

# Washington Income Distribution Update

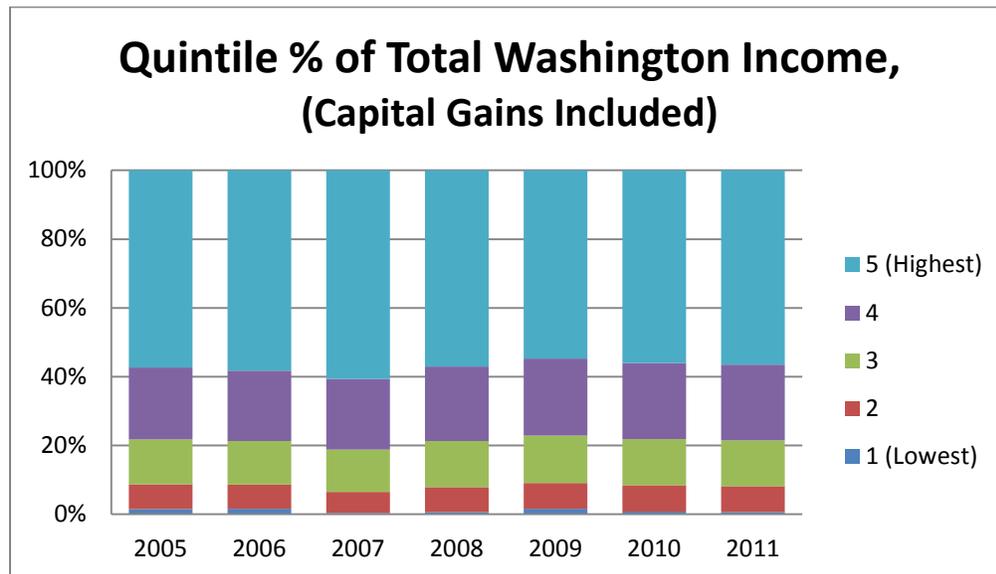
Washington State Office of Financial Management, Forecasting and Research Division

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The 2012 OFM study “The Distribution of Income, Wealth, and Taxes across Washington Households” which was prepared pursuant to Section 708 of Third Engrossed Substitute House Bill 2127 used the most current data on income, wealth and taxes available at the time. Data was available on income deciles from 2005 – 2009. Recently, IRS data on Washington households became available for 2010 and 2011. This update contains some of the charts and tables on income deciles with the addition of the two years of data. The additional years of data are interesting since during the two years, Washington began to slowly climb out of the Great Recession.

## Share of Income by Quintile

The following Graph and table show each quintile’s share of Washington income. In 2010 and 2011 the 5<sup>th</sup> (highest) quintile recovers some of the share of total income that was lost in 2008, 2009 and 2010. The 1<sup>st</sup> decile loses share. Some of the 1<sup>st</sup> decile loss can be explained by volatile capital gains as indicated by the negative mean income and large standard deviation. (See Tables in next section.)



