is tax-exempt (Social security, pensions)
 - Greater share of consumption is tax-exempt (health care, food at home)
 - Property tax exemption that is not means tested
 - OPTIONS TO ADDRESS:
 - Means test the exemptions
 - If D.C. seeks to have its population age in place there will be increased demand for services including transportation and healthcare
- Globalization and Technology increase competition and decrease labor's share of output
 - Competition forces focus on differences in tax rates (income and sales)
 - Capital's share of output and tax base increases, but capital provides a difficult "tax handle"
 - Internet sales will continue to pick away at the sales tax base
 - OPTIONS TO ADDRESS:
 - Leadership role in rationalization of the taxation of internet sales (Streamlined Sales Tax, "Amazon Laws")
 - Reduced reliance on corporate income/profits based tax to a simplified minimum tax
 - Reassess areas to substitute fees and charges for income taxes
- Disparities among the population
 - Health of children is poor (obesity)
 - Income is increasing disparate
 - Pressure on services (health care, low income support)
 - Pressure on long-term income tax growth (lower health status and migration of tax to the high income earners)
 - Increases consumption of health services
 - OPTIONS TO ADDRESS:
 - Increased efficiency in public services—those valuing distribution through the tax system will increase if their own needs are met
 - Reduce tax exemptions (broaden income tax base)

Introduction

Public finances grow out of system comprised of economic and demographic characteristics and political and other institutional structures. Demographic, economic, and institutional trends define the “fiscal architecture” of state and local governments. Changes in these trends are largely beyond the control of governments, but they put pressure on expenditures and revenue sources of state and local governments and may constrain options for reforming public finances. The trends include demographic changes (e.g., growth and age composition of the population, sizes of households, life expectancy) and economic changes that affect the structural mix of the state’s economy (e.g., employment level, distribution of income, the mix of sectors). How institutions and organizations change also constrains and frames the nature of revenue and expenditure pressures and options, e.g., the way citizens communicate among themselves about their government and how governments communicate and become accountable to their citizens, federal government interventions in the form of expenditure mandates and preemptions of the revenue base, or the intergovernmental implications of federal (and, in this era of rapid globalization, other nations’) fiscal policy.

Therefore, what state and local governments can and cannot do in terms of what makes “fiscal sense” is based on the fiscal architecture of those individual governmental units as well as on the fact that all governments are a part of a vibrant federal union and a global economy. For example, some states might want to impose import duties as globalization opens world markets, but they are constitutionally prohibited from doing so because taxation of imports falls under the purview of the federal government. Or states and/or their sub-state governments might want to

alter minimum funding for schools but federal (and/or state) regulations and rules may preclude them from doing so. Taxing capital might look like a good idea for a state, but the global mobility of capital makes taxation administratively difficult. And then there are the rules and regulations of entitlement programs such as Medicaid that constrain the abilities of federal and state governments to adjust expenditures in the face of changes in population demographics and health care costs.

There are many characteristics that identify Washington D.C. today and influence the public finances of D.C. long into the future. Prior to the Great Recession, many state and local governments in the U.S. started to grapple with the implications of an aging population. Post-recession, aging remains an issue but there is also an enhanced concern about competitiveness, ethnic and racial composition changes, and a disparate income distribution. This report focuses on those trends that, arguably, will have the most influence on the future of the District's finances with a mandated focus on the revenue side of the equation. The city is inextricably linked to the metro area in terms of the economy and demographics and therefore trends discussed and analyzed in this report will often include the entire metro area—but the primary focus is the District's fiscal architecture and revenue generation into the next ten to twenty years.

The report does not provide original forecasts of important economic and demographic changes but uses those available from the Office of Revenue Analysis (ORA) in the Office of the Chief Financial Officer (OCFO) and the U.S. Census (and other sources as noted). The report also does not provide a forecast of revenue, but it seeks to provide insight into how best to align D.C.'s revenue system to best serve its population over the coming decades given important economic and demographic trends.

Not everyone will agree on the package of characteristics analyzed in this report or on the forecast of the characteristics. There are also very obvious overlaps and complicated relationships between and among the characteristics analyzed in this report. In this report, the major trends are evaluated somewhat independently of one another but in the conclusion, an attempt is made to bring together the “big picture” of the myriad trends.

The analysis in this report is a function of data availability but most data have been made readily available for this analysis, thanks to officials from the Office of the Chief Financial Officer who also provided institutional information and insights regarding important trends. Data sources include internal sources (ORA, OCFO) and public sources including the U.S. Census, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The report is structured as follows. The next three sections highlight demographic and economic changes and institutions that affect finances. In each section, the general impact of these factors is presented and the trends in the major factors are discussed. The sections are summarized with a perspective on the potential implications of the trends on D.C. revenues.² The concluding section presents a matrix of trends, impacts and potential options for consideration to adjust D.C.’s revenue system to better align it with natural growth in the economy. Since forecasts of many demographic and economic changes are tenuous, in some cases more than one “future” scenario is presented. Finally, a few policy options are mentioned as food for thought.

Demographics

Overview

² Expenditure analysis was not included in the terms of reference for this report. However, expenditures are heavily affected by the trends presented in this report. In some cases, they are “too big to ignore” and are noted in the report.

There are a variety of demographic characteristics that have significant impacts on D.C.'s revenue capacity. In this section, we highlight the following:

- **Population growth:** Population projections suggest that D.C. will add 35,000 residents over the next five years (2012-2017, ORA). Population growth since 2000 comes after decades of population decline in Washington. Economies of scale aside, if the D.C. wishes to maintain a given level of services, a large and growing population requires a higher level of public expenditure, which may or may not be commensurate with an expanded revenue base. Population growth may be accompanied by other changes such as the racial/ethnic mix, age and income distribution, and the level of education and health status. These are discussed below, but each could impact the revenue base as well as demand for particular services.
- **Age distribution:** Governments throughout the U.S. (and the world) are grappling with the consequences of an aging population. D.C.'s population and projected population is younger than the U.S. average (state-level comparison), but the direction of change is an interesting mix of old and young. An aging population requires a different mix of public services (specialized housing and social services, less general education). This demographic change could also reduce the natural growth in tax bases that exclude pension and retirement income and health and medical supplies. A younger population brings nearly the opposite impacts and these are weighed against each other below. Life expectancy is slowly increasing, which means that the future's elderly will be much older on average than in the past. This presents additional demands for health care and other services.
- **Family size and composition:** The number of family members in a household and the composition (dual or single wage earner, dual or single care giver) are also important factors for the overall fiscal architecture of a government. While directly related to the overall population and the age distribution issues discussed above, the average size of a family has its own implications for consumption and possibly income tax bases. Economies of scale in consumption reduce the per capita consumption of some basic necessities such as housing and food as family size expands. Smaller families with economic means will tend to purchase more "luxury" goods, potentially increasing consumption tax bases.
- **Race and ethnicity:** The race/ethnicity composition of the population also has implications for public finances. On the revenue side, race and ethnicity are closely linked to income while on the expenditure side, a more diverse population will demand a heterogeneous set of public services. Consumption patterns are also influenced by race and ethnicity, which can affect sales tax bases.
- **Health:** The status of the health of the population will affect income distribution, labor supply, overall population growth, etc. Taken alone, however, we can identify factors in health that require significant public expenditure and may affect revenue potential. One of the overarching health trends is the increased incidence of obesity, especially among children which may affect income potential in the future.

In the sections below, the trends and potential impacts of these characteristics on public finances are explored.

General Population Characteristics

The size of D.C.'s population has been a matter of concern and study for the last fifty years. City population peaked in the 1950s when the U.S. Census reported a total population of 802,178. Around the country, older cities (such as Philadelphia, Boston, Chicago, and Cleveland) witnessed a similar trend of population decline over the past half-century. Cities in the South and West experienced growth in population during this timeframe (Atlanta, Houston, and Phoenix for example) (Smith and Allen, 2008). Over the same time period, the metro areas encompassing this same set of cities grew without exception. The flight from central cities during these decades has been well-documented (Frey 1977, Kingsley and Pettit 2002).

D.C. population losses were curtailed starting in 2000 as the population rose to 604,900 in 2010 and to 632,000 as of July 2012 (U.S. Census). The projected population growth for D.C. over the next five years (2012-2017) is an increase in population of 35,000 (ORA, OCFO)—83 percent of the population size at its high point in the 1950s.

The population of the *metro* Washington area grew by 176 percent from 1950 to 2000. D.C. metro's growth was faster than that of some of the more established areas (New York, Boston, and Philadelphia) but its metro area grew more slowly than newer metro areas such as Atlanta, Dallas, and Phoenix (which grew by an average of 349 percent).

The general population growth of the D.C. area portends obvious pressures on public expenditures but also provides opportunities for revenue growth. It is difficult to forecast what sort of pressures and opportunities the population growth alone will have on D.C. finances.

Economies of scale aside, increased population demands more services that are likely to increase overall public expenditures, but more residents (as well as increased general economic activity) should give rise to a larger tax base.

While the level and growth of the population has important implications for the overall level of the public sector, the specific characteristics of the population are critically important as well. The current profile of D.C. residents has changed since its population decline years. The population is now relatively young (median age of 33.4 versus a U.S. average 37.2 in 2011), racially diverse (41 percent white versus a U.S. total of 46 percent, for people reporting one race), there is a substantial number of renters (versus owners), and the city's population ranks third in the country among selected urban areas for per capita public transportation usage.³ D.C.'s families are smaller in size than the national average. These D.C. versus U.S. average trends are similar in other metropolitan areas, although it is possible to find differences among metro areas as well. For example, the median age of residents in St. Paul Minnesota is 31.3 while in Philadelphia it is 33.4. Table 1 highlights some of the differences in basic demographics between D.C. and the rest of the U.S. which will be discussed further in the sections below.

³ American Community Survey 2011 data and U.S. Census 2012:
<http://www.census.gov/compendia/statab/2012/tables/12s1118.pdf>

Table 1: Basic Demographic Differences: Washington, D.C. and the U.S.

