Wall Street Bonuses:
Estimating, forecasting and tracking variable pay for New York City's financial sector

Presented at the 2013 FTA Revenue Estimation & Tax Research Conference
By Joshua Goldstein and Scott Domansky, NYC Office of Management and Budget
8 October, 2013
NYC brought in over $1B in taxes from bonuses in FY13

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Agenda

- Defining the Bonus Pool
- Forecasting the Bonus Pool
- Tracking
- Incorporating Deferred Compensation
Key personal income tax definitions

- NYC top tax rate: 3.876 percent
- NYC Fiscal Year runs July – June
- Private sector bonus period collections: December – March
- Tax administered by New York State, daily collections reports received with a 1-day lag
- NYS provides aggregate data for NYC, we do not have access to raw data
Withholding collections are divided into base and bonus components.

<table>
<thead>
<tr>
<th>Prior Year Total</th>
<th>Base/Bonus Split</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Withholding (Dec-Mar)</td>
<td>Base (Jul-Nov Daily Avg.)</td>
</tr>
<tr>
<td></td>
<td>Bonus (Residual)</td>
</tr>
</tbody>
</table>
Daily collections split into bonus and base

February 2012 Daily Withholding Breakout ($, Millions)

- Base
- Positive Bonus
- Collections < Base
- Negative Bonus

FY 12 July-Nov Daily Avg: $21.2M

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Daily collections are aggregated monthly for the bonus period

FY12 Monthly Withholding
($, Millions)

- Base Withholding
- Bonus Withholding

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Bonus withholding has gradually accounted for a larger share of total withholding.

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Withholding decomposition

<table>
<thead>
<tr>
<th>FY 12 Total Withholding (Actual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
</tr>
<tr>
<td>January</td>
</tr>
<tr>
<td>February</td>
</tr>
<tr>
<td>March</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base Withholding (Calculated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July-Nov Daily Avg.</td>
</tr>
<tr>
<td>$21.2 M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th># of Days</th>
<th>Monthly Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
<td>$445M</td>
</tr>
<tr>
<td>January</td>
<td>$424M</td>
</tr>
<tr>
<td>February</td>
<td>$424M</td>
</tr>
<tr>
<td>March</td>
<td>$445M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bonus Withholding (Residual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
</tr>
<tr>
<td>January</td>
</tr>
<tr>
<td>February</td>
</tr>
<tr>
<td>March</td>
</tr>
</tbody>
</table>

Non-Securities Bonus Wage Growth:

Securities Sector Bonus Growth:
Agenda

- Defining the Bonus Pool
- Forecasting the Bonus Pool
- Tracking
- Incorporating Deferred Compensation
A simplified model to forecast NYC Personal Income Tax withholding

1. Wall Street Revenues and Expenses
2. Wall Street Compensation
3. Securities Sector Bonus Pool
4. NYC Personal Income Tax Withholding from Bonuses
Wall Street activity is tracked using New York Stock Exchange member firm profits.

NYSE Member Firm Profits, Calendar Year
($, Billions)

Note: Actual values for 1992 – 2012, f = NYC OMB Forecast (May 2013)
Source: NYSE Euronext
OMB tracks and forecasts industry revenues and expenses

Source: NYSE Euronext
OMB tracks and forecasts these industry revenue lines

<table>
<thead>
<tr>
<th>Business Line</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commission</td>
<td>Commissions from all agency equity and debt transactions</td>
</tr>
<tr>
<td>Trading</td>
<td>Realized and unrealized gains and losses on securities held for sale in the ordinary course of business</td>
</tr>
<tr>
<td>Investment</td>
<td>Realized and unrealized gains and losses on securities identified as held for investment</td>
</tr>
<tr>
<td>Underwriting</td>
<td>Gross profits and losses from management of and participation in underwriting syndicates and selling groups</td>
</tr>
<tr>
<td>Margin Interest</td>
<td>Interest earned on customers’ securities and commodities accounts</td>
</tr>
<tr>
<td>Fees</td>
<td>Total fees for account supervision, investment advisory and administrative services</td>
</tr>
<tr>
<td>Other Revenue Related to Securities</td>
<td>Includes, among other things, private placement fees, proxy solicitation fees, service charges (such as for mergers and acquisitions), fees for options done away from an exchange, dividends and interest from investment accounts (including repos and reverse repos), subscription fees for periodic publications</td>
</tr>
<tr>
<td>Other</td>
<td>Includes commodities, research, mutual fund sales, and all other revenue</td>
</tr>
</tbody>
</table>
OMB tracks and forecasts these industry expenses