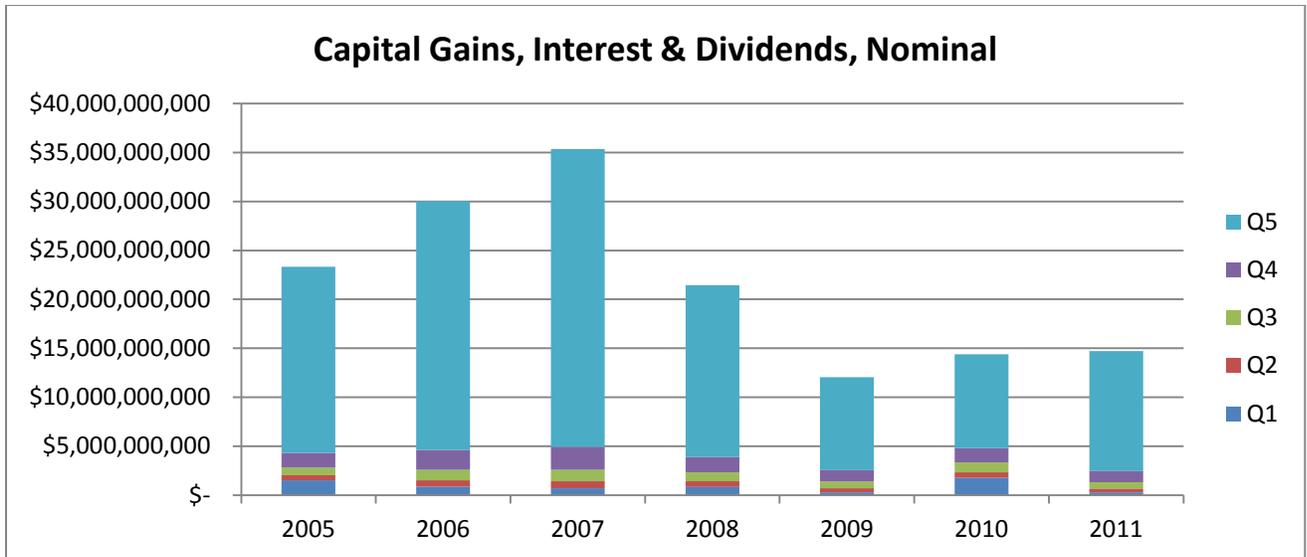
Quintile % of total income over time, including Capital gains					
	1 (Lowest)	2	3	4	5 (Highest)
2005	1.5%	7.2%	13.0%	20.9%	57.4%
2006	1.6%	7.0%	12.7%	20.4%	58.3%
2007	0.4%	6.1%	12.3%	20.5%	60.7%
2008	0.7%	7.2%	13.4%	21.7%	57.1%
2009	1.6%	7.5%	13.8%	22.4%	54.8%
2010	0.8%	7.6%	13.5%	22.1%	56.1%
2011	0.7%	7.5%	13.3%	22.0%	56.5%

### Components of Income by Quintile over Time

The following two charts break income down into two components, Salary & Wages; and Capital Gains, Interest & Dividends. Salary & Wages is the more stable and equitable component.

The Capital Gains, Interest & Dividends component is dominated by the highest quintile. The total for Washington State sharply declined in 2008, and had not yet recovered in 2011.





### Income Deciles for 2005 through 2011

From 2005-2011 all nominal income deciles increased in terms of the top of the decile. The mean for each decile was also higher with the exception of the lowest decile, the mean of which became more negative (probably because of net business losses and net capital losses). However, all real income deciles decreased from 2005 to 2011

#### Nominal income Deciles

2005 Washington State Income Deciles				
Total Nominal Income Including Capital Gains				
Decile	Decile Income Range		Mean Income	Standard Deviation
1	\$ -	\$ 9,000	\$ (2,029)	\$ 145,740
2	\$ 9,001	\$ 17,000	\$ 14,270	\$ 2,263
3	\$ 17,001	\$ 24,000	\$ 21,976	\$ 2,286
4	\$ 24,001	\$ 33,000	\$ 30,295	\$ 2,522
5	\$ 33,001	\$ 42,000	\$ 37,324	\$ 2,769
6	\$ 42,001	\$ 54,000	\$ 47,856	\$ 3,342
7	\$ 54,001	\$ 68,000	\$ 60,594	\$ 4,046
8	\$ 68,001	\$ 86,000	\$ 76,589	\$ 5,329
9	\$ 86,001	\$ 120,000	\$ 100,670	\$ 9,389
10	\$ 120,001		\$ 275,461	\$ 892,971

<b>2006 Washington State Income Deciles</b>				
<b>Total Nominal Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 10,000	\$ (1,314)	\$ 180,337
2	\$ 10,001	\$ 18,000	\$ 14,270	\$ 2,263
3	\$ 18,001	\$ 26,000	\$ 21,976	\$ 2,286
4	\$ 26,001	\$ 35,000	\$ 30,295	\$ 2,522
5	\$ 35,001	\$ 45,000	\$ 39,702	\$ 2,942
6	\$ 45,001	\$ 57,000	\$ 50,923	\$ 3,545
7	\$ 57,001	\$ 72,000	\$ 64,410	\$ 4,287
8	\$ 72,001	\$ 92,000	\$ 81,377	\$ 5,666
9	\$ 92,001	\$ 128,000	\$ 107,358	\$ 10,270
10	\$ 128,001		\$ 308,677	\$ 975,235