	Washington D.C.	US	Difference (D.C. – U.S)
Median age	33.4	37.2	-3.8
Average household size	2.15	2.64	-0.49
Average family size	3.16	3.25	-0.09
Percent Non-family households	57.6	33.8	23.8
Percent Owner occupied	41.2	64.6	-23.4
Percent Renters	58.2	35.4	22.8
Percent White	41.0	46.0	-5.0
Percent Black	50.7	12.6	38.1
Percent Hispanic	9.5	16.7	-7.2
Per capita public transit use	125.9	51.9 (other urban areas)	74

Sources: Demographic data, American Community Survey 2011 data

(<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>), Transit data U.S. Census Statistical Abstract.

Notes: Households are defined by Census as “all people occupying a unit” while families are two or more people related by “birth, marriage, or adoption all residing together” (U.S. Census, <http://www.census.gov/cps/about/cpsdef.html>). In this context, non-family households are those with one person or two or more unrelated people.

Age Distribution

From the perspective of public finances, one of the important demographic details of D.C. is the age distribution of the population. While it has been noted that D.C.’s population is relatively young, there is growth in the elderly population in the city (as throughout the U.S.). However, the District’s population is aging much less dramatically than in the U.S. Figures 1-3 demonstrate the trends in age distribution of the population over the last three decades. As seen there, over this period, D.C. saw a relative decline in younger components of the age distribution: 0-4, 5-17, and 18-24, with the largest relative declines in the age group 5-17. D.C.’s increased concentration of working aged population (25-64) outpaced that of its neighboring states and of the U.S. while its school aged population declined relative to total population (and in absolute terms) over this period. Finally, D.C. has not aged as rapidly as the U.S. over this period.

Figure 1: Distribution of Population by Age Group 1980

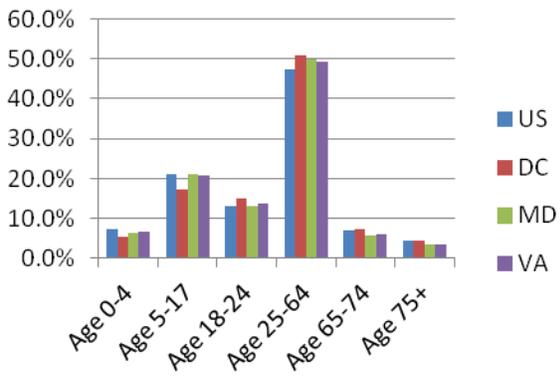
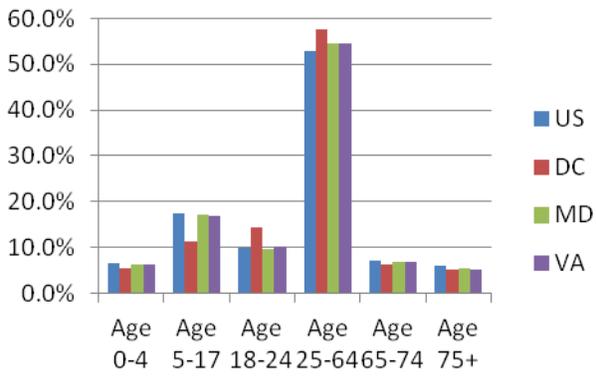
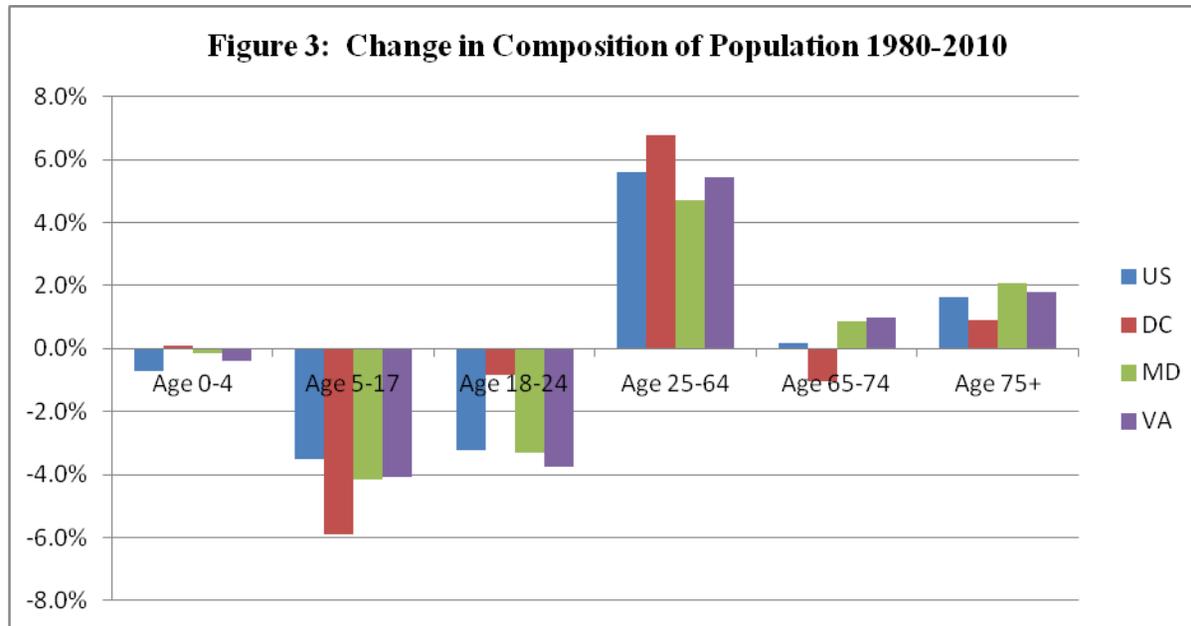


Figure 2: Distribution of Population by Age Group 2010





Source for Figures 1-3: U.S. Census

The relative growth in the age group 25-64 reflects D.C.’s ability to lure new graduates to the area. Many of these are single-family and roommate (unrelated) households. In comparison, this age group grew much faster than the D.C.’s forecasted age demographics are quite different from the U.S. average, where the greatest growth (relative to total population) is expected to come in the near retirement age group and older. For D.C. for the years 2013-2-18, the ORA/OCFO is projecting the largest growth in school-age children (5 to 19), late working age-retirement age (65+) and working-age (25 to 44)—a natural pattern given the growth in age groups one cohort younger in 2000-2010.⁴ This is an interesting demographic for D.C. in terms of public finances. School-age

⁴ OCFO District Demographic Indicators October 2012.

children are not large direct contributors to the income tax base but are directly or indirectly related to consumption and property tax bases. General consumption patterns show that households with children age 6 to 18 consume similarly to all husband-wife consumer units with a few modest exceptions: families with children age 6-18 spend slightly more of their budget on entertainment, housing, education, insurance, apparel, and food.⁵ To the extent that these items are taxable in D.C. (taxable items include some entertainment, education supplies, and apparel), they represent positive revenue potential through sales tax. On the expenditure side, this age cohort will obviously yield an increased demand for education services. This may be a significant challenge for the District since the increase in school age children comes after a long decline in population. While not a focus of this report, a hard look at educational infrastructure in light of these demographics may be warranted.⁶

The cohort aged 25 to 44 represents a different kind of revenue potential. On the consumption side, this cohort is more likely than the average consumer unit to spend their budget on items including: food away from home, rent, personal services, apparel, transportation, and pensions and social security, and less on: cash contributions⁷, health care, and utilities. Again, the growth in this population affords D.C. some potential consumption tax buoyancy to the extent it currently or in the future includes such items in its tax base.

⁵ BLS, Consumer Expenditure Survey, Expenditure Tables: <http://www.bls.gov/cex/csxstnd.htm#2011>.

⁶ Families with children approaching school age will “shop” for good schools as well as reasonably priced housing. Constraints in K-12 funding in the District (high levels of targeted expenditures such as special education) make it difficult to expand the quality of K-12 education. Private school and charter alternatives present options for parents but will be weighed against the cost of housing and other amenities.

⁷ Cash contributions are listed as an expenditure item in the Consumer Expenditure Survey. It is important to note this expenditure category in this discussion because cash contributions reduce potentially taxable consumption. This is a relatively unique characteristic of this age cohort.

Finally, the growth in the older population adds another layer of revenue and expenditure impact. The growth in concentration of elderly is accompanied by an increase in life expectancy from 78.3 in 2010 to 79.5 by 2015 and 80.2 in 2020 which stretches out this age group and may be accompanied by increasing demand for specialized services associated with the elderly.⁸ D.C. is not growing old as quickly as the U.S., and this observation gives the District some time to rationalize public finances vis-à-vis the elderly trend. Many states have much less time to come to grips with this issue. The elderly tend to consume higher shares of goods that are non-taxable: healthcare, utilities, household operations and supplies, and they spend less on food away from home, apparel, and transportation.⁹ The elderly also receive more income that is exempt from income tax (social security and some pensions) and D.C. provides a generous property tax exemption that is not means-tested.

Households, Family Composition, and Fertility

The relationships within a typical D.C. housing unit look quite different from the U.S. Current estimates of family size show that D.C. families are smaller, and the majority of households are made up of unrelated individuals (non-family households). A larger portion of D.C.'s population is unmarried than in the U.S. The D.C. trends are similar to those found in other cities and are an exaggerated version of a trend toward smaller families in the U.S.

Although the rate of births in the U.S. slowed considerably during the recession, the birth rate in the U.S. has generally declined since the end of the baby boom era of the early 1960s. The Centers for Disease Control report that the total fertility rate (TFR) (U.S.) was 1.9 in 2011, which is below the natural replacement rate of 2.1. The TFR fell below 2.1 in 2008 as the economic

⁸ U.S. Census Population Projections (2013).

⁹ Consumption analysis based on data from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey for 2011, <http://www.bls.gov/cex/csxstnd.htm>.

situation worsened. Forecasters are unsure whether the rate will rise as the economy strengthens or if this represents a “new norm.”¹⁰

A snapshot of the differences between D.C. and the rest of the U.S. is found in Table 2.

Table 2: Basic differences in family characteristics: D.C. and the U.S

	D.C.	U.S.
Married couple families (of total households)	21.3%	48.3%
Living alone (of households)	45.2%	27.7%
Family size (number of people)	3.16	3.25
Families as a percent of households	42%	66%
Single female headed household	8%	7%
Households with at least one member under the age of 18	20%	33%
Males over 15 never married	59.3%	35.8%
Females over 15 never married	56.9%	29.4%
General Fertility (births per 1,000 females age 15-44)	56.5	64.1

All estimates for 2011 except fertility (2010)
 Source: U.S. Census, American Fact Finder and CDC

While directly related to the overall population and the age distribution issues discussed above, the average size of a family has its own implications for consumption and possibly income tax bases. Larger families consume more of certain goods such as basic foodstuffs, but not necessarily more on a per capita basis. Economies of scale can influence household consumption and larger

¹⁰ CDC (October 2012): http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_05.pdf.