<table>
<thead>
<tr>
<th>Business Line</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>All compensation for registered representatives, clerical employees, voting</td>
</tr>
<tr>
<td></td>
<td>officers</td>
</tr>
<tr>
<td>Interest</td>
<td>All interest payments other than those credited to subordinated borrowings</td>
</tr>
<tr>
<td></td>
<td>or general and limited partners’ capital</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>Includes floor costs, communication costs, occupancy costs, promotional</td>
</tr>
<tr>
<td></td>
<td>costs and all other expenses</td>
</tr>
</tbody>
</table>

**Net Revenue = Total Revenue – Interest Expense**
Firms typically determine their compensation based on net revenues

NYSE Member Firms Compensation and Net Revenues
($, Billions)

Source: NYSE Euronext
Note: OLS estimate 1980 through 2006
Securities sector wage earnings and the bonus pool

Quarter | NYC Securities Sector Wage Earnings | Base Period Average Earnings = Q2+Q3 | Bonus Pool = Bonus Q4 + Bonus Q1 = $18.1B
--- | --- | --- | ---
2011 Q2 | $9.4B | $9.35B | 
2011 Q3 | $9.3B | 
2011 Q4 | $12.9B | Bonus = $12.9B - $9.35B = $3.55B
2012 Q1 | $23.9B | Bonus = $23.9B - $9.35B = $14.55B

2011 Adjusted Earnings | $55.6B

Source: NYC OMB 2013 preliminary Financial Plan estimate based on NYSDOL QCEW
Prior to the financial crisis, NYSE compensation figures predicted securities sector wage earnings.

\[
\text{Securities Sector Wage} = -2.8 + .76 \times \text{NYSE Compensation}
\]

SE(.021) T-stat(35.16) R-Squared (.98)

Note: OLS estimate, 1980-2004
Source: NYSE Euronext and NYSDOL QCEW
# Walking from compensation to bonus pool

## NYSE Compensation Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Compensation ($B)</th>
<th>% chg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>67.6</td>
<td>3.6%</td>
</tr>
<tr>
<td>2012</td>
<td>70.0</td>
<td></td>
</tr>
</tbody>
</table>

## QCEW: Adjusted Securities Earnings

<table>
<thead>
<tr>
<th>Year</th>
<th>($B)</th>
<th>2011 Total</th>
<th>2011-2012 Q2 % chg.</th>
<th>2011-2012 Q3 % chg.</th>
<th>2011-2012 Q4 % chg.</th>
<th>2012-2013 Q1 % chg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>55.6</td>
<td>55.6</td>
<td>0.0%</td>
<td>6.5%</td>
<td>5.4%</td>
<td>3.3%</td>
</tr>
<tr>
<td>2012</td>
<td>57.6</td>
<td>57.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Source: NYC OMB 2013 preliminary financial plan estimate
Withholding bonus forecast calculation

FY 12 Total Withholding (Actual)
- December: $575M
- January: $711M
- February: $700M
- March: $564M

FY 13 Total Withholding (Forecast)
- December: $575M
- January: $762M
- February: $707M
- March: $564M

Base Withholding (Calculated)
- July-Nov Daily Avg: $21.2 M
- Monthly Base
  - December: 21 days, $445M
  - January: 20 days, $424M
  - February: 20 days, $424M
  - March: 21 days, $445M

Base Withholding (Forecast)
- Monthly Base
  - December: 20 days, $439M
  - January: 21 days, $460M
  - February: 19 days, $417M
  - March: 20 days, $439M

Bonus Withholding (Residual)
- December: $130M
- January: $288M
- February: $276M
- March: $119M

Bonus Withholding (Forecast)
- December: $136M
- January: $302M
- February: $290M
- March: $125M

Non-Securities Bonus Wage Growth: 3.5%
Securities Sector Bonus Growth: 5.0%
Agenda

• Defining the Bonus Pool

• Forecasting the Bonus Pool

• Tracking

• Incorporating Deferred Compensation
Growing bonus withholding by month yields a total bonus withholding forecast

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Withholding collections are tracked daily against the total withholding forecast.