<b>2007 Washington State Income Deciles</b>				
<b>Total Nominal Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 6,000	\$ (5,839)	\$ 212,855
2	\$ 6,001	\$ 15,000	\$ 10,591	\$ 2,666
3	\$ 15,001	\$ 24,000	\$ 19,309	\$ 2,458
4	\$ 24,001	\$ 33,000	\$ 28,196	\$ 2,682
5	\$ 33,001	\$ 44,000	\$ 38,186	\$ 3,124
6	\$ 44,001	\$ 57,000	\$ 50,083	\$ 3,768
7	\$ 57,001	\$ 73,000	\$ 64,444	\$ 4,556
8	\$ 73,001	\$ 94,000	\$ 82,548	\$ 6,036
9	\$ 94,001	\$ 132,000	\$ 110,031	\$ 10,810
10	\$ 132,001		\$ 324,604	\$ 1,049,211

<b>2008 Washington State Income Deciles</b>				
<b>Total Nominal Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 10,000	\$ (7,169)	\$ 258,489
2	\$ 10,001	\$ 18,000	\$ 14,307	\$ 2,384
3	\$ 18,001	\$ 27,000	\$ 22,459	\$ 2,391
4	\$ 27,001	\$ 36,000	\$ 31,116	\$ 2,620
5	\$ 36,001	\$ 46,000	\$ 40,905	\$ 3,056
6	\$ 46,001	\$ 59,000	\$ 52,601	\$ 3,709
7	\$ 59,001	\$ 75,000	\$ 66,766	\$ 4,510
8	\$ 75,001	\$ 96,000	\$ 84,589	\$ 5,925
9	\$ 96,001	\$ 132,000	\$ 111,331	\$ 10,393
10	\$ 132,001		\$ 287,527	\$ 912,940

<b>2009 Washington State Income Deciles</b>				
<b>Total Nominal Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 10,000	\$ (1,635)	\$ 159,826
2	\$ 10,001	\$ 18,000	\$ 14,334	\$ 2,321
3	\$ 18,001	\$ 26,000	\$ 22,311	\$ 2,315
4	\$ 26,001	\$ 35,000	\$ 30,690	\$ 2,555
5	\$ 35,001	\$ 46,000	\$ 40,316	\$ 3,024
6	\$ 46,001	\$ 58,000	\$ 51,891	\$ 3,677
7	\$ 58,001	\$ 74,000	\$ 65,985	\$ 4,503
8	\$ 74,001	\$ 95,000	\$ 83,835	\$ 5,923
9	\$ 95,001	\$ 130,000	\$ 110,209	\$ 10,113
10	\$ 130,001		\$ 256,550	\$ 601,860

## 2010 Washington State Income Deciles

Total Nominal Income Including Capital Gains

<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 10,000	\$ (8,749)	\$ 278,555
2	\$ 10,001	\$ 18,000	\$ 14,170	\$ 2,269
3	\$ 18,001	\$ 26,000	\$ 22,029	\$ 2,341
4	\$ 26,001	\$ 35,000	\$ 30,619	\$ 2,621
5	\$ 35,001	\$ 46,000	\$ 40,545	\$ 3,144
6	\$ 46,001	\$ 59,000	\$ 52,531	\$ 3,791
7	\$ 59,001	\$ 75,000	\$ 67,089	\$ 4,646
8	\$ 75,001	\$ 97,000	\$ 85,496	\$ 6,110
9	\$ 97,001	\$ 134,000	\$ 112,819	\$ 10,537
10	\$ 134,001		\$ 274,950	\$ 759,216