(smaller) families could be equated to smaller (larger) levels of per capita consumption. This in turn could influence the overall level of consumption tax growth in a positive way for the District.

Work, consumption, savings, and other decisions are typically made within the family structure. A one-person family will have different constraints regarding these behaviors than a family of three. While the revenue implications of family size and structure are borne out partially in income, there may be other revenue consequences to the non-traditional household and family structure of D.C. For example, there are some economies of scale in household consumption such that smaller households spend more per capita on certain necessities, potentially expanding the sales tax base. Property tax bases may also be affected but the net impact is difficult to forecast. Smaller families will tend to consume less square footage, but consume more dense housing (condos and apartments).

Race and Ethnicity

The diversity of D.C.'s resident population is well documented. As noted earlier, the city has a higher percentage of black residents relative to national levels, and smaller numbers of Hispanics. Migrants make up a substantial portion of the population and Census reports that 14 percent of D.C. residents were foreign born (compared to 13 percent nationally). The origin regions of the foreign born is quite different in D.C. than nationally as demonstrated in Table 3:

Table 3: Percent of Foreign Born by Origin Region

Origin	D.C.	U.S.
Europe	20.3	12.1
Asia	18.8	28.6

Latin America	44.9	52.6
Africa	14.2	4.1

Source: U.S. Census American Fact Finder Population and Housing Narrative for 2011

Sousa and Hu (2012) report the city’s immigrant population is a tale of two populations. On the one hand, the immigrant population has lower educational attainment than the native born population but D.C. metro immigrants have higher levels of education than immigrants at large in the U.S. D.C.’s foreign born population works predominately in construction, health care, and recreation and hospitality—relatively low paying industries. However, immigrants from Asia and Europe report higher median income than native born in the metro area.

The diversity of the population in terms of race and ethnicity presents some challenges to the expenditure side of the budget in terms of specialized demands for educational services (second language support in schools for example). The impact of ethnicity on tax compliance has been studied, but the results are not consistent regarding the impact of ethnicity on compliance. All else equal, however, revenues that are easier to understand would likely see higher compliance in a heterogeneous population.

Health

The health status of the population can directly affect the demand for certain types of public expenditures (those related to medical care, transportation, specialized housing) as well as revenues (reduced growth of wage income due to labor supply, increased consumption of non-taxed medical goods). D.C. is reported to have higher than average childhood obesity (35.4 percent versus 31.6 percent nationally), higher rates of teen pregnancy (45.4 births per 1,000 females ages 15-19 versus 34.2 nationally), and higher

violent crime (1,330.2 incidents per 100,000 population versus 403.6 nationally).¹¹ D.C. has lower levels of adult obesity (52.8 percent versus 63.3 percent), a higher percent of children immunized (81 percent versus 75 percent), and a larger percent of adults who visited a dentist or dental clinic over a year (75.3 versus 69.7).

Arguably the most important national health trend is that of the rise of obesity and its relationship to the cost of health care. If this trend in obesity of children continues, it potentially shifts more of the sales tax base toward non-taxable consumption (health and medical supplies). Unchecked, obesity in childhood may give rise to lower labor productivity, reducing affecting income tax potential if these same children age in D.C.

Economic Characteristics

There are a number of economic factors underlying the fiscal architecture of the city's finances. In this section, five important economic characteristics are discussed in detail regarding their trends and potential impact on the city's finances:

- The employment and output (GSP/GDP) structure. A government's revenue base is largely determined by the structure of industry and the output produced, and the composition of employment that goes along with production. Property taxes make more sense as a sustainable revenue source for non-service oriented economies; consumption (sales and excise) taxes may be more dependable in a service-based economy if the sales tax base were broadly defined. D.C. should take account of its growing industries to align public expenditures as needed to support those industries. In the future, industries themselves will be producing output with different kinds of technology and capital and labor mixes. While manufacturing may not be a large sector for D.C., we envision manufacturing moving increasingly toward capital as a factor of production. How best to tax in such an environment? These changes will provide new challenges to D.C.'s revenue system.

¹¹ Data from Statehealthfacts.org.

- Composition and distribution of income. The greater the importance of capital income in the economy, the more difficult it is to administer the income tax system since it is easier to adjust capital location (etc.) to avoid or evade the tax system. Transfer payments (in the form of pension and retirement income as well as public welfare payments) typically fall outside of the income tax net. Increases of these components relative to other income would reduce the natural growth of the income tax. Finally, trends in the distribution of income could affect income taxes (based on the progressivity of the system) as well as property tax bases (purchases of low versus high income property) and possibly trends in consumption tax bases.
- Globalization. Greater globalization means that consumers and producers have fewer barriers to conduct business throughout the world. Competition for labor and capital and consumer markets means that D.C. needs to consider reaction to its fiscal decisions from near and far. Global real estate capital is also looking for a home that is understandable and predictable. Globalization and competition also increases the need to produce public goods competitively to attract and keep residents and businesses.
- Technology. Internet commerce continues to challenge state and local governments' sales tax revenue. Increased ease of doing business and investing on-line will increase the administrative burden of collecting income taxes as well as sales taxes. Technology will also affect how industries work—how collaboration happens (remotely), the relative capital to labor ratios, the types of output produced, how much and where inventory is kept, and marketing of products. As more economic activity occurs remotely, tax handles¹² become more scarce.
- Real estate and housing. The property tax is a very important component of D.C.'s financial structure. Pressures on real estate ranging from recovery from the Great Recession to federal government relocation decisions to the optimal size of office space per worker will impact the buoyancy of the property tax.

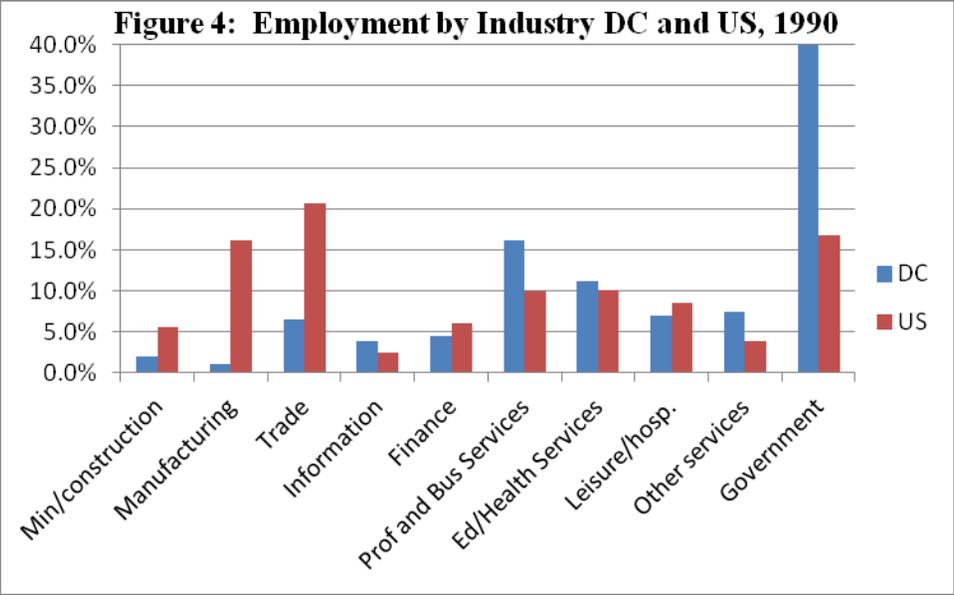
Employment and Output

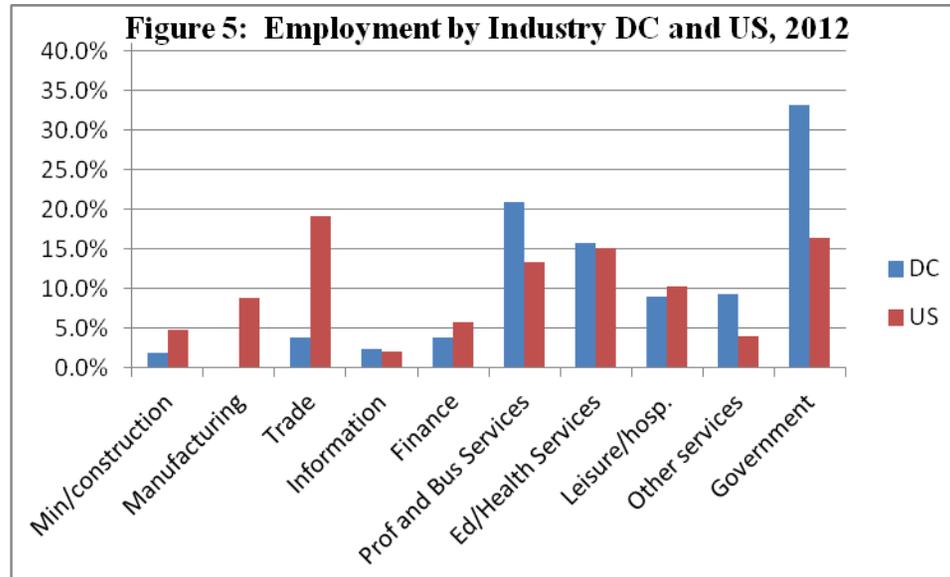
The composition of employment among the various sectors of the economy and output of the economy (gross regional or domestic product) are important and inter-related economic characteristics that directly influence public finances. A rapidly changing

¹² Tax handles refer to the ability to identify the taxable activity or income. Poor tax handles reduce the ability of tax administration to identify tax bases as well as taxpayers.

concentration of employment and output could signal a healthy economy that is taking advantage of changes in worldwide economic trends. Such trends could also signal substantial human capital and infrastructure needs to support sustained growth. Strong output and employment growth provide consistent growth in wage and salary income versus transfer payments. Different types of economic activity and income also portend differences in the ease of revenue administration. “Tax handles” refer to the relative ease of taxing certain sectors. The service sector generally presents fewer tax handles than does the manufacturing sector. All else equal, it is less costly for tax administration to identify and value hard output and assets than it is when the produced good is a less tangible service.