Cumulative Daily Withholding Collections, FY 2013

($, Millions)

- Cumulative Base
- Cumulative Bonus
- Bonus Forecast Threshold

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Actual collections are compared to the forecast at the end of the bonus period.

FY13 Forecast vs. Actual ($, Millions)

- Base (Forecast)
- Bonus (Forecast)
- Base (Actual)
- Bonus (Actual)

Actual Bonus: $1,011M

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Actual withholding bonus collections grew much faster than forecast for FY13

![Forecast and Actual Bonus Growth, FY12 – FY13](chart)

**Why we missed:**
- Other sectors pay bonuses
- Federal tax law changes skewed behavior in December
- Deferred compensation

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance
Agenda

- Defining the Bonus Pool
- Forecasting the Bonus Pool
- Tracking
- Incorporating Deferred Compensation
Deferred Compensation: Overview

- Political pressure on banks to defer bonuses after the financial crisis
- Deferrals paid in cash and stock
- Big 5 (BAC, Citi, GS, JPM, MS) used as proxy
- 10K data lines & timing
Deferred bonuses became more popular after the financial crisis

Big 5 Granted Shares
(Millions)

- JPM
- GS
- C (adjusted)
- BAC
- MS

Source: Firm annual SEC filings (10-Ks)
Withholding generally occurs at vesting on the fair market value.
Common vesting schedules

- Two vesting cycle models are common among large firms.

- Model 1:
  - 1st Anniversary: 0%
  - 2nd Anniversary: 50%
  - 3rd Anniversary: 50%

- Model 2:
  - 1st Anniversary: 33%
  - 2nd Anniversary: 33%
  - 3rd Anniversary: 33%

Source: Firm annual SEC filings (10-Ks)
Volatile stock prices play a large part in the value of vesting shares

Source: Yahoo! Finance
## Prior grant method

<table>
<thead>
<tr>
<th>Grant Year</th>
<th>Firm</th>
<th># Granted (millions)</th>
<th># Vested (millions)</th>
<th>Price ($)</th>
<th>Value ($, millions)</th>
<th># Vested (millions)</th>
<th>Price ($)</th>
<th>Value ($, millions)</th>
<th># Vested (millions)</th>
<th>Price ($)</th>
<th>Value ($, millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>JPM</td>
<td>131</td>
<td>66</td>
<td>37</td>
<td>2,446</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>GS</td>
<td>1</td>
<td>0</td>
<td>111</td>
<td>41</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>162</td>
<td>41</td>
<td>3</td>
<td>125</td>
<td>41</td>
<td>4</td>
<td>171</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>BAC</td>
<td>124</td>
<td>41</td>
<td>7</td>
<td>292</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td>11</td>
<td>6</td>
<td>19</td>
<td>103</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>JPM</td>
<td>80</td>
<td>40</td>
<td>37</td>
<td>1,495</td>
<td>40</td>
<td>47</td>
<td>1,885</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>GS</td>
<td>36</td>
<td>12</td>
<td>111</td>
<td>1,306</td>
<td>12</td>
<td>148</td>
<td>1,733</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>628</td>
<td>157</td>
<td>3</td>
<td>482</td>
<td>157</td>
<td>4</td>
<td>662</td>
<td>157</td>
<td>5</td>
<td>774</td>
</tr>
<tr>
<td></td>
<td>BAC</td>
<td>217</td>
<td>72</td>
<td>7</td>
<td>510</td>
<td>72</td>
<td>11</td>
<td>810</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td>49</td>
<td>25</td>
<td>19</td>
<td>457</td>
<td>25</td>
<td>23</td>
<td>559</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2011</td>
<td>JPM</td>
<td>60</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>30</td>
<td>47</td>
<td>1,404</td>
<td>30</td>
<td>50</td>
<td>1,485</td>
</tr>
<tr>
<td></td>
<td>GS</td>
<td>17</td>
<td>6</td>
<td>111</td>
<td>625</td>
<td>6</td>
<td>148</td>
<td>829</td>
<td>6</td>
<td>150</td>
<td>848</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>33</td>
<td>8</td>
<td>31</td>
<td>253</td>
<td>8</td>
<td>42</td>
<td>348</td>
<td>8</td>
<td>49</td>
<td>406</td>
</tr>
<tr>
<td></td>
<td>BAC</td>
<td>138</td>
<td>46</td>
<td>7</td>
<td>325</td>
<td>46</td>
<td>11</td>
<td>516</td>
<td>46</td>
<td>13</td>
<td>598</td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td>49</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>23</td>
<td>559</td>
<td>25</td>
<td>24</td>
<td>577</td>
</tr>
<tr>
<td>2012</td>
<td>JPM</td>
<td>60</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>GS</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>148</td>
<td>551</td>
<td>4</td>
<td>150</td>
<td>558</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>33</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>42</td>
<td>353</td>
<td>8</td>
<td>49</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td>BAC</td>
<td>197</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>65</td>
<td>11</td>
<td>736</td>
<td>66</td>
<td>13</td>
<td>853</td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td>54</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>27</td>
<td>27</td>
<td>24</td>
<td>636</td>
</tr>
<tr>
<td>2013</td>
<td>JPM</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>GS</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>BAC</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td>N/A</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Total Value of Vested Stock**
- 2009: 8,472
- 2010: 11,115
- 2011: N/A