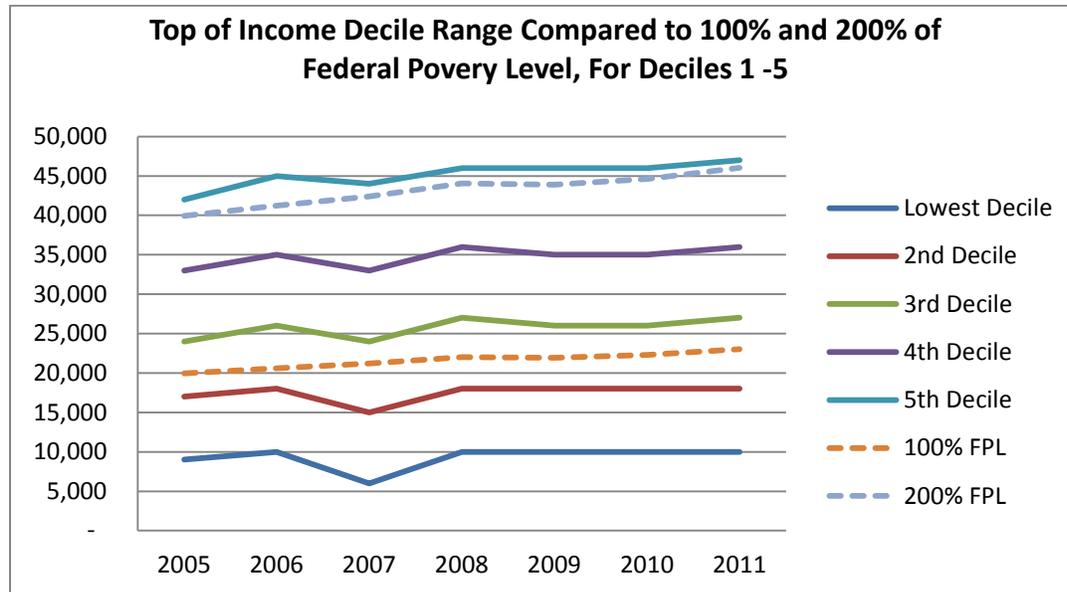
## 2011 Washington State Income Deciles

Total Nominal Income Including Capital Gains

<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 10,000	\$ (9,520)	\$ 291,083
2	\$ 10,001	\$ 18,000	\$ 14,260	\$ 2,327
3	\$ 18,001	\$ 27,000	\$ 22,290	\$ 2,386
4	\$ 27,001	\$ 36,000	\$ 31,067	\$ 2,697
5	\$ 36,001	\$ 47,000	\$ 41,265	\$ 3,207
6	\$ 47,001	\$ 61,000	\$ 53,523	\$ 3,901
7	\$ 61,001	\$ 77,000	\$ 68,558	\$ 4,826
8	\$ 77,001	\$ 100,000	\$ 87,807	\$ 6,451
9	\$ 100,001	\$ 139,000	\$ 116,685	\$ 11,169
10	\$ 139,001		\$ 285,394	\$ 730,134

## Comparison of Lower Deciles with Federal Poverty Level

The following table compares 100% and 200% of Federal Poverty Level (FPL) to the top of the lowest 5 deciles. Note that in recent years the FPL has increased while the top of the most deciles has remained flat or increased more slowly.



## Real Income Deciles

One reason that the growth income deciles have not increased as much as growth in FPL is that in terms of real income, all deciles have decreased from 2005 – 2011, as can be seen in the following tables.

<b>2006 Washington State Income Deciles--Real Income</b>				
<b>In 2005 Dollars, Total Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	-	9,693	(1,274)	174,805
2	9,694	17,448	13,832	2,194
3	17,449	25,202	21,302	2,216
4	25,203	33,926	29,366	2,445
5	33,927	43,620	38,484	2,852
6	43,621	55,252	49,361	3,436
7	55,253	69,791	62,434	4,156
8	69,792	89,178	78,881	5,492
9	89,179	124,074	104,065	9,955
10	124,075	Above	299,208	945,320