Employment in D.C. is heavily concentrated in services and government. Figures 4 and 5 present snapshots of employment “yesterday” and “today” in D.C. and the U.S (1990 and 2012). The government role in employment has diminished over this period while service sector employment has grown. Coming out of the Great Recession (2008-2012), job growth in D.C. was strongest in the government and health and education sectors, while Suburban Maryland saw the most growth in the same sectors and Northern Virginia posted its largest employment growth in professional and business services (Fuller 2013). And, while D.C. has never been a manufacturing economy, manufacturing sector employment has decreased to very small levels—a similar pattern to that seen in the U.S. at large. Both Maryland and Virginia have seen similar patterns of change in employment composition, with substantial increases in service sector employment and a reduction (much smaller than in D.C.) in the concentration of government employment.





Source: BLS Full and part time wage and salary employment; <http://www.bls.gov/webapps/legacy/cesbtab1.htm>

The future of D.C. employment is expected to remain primarily service based similar to that of 2010. According to current projections (D.C. Department of Employment Services, <http://does.dc.gov/node/184812>), in D.C., employment in education and health services will grow by 25 percent (the following will be the fastest growing within this category: home health care services – 81 percent growth 2010-2020, other health practitioners – 55 percent growth and ambulatory health care services - 49 percent) followed by a 25 percent increase in employment in professional and business services (computer systems design and related services – 58 percent, management, scientific, and technical consulting services – 58 percent, and other professional, scientific, and technical

services – 33 percent). Other services-providing industries are also forecasted to grow, leisure and hospitality, financial activities, and trade transportation and utilities will account for about 12,944 new jobs.

Total Federal government, excluding the postal service, is projected to decrease by about 1 percent (postal service – drop of 25 percent). However, this reduction could be larger based on the results of the federal sequester. State government, excluding education and hospitals, is anticipated to grow by 3.5 percent. The goods producing industry will increase by 167 new jobs or 1.3% with 460 new jobs in the construction sector and 293 job losses in manufacturing.

The U.S. and neighbor state's forecast of employment is similar to D.C projections. Nationwide as well as in Maryland and Virginia services-providing sectors, such as health care and social assistance, educational services, and professional and business services, will grow the fastest. Employment in the goods producing industry will grow, mainly due to the big increase in construction that counters the job losses in manufacturing.

Like employment, GDP composition has changed over time; the economy at large has shifted from manufacturing to service-providing sectors. From 1970-2010, manufacturing output decreased from 25 percent of total output to 12 in the U.S., with similar slides in D.C. and its neighbors.

According to 2010-2020 projections, U.S. GDP is anticipated to increase from \$23.2 trillion in 2010 to \$30.9 trillion (in chained 2005 dollars) in 2020, an annual growth rate of 2.9 percent.¹³ The U.S. economy will continue to be concentrated in service-

¹³ <http://www.bls.gov/opub/mlr/2012/01/art4full.pdf>

providing sectors. Nationally, the fastest growing sectors will be information, with annual rate of change of 4.7 percent, followed by professional and business service (3.7 percent), and retail trade (3.7 percent).¹⁴

State and local government spending is anticipated to grow from \$1,758.6 billion in 2010 to \$2,120.4 billion in 2020, with annual growth rate of 1.9 percent. On the other hand, federal government output is expected to drop by \$73.2 billion or 0.7 percent annually. Manufacturing *output* is projected to rise by \$1,360.3 billion, with 2.8 percent annual growth rate even while manufacturing employment is expected to continue to decline.¹⁵ This is suggestive of a continued change in production technology to make more use of capital to produce increased output. A similar phenomenon can be seen through a rough comparison between projected employment and output figures by other industries. Construction is expected to rebound nationally with annual growth of 3.8 percent between 2010 and 2020.

Based on the historic trends, we can assume that D.C. growth by sector will be similar to that of the U.S. Thus, we would expect services industry to grow in D.C. Also, one of the largest sectors in D.C. - federal government, is projected to trend downward.

The employment and output trends present a few challenges for D.C.'s fiscal structure. The growth in employment is positive—adding to most tax bases. The service sector in general provides a weaker tax handle than does economic activity in goods producing sectors. Services are less transparent and can bury their paper-trail relative to the production of goods. The growth in service sector jobs and output in the health and education sectors are also moderate-wage jobs (or low wage jobs) which may produce less buoyancy to the revenue system. An added issue arises with respect attracting and keeping these employees. Sturtevant and

¹⁴ BLS (2012) http://www.bls.gov/opub/ted/2012/ted_20120305_data.htm

¹⁵ BLS (2012) http://www.bls.gov/opub/ted/2012/ted_20120305_data.htm

Fuller (2011) estimate that the increase in employment will require a significant increase in housing stock to accommodate new, resident employees in the District. Will affordable housing be available?

The growth in the service-sector economy will also give rise to increased demand for technical training in the areas of health and education (as well other service sectors). The District will have the opportunity to meet these needs thereby encouraging a live, work, learn environment within the city. The presence of educational opportunities outside city borders increases the chances to lose tax base in a potentially expanding market for professional, certificate, and reaccreditation education. On-line courses increase the difficulty in capturing this potential employment and income growth but the demand for such training and education is growing.

Given the increasing use of technology in all facets of employment, the District will also need to continue to invest in quality infrastructure to support the use of technology. Most all sectors of the economy rely more and more on digital communication and demand speed and quality in wireless and other communication. “Old infrastructure” of roads and bridges are still important, but new technology will compete more and more for public dollars.

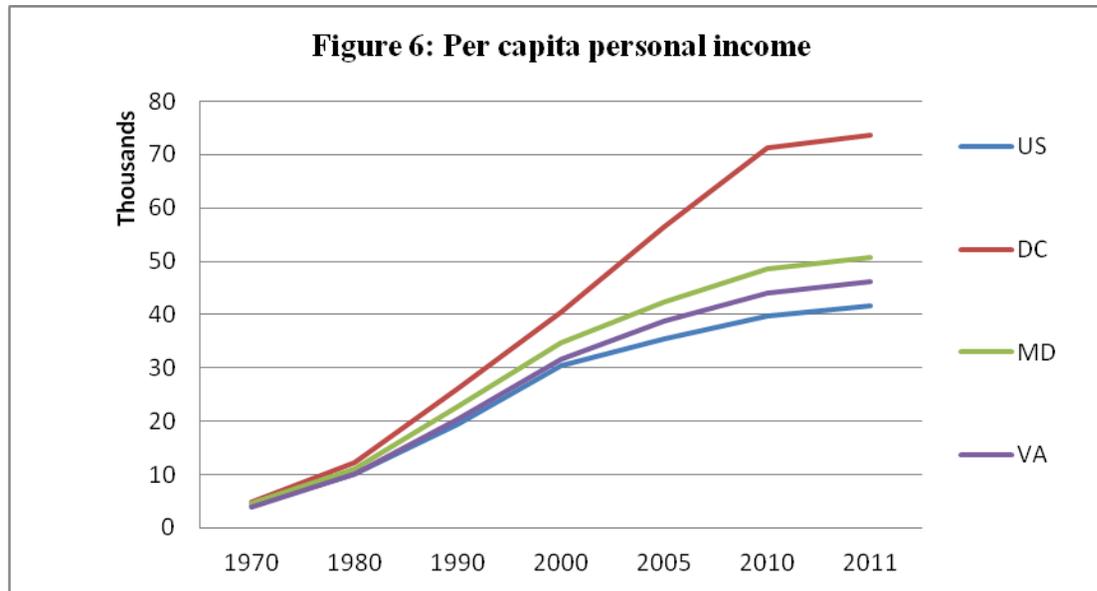
Income

Income levels, composition and the distribution of income are drivers for much of D.C.’s revenue base. There is an obvious correspondence between income and individual income tax revenues and perhaps a less obvious correspondence between the composition of income and individual income tax. Income defines the level and composition of consumption, thereby affecting sales

and property tax bases. Income also affords people the ability to “buy” public services via user fees and charges and demand for public goods of varying quality and quantity.

In general, trends in the level and composition of income in D.C. follow trends in the U.S. and D.C.’s neighbors. One critical difference is the role played by commuters in D.C.’s economy. The relative income of the “work here-live here” population and the future trend of that component of the population critically affect D.C.’s long-term fiscal health. Overall, OCFO reports that recent wage gains have slowed but that resident employment has grown (OCFO Economic and Revenue Trends February 2013 and Revised Revenue Estimate March 7, 2013) which suggests a dampening of fiscal capacity per earner. This is consistent also with the projected growth in relatively low wage jobs.

Nominal personal income (PI) and per capita personal income has been rising steadily over the past several decades. Between 1970 and 2011, PI increased from about \$832 billion to \$12,950 billion nationwide and from \$3.8 billion to \$45.6 billion in the District of Columbia. Personal income was also characterized by upward trend in Maryland and Virginia. Per capita personal income has been the highest in D.C. (relative to Virginia and Maryland) during the whole period, rising to over \$73,000 per person in 2011. Figure 6 illustrates the growth in per capita personal income.



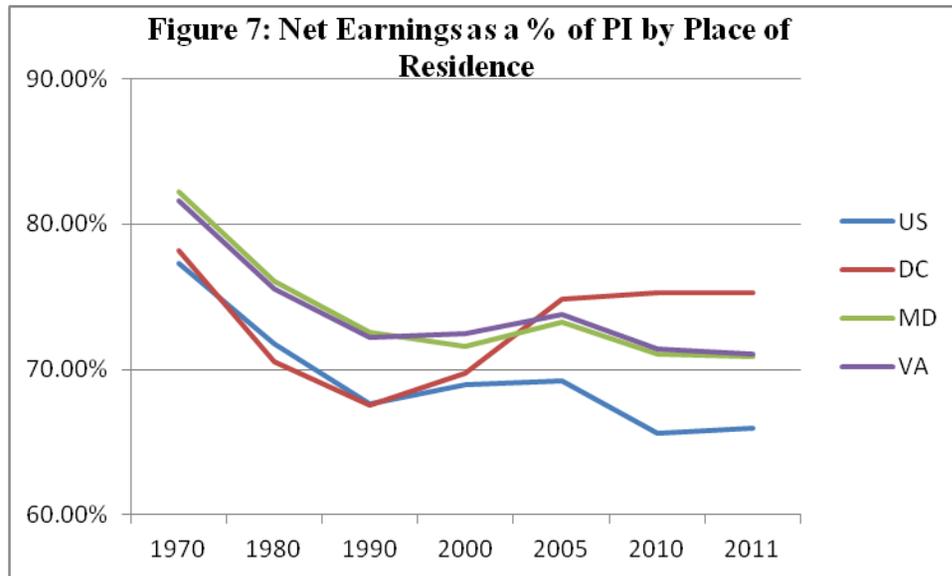
Source: BEA

Decomposition of personal income by its major components shows that net earnings remain the dominant component of personal income nationwide as well as in D.C., Maryland, and Virginia (Figure 7). The long-term trend demonstrates a decline in the share of wage income from 1970 to 1990. Since 1990, the net earnings share of personal income has increased in D.C., but continued a downward trend in the comparison jurisdictions. Net earnings are mainly comprised of wages, so its growth represents increased potential for the income tax base in the near term in D.C.