**Yr/Yr % Change**
- 2009-2010: -22%
- 2010-2011: 31%
- 2011-2012: N/A
- 2012-2013: N/A
Vesting shares boosted withholding collections above the bonus forecast in FY 13

Source: NYC OMB calculations based on data from New York State Department of Taxation and Finance and selected firm annual SEC filings (10-Ks)
Takeaways

• NYC receives a significant revenue stream from a volatile source

• We have built a Wall Street model that historically has been quite useful

• Recent changes in compensation practices require new techniques
• Contact Information:
  – GoldsteinJ@omb.nyc.gov
  – DomanskyW@omb.nyc.gov
Appendix
Wall Street Compensation was flat yet securities sector bonuses rose 27 percent?

**NYSE Compensation Data**

<table>
<thead>
<tr>
<th>Year</th>
<th>Compensation ($B)</th>
<th>% chg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>67.6</td>
<td>-0.2%</td>
</tr>
<tr>
<td>2012</td>
<td>67.4</td>
<td></td>
</tr>
</tbody>
</table>

**QCEW: Adjusted Securities Earnings**

<table>
<thead>
<tr>
<th>Year</th>
<th>($)</th>
<th>2011 Total</th>
<th>2012 Total</th>
<th>2011-2012 % chg.</th>
<th>2012-2013 % chg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>55.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>59.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bonus Pool ($B) % Chg.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bonus Pool ($B)</th>
<th>% Chg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 Base Quarters</td>
<td>18.8</td>
<td></td>
</tr>
<tr>
<td>2011 Bonus Quarters</td>
<td>36.8</td>
<td></td>
</tr>
<tr>
<td>2011 Bonus Pool</td>
<td>18.1</td>
<td></td>
</tr>
<tr>
<td>2012 Base Quarters</td>
<td>18.1</td>
<td>-3.4%</td>
</tr>
<tr>
<td>2012 Bonus Quarters</td>
<td>41.1</td>
<td>11.6%</td>
</tr>
<tr>
<td>2012 Bonus Pool</td>
<td>23.0</td>
<td>27.0%</td>
</tr>
</tbody>
</table>

Source: NYC OMB 2013 preliminary financial plan estimate
The compensation figure does not account for the increased value at vesting.

- Employee’s value is based on the Fair Market Value on the delivery date of shares

- Employer’s compensation expense is based on a straight-line expensing through the vesting cycle of the Fair Market Value at grant date
Accounting rules create a discrepancy between value to employee and the firms’ compensation expense.

Source: Firm annual SEC filings (10-Ks) for 2007-2012, NYC OMB estimates for 2013 forecast
Actual vs. predicted value of vesting shares

Estimating the Value of Big 5 Vesting Shares
($, Billions)

- Actual
- Prior Grants Method

Source: NYC OMB calculations based on data from firm annual SEC filings (10-Ks)
NYSE figures are based on national activity, but NYC accounts for nearly 40 percent of Securities sector payroll.

Securities Sector Payroll by Metro Area, 2012
($, Billions)

New York City, 593
Rest of New York MSA, 95
New York, 688

Other, 432

Atlanta, 19
Washington, DC, 24
Houston, 26
Miami, 27
Philadelphia, 29
Dallas, 31
San Francisco, 61
Bridgeport, CT, 66
Los Angeles, 73
Boston, 94
Chicago, 95

Note: Labels indicate principal city in each MSA
Source: Bureau of Labor Statistics QCEW