<b>2007 Washington State Income Deciles--Real Income</b>				
<b>In 2005 Dollars, Total Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 5,593	\$ (5,443)	\$ 198,408
2	\$ 5,594	\$ 13,982	\$ 9,872	\$ 2,485
3	\$ 13,983	\$ 22,371	\$ 17,998	\$ 2,291
4	\$ 22,372	\$ 30,760	\$ 26,282	\$ 2,500
5	\$ 30,761	\$ 41,013	\$ 35,595	\$ 2,912
6	\$ 41,014	\$ 53,131	\$ 46,684	\$ 3,513
7	\$ 53,132	\$ 68,045	\$ 60,070	\$ 4,246
8	\$ 68,046	\$ 87,620	\$ 76,945	\$ 5,626
9	\$ 87,621	\$ 123,040	\$ 102,562	\$ 10,076
10	\$ 123,041	Above	\$ 302,571	\$ 977,996

<b>2008 Washington State Income Deciles--Real Income</b>				
<b>In 2005 Dollars, Total Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 8,945	\$ (6,413)	\$ 231,218
2	\$ 8,946	\$ 16,101	\$ 12,798	\$ 2,132
3	\$ 16,102	\$ 24,151	\$ 20,090	\$ 2,139
4	\$ 24,152	\$ 32,202	\$ 27,833	\$ 2,344
5	\$ 32,203	\$ 41,147	\$ 36,589	\$ 2,734
6	\$ 41,148	\$ 52,775	\$ 47,052	\$ 3,318
7	\$ 52,776	\$ 67,087	\$ 59,722	\$ 4,034
8	\$ 67,088	\$ 85,872	\$ 75,665	\$ 5,299
9	\$ 85,873	\$ 118,074	\$ 99,585	\$ 9,297
10	\$ 118,075	Above	\$ 257,193	\$ 816,624

<b>2009 Washington State Income Deciles--Real Income</b>				
<b>In 2005 Dollars, Total Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 8,739	\$ (1,429)	\$ 139,677
2	\$ 8,740	\$ 15,731	\$ 12,527	\$ 2,028
3	\$ 15,732	\$ 22,722	\$ 19,498	\$ 2,023
4	\$ 22,723	\$ 30,588	\$ 26,821	\$ 2,233
5	\$ 30,589	\$ 40,201	\$ 35,234	\$ 2,643
6	\$ 40,202	\$ 50,688	\$ 45,349	\$ 3,213
7	\$ 50,689	\$ 64,671	\$ 57,667	\$ 3,935
8	\$ 64,672	\$ 83,024	\$ 73,266	\$ 5,176
9	\$ 83,025	\$ 113,611	\$ 96,315	\$ 8,838
10	\$ 113,612	Above	\$ 224,208	\$ 525,986

<b>2010 Washington State Income Deciles--Real Income</b>				
<b>In 2005 Dollars, Total Income Including Capital Gains</b>				
<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>	<i>Standard Deviation</i>
1	\$ -	\$ 8,598	\$ (7,523)	\$ 239,511
2	\$ 8,599	\$ 15,477	\$ 12,184	\$ 1,951
3	\$ 15,478	\$ 22,356	\$ 18,941	\$ 2,013
4	\$ 22,357	\$ 30,094	\$ 26,328	\$ 2,254
5	\$ 30,095	\$ 39,552	\$ 34,862	\$ 2,703
6	\$ 39,553	\$ 50,730	\$ 45,168	\$ 3,260
7	\$ 50,731	\$ 64,488	\$ 57,685	\$ 3,995
8	\$ 64,488	\$ 83,404	\$ 73,512	\$ 5,253
9	\$ 83,405	\$ 115,218	\$ 97,006	\$ 9,060
10	\$ 115,219	\$ -	\$ 236,412	\$ 652,800