On the other hand, between 1970 and 2011 personal current transfer receipts (Social Security, Medicaid, TANF, and the like) as a share of personal income increased from approximately 9 percent to 18 percent in the U.S., from 8 percent to 12.6 percent in D.C., and from 6 percent to 13 percent in Maryland and Virginia (Figure 8). Since 1980, this share of personal income has been

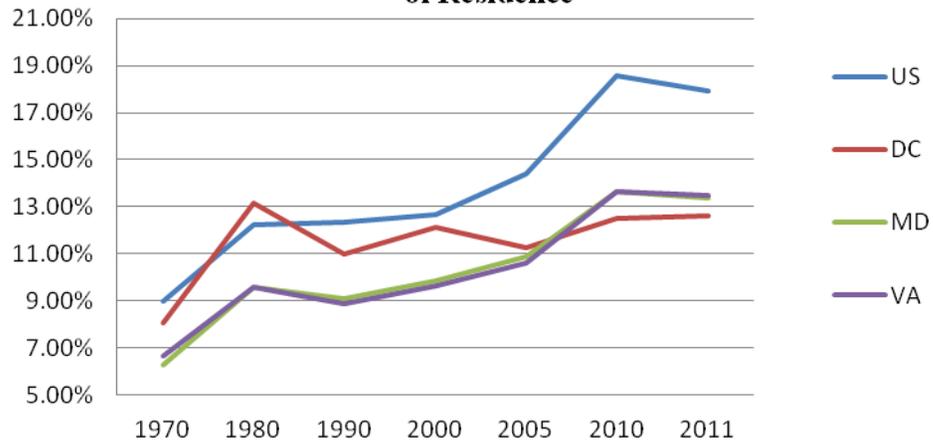
relatively steady in D.C. Transfer payments are typically not taxed under the income tax so growth in transfer payments as a share of personal income will reduce income tax buoyancy. With the potential increase in elderly population in D.C. coupled with disparities in income, growth in income tax revenues may suffer.

Capital income in the form of dividends, interest, and rent as a share of personal income was rising steadily till 1990 and then started to decrease (Figure 9). By 2011 capital income as a share of personal income in D.C. appeared at even lower level at about 12 percent compared to 14 percent in 1970. The same share overall increased from 14 percent to 16 percent in the U.S. and from about 12 to 16 percent in Maryland and Virginia.



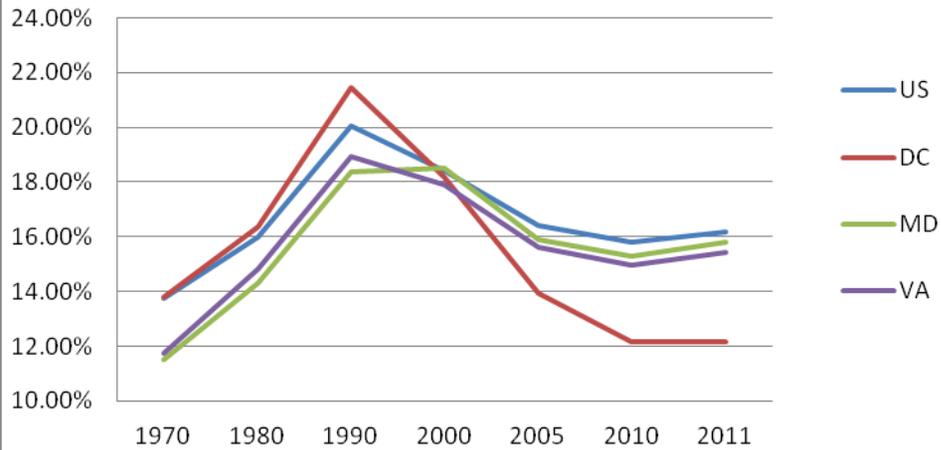
Source: Bureau of Economic Analysis

Figure 8: Personal Transfer Receipts as % of PI by Place of Residence



Source: Bureau of Economic Analysis

Figure 9: Interest, dividends, rent % of PI



Source: Bureau of Economic Analysis

At the national level, according to the Bureau of Labor Statistics, between 2010 and 2020 U.S. personal income is projected to increase to \$20,574 billion, with an annual rate of change of 5.2 percent.¹⁶ The share of compensation is expected to decline to 62.6 percent of personal income by 2020 while transfer payments are expected to decrease from a high in 2011 of 18.7 percent to 16.5 percent in 2020 as the U.S. economy gains strength post Great Recession. The BLS projects an increased concentration in interest and dividend income in the next decade. If D.C. follows suit, the increased capital component of personal income may challenge the income tax system as some capital income provides fewer tax handles than wage income that is typically subject to withholding.

The ORA/OCFO report that wage growth in D.C. has slowed in the quarter ending September 2012 and are now growing more slowly than in the U.S. Personal income of D.C. residents grew by 6.8 percent from FY2010 to FY2011 and by 3.7 percent FY2011 to FY2012. Federal government wages fell while private sector wages grew between FY2011 and FY2012. One year does not necessarily make for a long-term trend, but these recent data are a reminder of the effect of federal government employment and payroll on D.C.'s finances. With the current sequester and budget discussion on-going, it is wise to be cautious about future growth in taxes like the individual income tax.

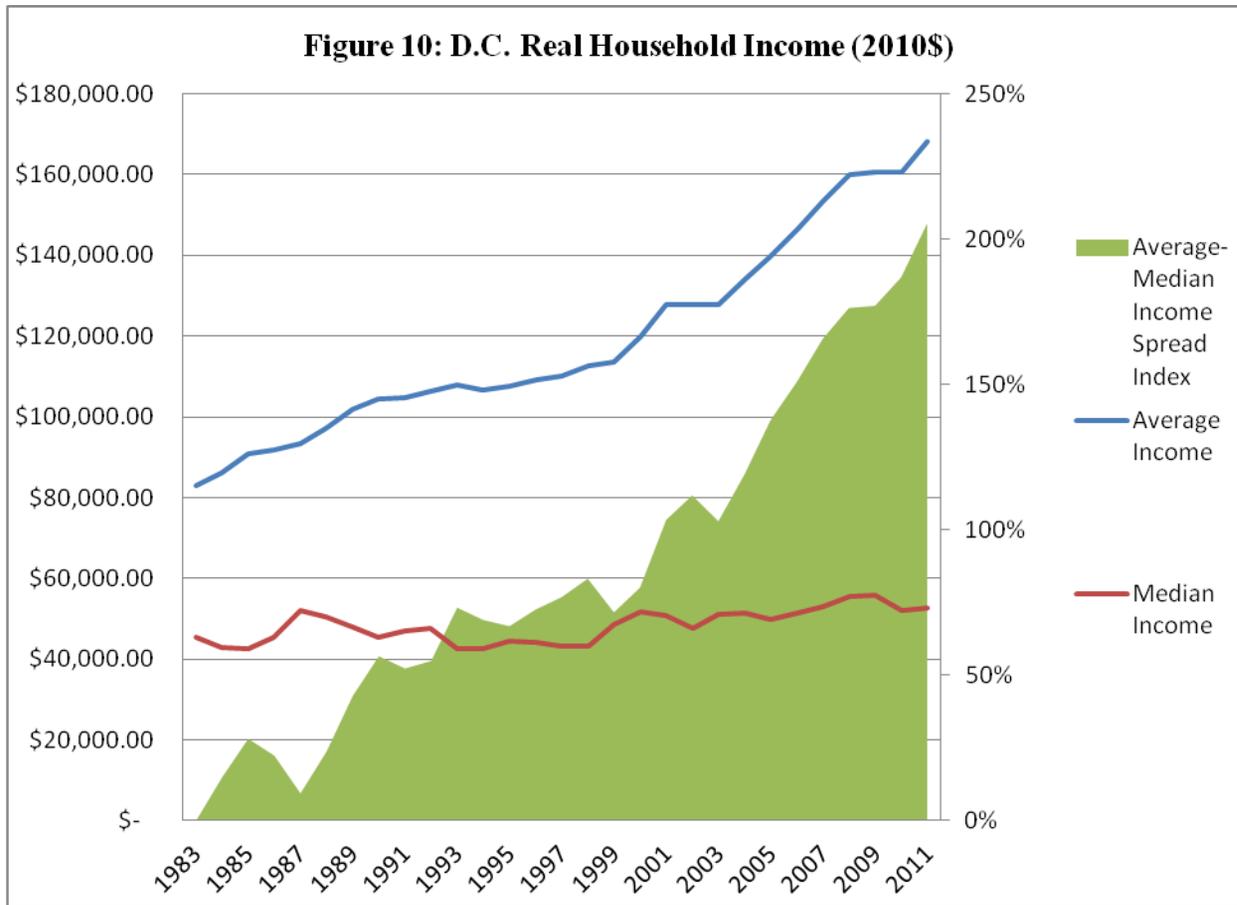
The distribution of income is an important characteristic of D.C.'s fiscal architecture. Over the last three decades, there has been an increase in the difference between average household income and median household income in D.C. The median income is

¹⁶ Source for projected data: Bureau of Labor Statistics http://www.bls.gov/emp/ep_table_410.htm.

the income of the household in the middle of the income distribution while the average income is simply the sum of household income divided by the total number of households (see Figure 10).¹⁷ The greater the concentration of income at the high end of the income distribution, the greater the spread between average income per household and the median income. In real terms, in 1983, the average household income was about double the median household income, but this has increased dramatically so that average income is more than three times median income in 2011.

Disparities in income will affect revenues as well as expenditures. D.C.'s caseload for Temporary Assistance for Needy Families (TANF) has declined since the mid-2000s but Supplemental Nutritional Assistance Program (SNAP) recipients have increased (somewhat faster than the average state during the recession). If D.C. continues to experience growth in income disparities the pressure on the social safety net will grow and the distribution of the burden of the income tax will be increasingly skewed. This could draw more attention to the tax which may reduce support for the tax over time unless there is a decided preference for progressivity in the income tax system. The distribution of sales tax burden may also become more skewed. Lower income households spend more money on basic goods and services including items like food which are not taxed for home consumption (for the most part). A sales and excise tax system that is geared toward luxury items (including entertainment and food away from home) would take advantage of the skewed nature of the income distribution. However, high income people are mobile and may spend more of their recreational budgets outside of the District. Public service demands may also diverge due to the difference in needs and preferences of low relative to high income households.

¹⁷ In Figure 10, the difference between average and median income is indexed to 0 in 1983.



Source: OCFA (2012) District Demographic Indicators.xlsm

Globalization

The ability to move people, products, and ideas around the world has complicated public finance. In the last two decades, there has been a concern that globalization and the resulting competition for capital and consumers would lead to a “race to the

bottom” in terms of sovereign tax rates. The race to the bottom has not completely panned out but there is an intense amount of competitive pressure among jurisdictions to lure mobile employers with a wide variety of tax and expenditure incentives.

Computerization of many services including basic bookkeeping and accounting and software development led to outsourcing and concern over the substitutability of labor “here” for labor “there.”

Constituents demand public services in exchange for taxes paid and look to governments to produce certain types of goods. A race to the bottom in terms of tax rates would have to be met with declining public services. Jurisdictions that are better at providing services that their residents and employers *want* will be better able to compete on the local and even the world market. Still, all else equal, substantial differences in tax rates may allow labor and capital to be bid away by other jurisdictions and countries.

Technology

The continued developed of technology impacts production, consumption, the way government interacts with constituents, how training and education are done, how marketing and collaboration happen (including conventions and trade shows), dissemination of health care, and more. Regarding the future of D.C.’s revenue, we focus here on three technology trends that arguably most directly affect natural revenue growth: internet commerce, the mix of capital and labor in production, and other forms of outsourcing (education, cloud computing, collaborations, and meetings).

Bruce et. Al. (2012) estimate that business-to-business and business-to-consumer commerce will continue to increase over time. They estimate that D.C. will see an increase in the loss of sales tax revenue due to e-commerce of 22.6 million in 2007 to 35.5 million in 2012. This loss is approximately 3.2 percent of 2012 sales tax revenues for D.C. The projected loss has increased

approximately 50 percent over the period 2007-2012 and expectations are for continued leakage in sales tax revenue as e-commerce continues to grow. The “Amazon Laws” and Streamlined Sales Tax Project may stem the tide of sales tax loss, but as of this writing, the jury is still out on their ultimate legal status and effectiveness. Fox (2012) provides some detail regarding the history and status of these projects. The Amazon Laws are an attempt by states to expand the attribution of nexus to include affiliates and subsidiaries that establish a physical nexus. While several states have adopted these types of laws, companies like Amazon are pushing back and it is not obvious when or if a final resolution will occur.

The second challenge that technology brings is the potential for substantial shifts in the mix of capital and labor in the economy. Some individuals point to the sluggish employment growth in the recovery from the Great Recession as evidence of a shift away from labor toward more capital. *The Economist* summed it up in the following quote whereby they make the case that substitution of capital in the current and future generations could replace labor (rather than make labor itself more productive):

“The evidence is irrefutable that computerised automation, networks and artificial intelligence (AI)—including machine-learning, language-translation, and speech- and pattern-recognition software—are beginning to render many jobs simply obsolete.” (*The Economist*, November 4, 2011: <http://www.economist.com/blogs/babbage/2011/11/artificial-intelligence>)

It is difficult to forecast how much and how quickly technological change will affect the labor force. Creative thought regarding retraining could enhance the impact of such technology on labor markets, but perhaps not over the long-term. The trend in the use of technology in production (of goods as well as services) suggests a reduction in the wage component of the income tax base. Capital is notoriously difficult to tax—AI and other technology-based valued added can be located in any jurisdiction, which increases the complexities of transfer pricing and other tax avoidance techniques. 3-D printing is an example of how far technology might go into

homes (*The Economist*, September 9, 2012, <http://www.economist.com/blogs/babbage/2012/09/3d-printing>). This trend will further reduce the buoyancy of income tax systems.

Finally, technology is changing the way interactions are done among collaborators, by marketers, and even with respect to the provision of health care and education. High resolution video technology has enhanced the ability to conduct virtual type meetings and has reduced the need for some real estate infrastructure. MOOCS (massive open on-line courses) are changing the way college courses are disseminated. *Information Week* reports that remote monitoring of patients could double between 2012 and 2016 (<http://www.informationweek.com/healthcare/mobile-wireless/remote-patient-monitoring-market-to-doub/240004291>). These facets of technology will make it more difficult to determine the point of economic activity and to apportion income and profits. In short, the tax handles associated with income (and possibly sales tax) will be reduced.

Real Estate

The real estate sector deserves special mention when thinking about the architecture of D.C.'s finances as an economic reality as well as an institutional factor. The potential for growth in population and employment coupled with uncertainty about the future size of the federal government make it difficult to forecast the value of real estate, the property tax base, and the attractiveness of D.C. as a place to live for and work for employees and employers.

Single family and condominium home sales have been fickle since the end of the recession. The OCFO reports that the number of single family home sales increased in FY2009, 2010 but decreased in FY2011 and 2012. Condo sales on the other hand

decreased in FY2009 and 2011 but increased in FY2010 and 2012. Overall average sales prices increased in FY2010 and 2012 but decreased in FY209 and FY2011. Inventory is reported to be falling, which could signal stronger sales and prices in the coming years if actions of the federal government do not scare off potential renters and owners.

The most recent information (OCFO February 2013) reports that residential real estate sales were up substantially in January 2013. In its revenue estimate for FY2014, the OCFO projects steady increases in new housing starts and sales. New apartment units are projected to increase through 2016, with a slight decline in the percent vacant from 4.1 percent (2012) to 3.4 percent (2016) (OCFO, December 2012).

Delta Associates finds D.C.'s residential housing market to be quite strong and if it were not for the federal sequestration issue, they suggest the residential market would continue to show growth in sales and in prices.

Vacancy rates for commercial office space in D.C. fell from September 2009 through early 2012. The OCFO reports that vacancy rates ticked up again in September 2012 and the effective rent (per square foot) has remained relatively constant since the second quarter of 2010. The federal government is a big influence on the property market. It does not pay property tax on owned buildings and as it expands or contracts its property stock, net rents around D.C. will be affected. Delta and Associates recent Trendlines presentation on the D.C. Area Economy (<http://www.deltaassociates.com/upload/79a98ce93c.pdf>) projected a competitive commercial real estate market in the short term due to uncertainties regarding the federal budget and an increased “densification” of offices (less square footage per worker).

Another current topic of discussion related to D.C. real estate is relocation of the FBI building. Relocation outside of the District could impact economic activity and in turn, sales taxes, but it could also expand the property tax base long term if the current area was redeveloped for commercial use. The net effect of relocation within D.C. depends on the actual location and potential private development value of such a location.

With the growth in the young working age population, there will be a continued demand for rental housing which will bolster the property tax base. However, federal government decisions on the level of consolidation of office space, relocation, and densification could have a measurable impact on the supply of commercial space and on the level of rent at least in the short term.¹⁸ In turn, this could have a dampening effect on the property tax base.

Institutions

D.C.'s institutional structure is unique among state and local governments in the U.S. D.C.'s finances and economic activity are greatly influenced by the structure of own-source revenues and grants and economic activity associated with the federal government. D.C.'s revenue structure includes typical state-local government sources in addition to sizable federal grants and less sizable federal payments. Within own source revenue, D.C. receives most revenue from property and income tax with sales tax a distant third. Business franchise taxes bring in about 7 percent of total D.C. taxes. The composition of taxes in D.C. is not unlike most states in the U.S. but the tax to personal income ratio is higher in D.C. and the tax to GDP is much lower than in the U.S. This reflects the fact that D.C.'s employment is heavily affected by commuters who contribute to output but are not liable for direct taxes.

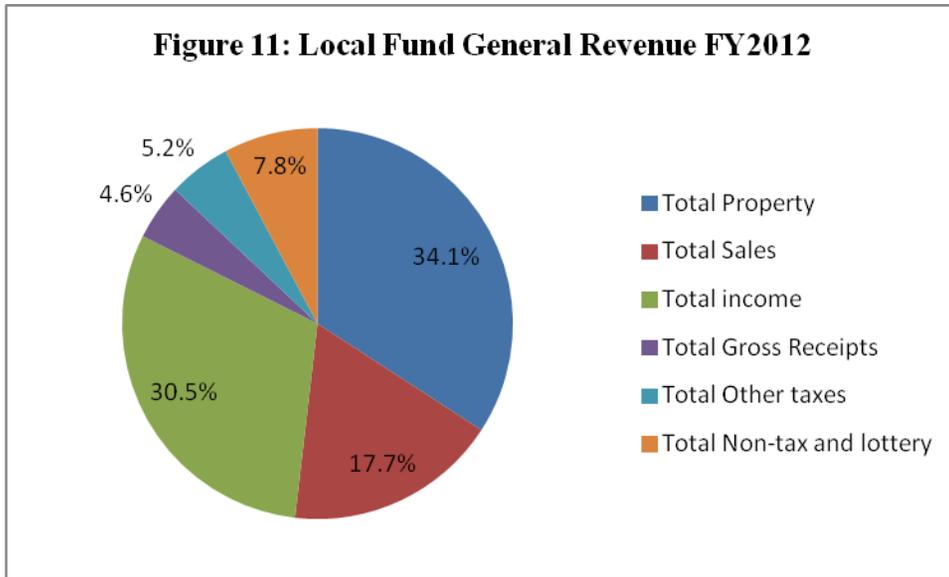
¹⁸ Cassidy Turley also projects a decline in office space per worker: <http://washington.uli.org/wp-content/uploads/2013/02/Cassidy-Turley.pdf>.