**2011 Washington State Income Deciles--Real Income**  
**In 2005 Dollars, Total Income Including Capital Gains**

<i>Decile</i>	<i>Decile Income Range</i>		<i>Mean Income</i>		<i>Standard Deviation</i>
1	\$ -	\$ 8,336	\$ (7,936)	\$ 242,660	
2	\$ 8,337	\$ 15,006	\$ 11,888	\$ 1,940	
3	\$ 15,006	\$ 22,508	\$ 18,582	\$ 1,989	
4	\$ 22,509	\$ 30,011	\$ 25,899	\$ 2,248	
5	\$ 30,012	\$ 39,181	\$ 34,401	\$ 2,674	
6	\$ 39,182	\$ 50,853	\$ 44,620	\$ 3,252	
7	\$ 50,853	\$ 64,191	\$ 57,153	\$ 4,023	
8	\$ 64,192	\$ 83,365	\$ 73,200	\$ 5,378	
9	\$ 83,366	\$ 115,877	\$ 97,274	\$ 9,311	
10	\$ 115,878	\$ -	\$ 237,918	\$ 608,675	

Below are the changes in Seattle CPI that were used to adjust the Decile table to real income.

<b>Percentage Change in Seattle CPI</b>	
2005-2006	3.2%
2006-2007	4.0%
2007-2008	4.2%
2008-2009	2.4%
2009-2010	1.6%
2010-2011	3.1%

**Income Mobility**

The histogram below shows the percentage of 2005 families that either moved up or down in terms of number of deciles. More families moved up than down; 39.6 percent moved up at least one decile, 27.6 percent moved down at least one decile, and 32.9 percent stayed in the same decile. Since deciles show relative income, this means that existing households have a higher probability of moving up, and new households have a higher probability of being in a relatively low income decile.

Comparing the 2005-2011 decile mobility to the 2005-2009 mobility shows somewhat greater upward mobility as time passes. From 2005-2009, 37.1 percent of families moved up at least a decile. A greater percentage of families stayed at the same decile from 2005-2009, 35.8 percent.

## **Methodology**

### *Methodology for Determining Washington Income Deciles and Quintiles*

The income deciles were determined by using IRS data for all Washington taxes that filed a tax return in years 2005 - 2011. All sources of income were included, i.e. all income reported on 1040, plus Schedule C and 1099 income. Detail on the tax returns allows for the disaggregation of income by source.

The deciles were determined both with and without capital gains information. Since the results did not change significantly as a result of the inclusion or exclusion of capital gains, only the deciles with capital gains are included in this report.

An effort was made to group returns into households defined as a single economic unit. This is also how the American Community Survey (ACS), which is used in the wealth distribution estimates, defines households (see chapter 3). The grouping was done in three stages. The first matched the Social Security numbers of non-head-of-household returns with the dependents listed on head-of-household returns. The second stage merged the married-filing-separately returns together using addresses.

The third stage deals with the remaining households that function as economic units, those with unmarried partners. This group of households is part of a larger group of households where individuals share addresses, but do not necessarily comprise an economic unit. Grouping all non-married returns by address merges too many individuals into households, for example, residents of some group homes and room-mates. In order to adjust for this bias, households with unmarried partners are imputed using information from the 2010 ACS micro-data. The survey asks respondents to indicate if they live in a household with non-relatives. The survey also asks if they live with an unmarried partner. The ACS also asks questions about household income.

The analysis starts with all Washington households in the ACS sample that live with a non-relative. This corresponds to the group of households from the IRS data with individuals that are un-married but share common addresses. The ACS group of households that live with non-relatives was broken into five sub-groups, based on income. The five income groups roughly represent Washington Income quintiles, as determined by a first cut of the IRS data. Within each of the five income-based sub-groups, the percentage of households that live with an un-married partner is calculated.

In parallel, the group of IRS households with individuals that are un-married but share common addresses is broken into the same five income groups. Using the percentages calculated from the ACS sub-groups, households within these groups are randomly assigned the status of having an un-married partner or not. Given the large number of households in each subgroup, this procedure yields fairly accurate results in aggregate.

### *Methodology for Tracking Changes in Household Movement across Deciles, Over Time*

All households that filed tax returns in 2005 and also filed tax returns in 2011 are identified by their 2005 decile. (About 1.7 million households out of the 2.5 million 2005 households meet these criteria.) In 2011, deciles are re-calculated and the new decile of each 2005 household is noted such that change among deciles can be determined.

For this part of the analysis, households were not combined by address; therefore changes in income decile caused by a change in family size are not included in this analysis. In order to track these changes, a much more complicated analysis would need to be done.