In FY2012, the total amount of local fund gross general revenue was \$6.4billion. Federal grants add another \$2.9 billion to the overall budget.

The District also accounts for dedicated revenue of approximately \$500 million dollars, earmarked for specific functions.

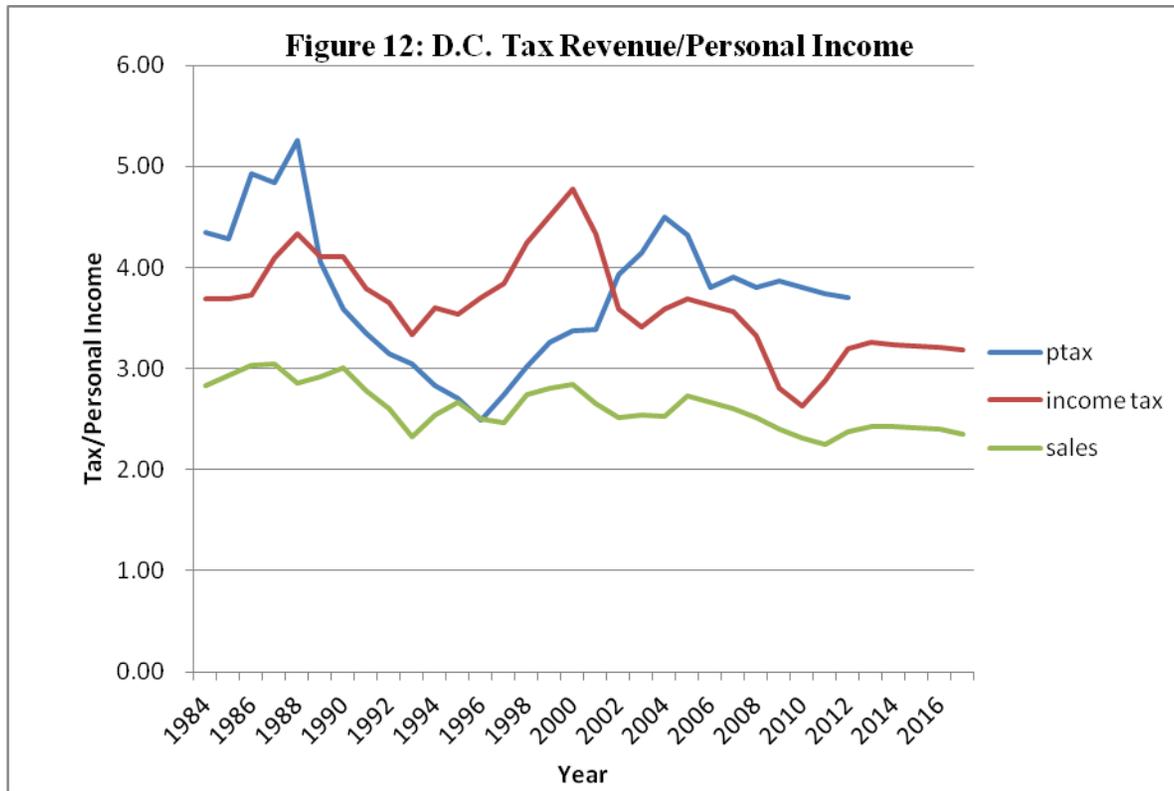
D.C.'s revenue and revenue options are constrained in part by the large presence of the federal government and many non-profit entities (including hospitals and institutions of higher education). These entities do not pay property tax or corporate income tax. D.C.'s Department of Employment Services reports that three non-profits top the list as the District's largest private-sector employers: George Washington University, Georgetown University, and Washington Hospital Center (DES, 2011). Expansion of the federal government and/or non-profits in D.C. reduces the buoyancy of the property and corporate tax base but its economic activity could increase sales and individual income taxes.

The nature of D.C. as policy-central for the U.S. naturally draws non-profit entities to the city for the close proximity to policy makers, research, and media. This institutional (or economic) characteristic of D.C. is evidenced by the growing number of non-profits reporting D.C. as their home. The IRS, Statistics of Income (SOI) reports that the number of D.C. based non-profits filing tax returns (Form 990) in 2009 was 2,448, up from 1,693 in 1987 (SOI Bulletin, 2012 and 1986-87).



Source: CFO Revenue Chapters: http://cfo.dc.gov/sites/default/files/dc/sites/ocfo/publication/attachments/ocfo_fy_2012_revenue_chapter.pdf

There is evidence of a slight decline in the natural growth of income and sales taxes in D.C. from 1987 to the present (data from OCFO, 2013) relative to personal income and gross state product (see Figure 12). The property tax has been somewhat more stable, even increasing relative to personal income or gross state product. The diminishing growth of these taxes relative to economic activity could be associated with increased tax expenditures (exemptions, tax holidays and the like), adjustments through various recessions that have not stabilized, or it might reflect the change in the architecture presented above—increase in transfer payments, a young population consuming services, and the march of technology.



Source: OCFO R_general fund.xls (March 2013), projects 2013-2017.

D.C.’s use of “O-type” revenues provides experience with non-tax revenues that may be expanded in the future.¹⁹ The transparency of the budgeting and use of O-type revenue is important for gaining acceptability and compliance with these revenue sources. In discussing any changes to tax or non-tax revenues, the capacity of the revenue administration must be considered. The ability for individuals and corporations to shelter income through a variety of means imposes a burden on the administration. With the

¹⁹ O-type revenues are tax and non-tax revenue sources that are dedicated in the budget. These include items such as licensing fees.

continued march of technology and globalization it is only likely to get harder to administer traditional taxes on capital but fees and charges may offer better tax handles.

D.C. faces substantial expenditure pressures related to its infrastructure including the Metro system, K-12 education, the ability to offer technical and vocational education, traffic congestion, and the need to remain on the cutting edge of technology infrastructure. The priorities of the district in terms of economic development and lifestyle will dictate revenue and expenditure decisions going forward.

In its response to some of the changes of economic and demographic change, D.C. will be constrained by non-discretionary programs such as Medicaid and TANF. The size of some mandated programs limits budgetary discretion and will have more impact if D.C. witnesses an increase in relatively low income population (in the case of these specific programs). The District is also institutionally constrained in its capital budget by a self-imposed debt ceiling limit of 12 percent.

The federal budget looms large as an institutional factor outside of the control of the District government. As of this writing, federal sequestration is still on the table and a new debt ceiling limitation crisis comes to bear in May 2013. Early estimates of the impact of sequestration by Steve Fuller (George Mason University) projected employment losses of 127,407 in D.C. This estimate has been scaled back to 92,000 under current conditions. Whatever the exact magnitude, sequestration and federal budget woes in general are a reality that D.C. must live with when considering the future of D.C.'s public finances. Given the size of the federal government relative to D.C., swings in federal expenditure priorities will also impact D.C.'s fiscal future. If, for example, the federal government were to move more heavily toward defense spending, the District could witness research and development off-shoot

employment if the District was able to react to needs of such industries. If federal government expands its social support role, there might be less externality in terms of employment in D.C. The District has somewhat limited leverage with respect to adjusting its income tax base due to agreements with Virginia and Maryland regarding resident-based income taxation. Federal areas of growth for D.C. are: financial regulation, healthcare regulation, and environmental regulation.

Implications of Changes in Fiscal Architecture

A summary of the trends in economic and demographics and the picture they paint for D.C. revenues ten to fifteen years in the future is discussed in this section. The major trends that D.C. has recently experienced and that will continue in the future are reported below. In almost all cases, there is a degree of uncertainty regarding the future trends. Those “what-ifs” are noted in Table 4 which summarizes the outlook for D.C.’s revenues given the trends in its fiscal architecture. The District will need to carefully consider these issues in light of the competition that surrounds it for residents and employment. Areas in Virginia and Maryland (Tysons Corner and the Montgomery-Prince Georges county corridors) compete with D.C. for both. As D.C.’s younger cohort ages, housing prices and K-12 schools (public and private) will be important considerations to D.C.’s ability to retain those residents as they age.

Overarching trends—what to expect in the next five to ten to fifteen years:²⁰

- An increase in resident population
 - General increase in revenue potential
- A population that is relatively young with a strong cohort of working age population
 - Increase in individual income tax potential

²⁰ The overarching list assumes that the federal budget/sequester/debt ceiling crisis will largely be averted in the coming months.

- Decrease consumption tax potential if entertainment, personal services, and public transit remain outside of the sales tax net
- Property tax buoyancy through rental market
- An increasing elderly population but at smaller rates (relative to total population) than the U.S.
 - Reduced buoyancy in the income tax
 - Reduced buoyancy in the sales tax
 - May help stabilize property tax in the long run (aging in place)
- An increase in the number of school aged children
 - Increase in sales tax potential through increased consumption of apparel and educational supplies
- Smaller household size
 - Slight positive impact on consumption tax potential due to loss of economies of scale in consumption
 - Uncertain impact on property tax base
- An ethnically diverse population
 - Consumption trends are not clearly defined
 - Could reduce voluntary compliance with taxes that are complicated
- Relatively high median income and a growing income gap
 - Pressure on the acceptance of skewed income tax burden
- Employment and output growth in the health and education sectors, business and professional services, and decline in federal employment (relative to total employment); health and education sector growth in lower skilled/lower wage jobs
 - Reduced tax handles for income tax
 - Reduced tax handle for sales tax (consumption moves toward services)
 - Reduced buoyancy of income tax due to relative growth in lower wage jobs
- Globalization and technology: competition will continue to increase—international as well as local for employment, residents, economic activity
 - Dampens ability to raise taxes on business-related income and capital investments
 - Reduction in wage share in income tax base
 - Increase in ability to avoid tax through shelters, transfer pricing, etc. reduce the buoyancy of business income-related taxes, individual income taxes, and sales taxes
 - E-commerce trends continue to erode sales tax collection efficiency (without changes to the taxation of interstate sales)
- Real Estate: Continued pressure on housing stock due to increase in residents and income diversity
 - Expansion of housing stock important to keep residents and provide stability for property tax base
 - 100 million to 120 million square feet of future development capacity in D.C.
 - Unlikely increase in commercial real estate rents (densification and decisions on location of Federal employees)

- D.C. infrastructure (schools, Metro, telecommunications and other technology) will need to respond to government's priority areas of growth and development and residents' demands (education, transportation, health care)

There are some areas of uncertainty including potential impacts of federal sequestration or other federal government budget-tightening, the real estate market, whether the population chooses to age in place, and the continued growth of a young working-age resident population. In Table 4, these factors are summarized and some "what-if" scenarios are highlighted. The information in the table summarizes the discussions presented above.

Table 4: Summary Matrix Impact of Changing Demographics on D.C.’s Revenues

	Trend	Revenue Implications	Impact of Institutions	What if?
Demographic				
Population size	Growth	All Taxes ↑: In general, population growth will lead to revenue growth due to increased economic activity	Attractiveness of the District in terms of transportation (including public transit and congestion) and other amenities play a role in sustained population growth	Population growth could be negatively affected by sequestration and larger than anticipated reductions in the federal government Competition for residents in VA and MD (via amenities and/or taxes) could reduce growth in population These factors may reduce revenue potential over the next decade Expenditure and housing needs will grow and if not accomplished, may dampen population growth
Age composition	Growth in school aged, young working, and slower growth in retirement aged	Income Tax ↑: Younger population will positively affect income tax Property Tax ↑: Sustained demand for housing and stability in property tax base (rental) Sales Tax ↓: Sales tax revenue may not capture growth in expenditures on entertainment, insurance, personal services (all growth items for the younger age cohort); Sales Tax ↑: Youngest cohort will increase consumption of apparel and educational materials which are mainly taxable Income and Sales Tax ↓: Longer term the elderly	Income tax growth constrained by DC/VA/MD agreements Competition for consumption base in VA and MD may reduce flexibility to expand sales tax base	Concerted effort to have population age in place—more pressure on income tax growth, potential for increased fees for services (transportation, recreation), stability to growth in the property tax base due to continued demand (although downsizing as population ages) Demand for K-12 education and public transportation could be substantial challenges

	Trend	Revenue Implications	Impact of Institutions	What if?
		dynamic will reduce buoyancy of both taxes		
Households, family composition, fertility	Smaller sized households, single member households	<p>Sales Tax ↑: Consumption taxes should be slightly more buoyant due to loss of economies of scale in consumption</p> <p>Property Tax ↔: Property needs per household may decline reducing growth in property tax base but more dense housing for singles may increase property tax base</p>	Not directly applicable	Growth in relatively low wage jobs could increase the household composition with more extended families living together. The general cost of housing in D.C. makes it unlikely to be a significant trend—but may in fact push families further into the suburbs. Witness: Northern Virginia’s growth of share of area economy from less than 30 percent in 1975 to over 45 percent in 2010 (Fuller, 2013).
Race/ethnicity	Continued racial diversity and attraction of migrants	<p>Taxes ↔: Not an obvious impact on income and sales, but may reduce voluntary compliance if system is viewed as too complex</p>	Expenditure demands will continue to face pressure to serve a heterogeneous population	If the federal government decreases the number of visas allowed, D.C. could see its diversity reduced
Health	Continued high levels of childhood obesity	<p>Income Tax ↔ ↓: Immediate correlation may be weak, but trend could reduce longer-term workforce effectiveness and therefore labor-based tax revenue</p>	Pressure on health care costs expected to grow	If D.C. adopts more direct measures to address childhood obesity (effectively), this could be a model for the U.S. and might attract healthcare research as well as population
Economic				
Employment and output	Increase in service-based employment and output, reduction in federal presence. Most growth in education and health services and business and professional services	<p>Income Tax ↓: The mix of activity toward services and lower wage jobs will reduce the natural growth of the income tax</p> <p>Corporate Tax ↓: Service sector is less transparent and provides a weaker paper trail for tax administration</p> <p>Property Tax ↓: Service sector</p>	Service sector jobs can be produced from remote locations to locations around the world. Technology enhances this ability but makes it more difficult to tax these activities.	<p>Federal sequestration and long-term budget deal could reduce the expected growth in employment and output. This could also dampen the “knowledge economy” of D.C. if the federal government reduces research and development support, which has direct externalities for D.C.’s employment and output landscape.</p> <p>Attracting and keeping service sector headquartered in D.C. will require state of the art telecommunications infrastructure. The cost of real estate in D.C. may make that impractical.</p>

	Trend	Revenue Implications	Impact of Institutions	What if?
		<p>activities by nature use less property</p> <p>Property Tax ↑: Health and education sector growth industries have been for-profit (home health, clinics, vocational training)</p>		
Personal Income	<p>Increasing disparity in income; growth at high end (via professional services) and moderate income (via health and education employment)</p> <p>Concentration of lower income earnings</p> <p>Growth in transfer payments (safety net including AFDC and Social Security)</p>	<p>Income Tax ↑: Increased share of income tax from higher income earners</p> <p>Income Tax ↓: Lower income individuals will have a larger portion of income tax exempt (standard deduction plus exemptions) reducing the elasticity of revenue</p> <p>Sales Tax ↓: Large concentration of low income jobs will increase relative consumption of food and housing (largely non-taxable)</p> <p>Income Tax ↓: Reduced elasticity of the income tax over the medium to long-term</p>	<p>Increased burden on high income earners could have backlash in terms of payment of “fair share” for services provided</p>	<p>Does the District want to encourage aging in place? If so, more pressure on the income tax in the future because of light taxation of retirement income at present</p>

	Trend	Revenue Implications	Impact of Institutions	What if?
Globalization and Technology	Increases in both into the future increase the competitive nature of attracting capital and labor, consumer markets, increasing e-commerce, virtual meetings and collaboration	<p>Income Tax ↓: Shift from labor to capital inputs reduces the income tax handle.</p> <p>Corporate Tax ↓: Competition in factor and output markets should increase the tax minimization strategies of companies</p>	<p>The issue of nexus is critically important to ability to reach economic activity in the future.</p> <p>Amazon Tax and Streamlined Sales Tax initiative create options for taxing remote sales</p>	<p>If technology through artificial intelligence replaces labor at higher rates than in the past, revenue generation becomes even more complicated. Creating a home-base for research and development could reduce the revenue stress for the District, which is poised to attract R&D in this “new world.”</p>
Real Estate	<p>Strong residential market (owner occupied and rental)</p> <p>Commercial office space rents questionable</p>	<p>Property Tax ↑: Growth in demand will continue to grow the tax base</p> <p>Property Tax and rental income ↔: Federal government decisions will have important impact and could dampen market in the short to medium term</p>	<p>Federal government has strong role to play in the commercial real estate market.</p>	<p>If the Federal government reduces property holdings in D.C. and/or increases density of employees there could be a reduction in rents in the short term, depressing property tax revenues</p>

Notes: The symbols, ↑ ↓ ↔ summarize the anticipated change in the growth of various revenue sources, given assumptions about the economic and demographic changes noted in the table.

There are a number of policy options that could bolster the stability and growth potential of D.C.'s revenue structure in the face of these many and varied changes to the city's fiscal architecture. Some of these may not be politically feasible and others may be predicated on uncertain forecasts of employment behavior or federal decisions regarding the budget and debt ceiling. They should be viewed as a starting point for discussions of the fiscal health of D.C. for the next two decades.

Continued use of tax expenditure analysis. Exemptions and deductions may have had merit at the time they were made law but their merit may diminish over time while their costs rise. Income-tax exemptions for retirement income and property tax exemptions for retirees are two examples of tax expenditures that will cost D.C. more in forgone revenue as time marches on. Means-testing for certain exemptions and careful analysis of the expected consequences of others would help stabilize the course of revenues. Base broadening in general may reduce the pressure of the changes in fiscal architecture on D.C.'s revenues.

Rationalizing sales tax bases and collections across jurisdictional borders. The implications of e-commerce on the sales tax base given the growth in technology and computer literacy call into question the ability of any one jurisdiction to stem the tide of revenue loss.

Sales and income tax base. The income disparity in D.C., slow growing elderly population, and penchant of the young population to use public transportation and consume other non-taxable items (recreation, trips out of town) will likely reduce sales tax revenue growth as the economy expands. Base broadening to include services would put sales tax revenue growth on a path closer to that of the economy as a whole.

Business taxation. Globalization, service production, and technology will challenge the administration in the case of the franchise tax (as well as other taxes). The majority of

businesses currently pay the minimum tax and the District might consider further simplification of the business tax regime in the form of an expanded minimum tax or other simplified tax regime for business that reduces the administrative cost of monitoring aggressive tax avoidance schemes.

Fees and charges for quality services. Globalization and competition puts some downward pressure on traditional income taxes. D.C. is a unique city that might do well to diversify potential revenue growth through an increased focus on resident and tourist consumer satisfaction. Consumers may be willing to pay for high quality services such as specialized tours of the legislative process, ease of public transportation--even technical education (utilizing the infrastructure of the University of the District of Columbia. Non-profits are only exempt from property tax if they are providing services locally, which may reduce the pressure on the property tax.

Potential for taxing at source. D.C.'s agreement for taxation based on place of residence is at the least a topic for discussion. The District is more constrained than its neighbors in terms of population growth potential (physical expanse of land), and given the large influx of commuters that will continue into the future, a small source-based wage tax could smooth the city's revenue growth.

Feds and non-profits. With the national growth of non-profits becoming a concern to governments throughout the U.S., there may be room for some discussion regarding the tax treatment of non-profits (gross receipts, minimum, or other taxes). The District could be a strong voice in such a discussion, which might include a regular PILOT type arrangement with the federal government.

Affecting the course of age composition change. The long term age demographic of the D.C. population can be left up to chance and the actions of those outside of D.C., or the District can work to shape that destiny. The growth in the school aged population maturing into their working years could be enhanced by a public sector that meets the needs of its population. Similar to Anthony Williams' development plans in the early 2000s to attract new residents, the potential to keep residents takes thoughtful planning. The effective property tax per family unit in multifamily versus single family housing could be adjusted if the District wanted to encourage use of specific property. Single family homes could be encouraged by a means-tested exemption for owner occupied housing. Uncertainty in population growth, age distribution, and other factors can have a devastating impact on the District's budget. Uncertainty reduces the ability to do multi-year planning, which is a necessity when evaluating infrastructure and capital expenditures. The District can encourage those of working age to age in place and smooth transitions in the real estate market (with more certainty than leaving population trends up to chance). Whether the costs of increased health care and other services outweigh the potential revenue stability is a question in need of further research.

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