Center on Wealth and Philanthropy
Individual Giving Model:

FORECAST
FOR 2009

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For large diverse populations, such as that of the United States, household charitable giving is most strongly and consistently related to household income and wealth. Most national and state estimates of future charitable giving are based in large part on macro or micro values of income and wealth. Researchers can measure how changes in income and wealth, for example during the 2008–2009 recession, affect changes in charitable giving only when data on financial resources and their valuation become available. Fortunately, some of this financial information becomes available on a preliminary basis each quarter. However, there are no quarterly data on charitable giving. To date, researchers have been unable to generate estimates of household charitable giving (and their relationship to income and wealth) in as timely a way as may be useful for charities. Charities naturally would like to know estimates of charitable giving, for example, for the most recent quarter and to receive projections for the near future.

To fill this need, we constructed the Center on Wealth and Philanthropy Individual Giving Model (IGM), which estimates how the most recent changes in financial resources affect the aggregate level of individual charitable giving. Our IGM estimates only household giving—what researchers refer to as "individual charitable giving." The model's estimates do not include giving from foundations, corporations or charitable bequests from estates. The initial test of the model produced results that were surprisingly (and coincidentally) close to the actual figures for 2008 reported by *Giving USA 2009*. We were especially surprised by these results because, although net worth was fully integrated into the model, income and unemployment have not yet been fully integrated. Nevertheless, we consider the model, even at this early stage of development, promising enough to describe its characteristics and to convey its predictions for individual charitable giving in 2009.

In this first description and demonstration of the IGM, we examine the current year of 2009, seeking to predict how changes in the financial resources of households during the current recession affected household charitable giving (see sidebar on page 35).

In the first test of Version 1.0 beyond the base year of 2007, the IGM predicted individual giving for 2008 for each quarter and then also for the year as a whole. *Giving USA 2009* estimated individual giving for 2008 to be $229.28 billion (2008 dollars). The IGM predicted aggregate giving in 2008 (Chart 3) to be $229.36 billion (2008 dollars). This estimate is almost identical to that of *Giving USA 2009*, despite using different data and a different methodology. We do not expect our model to predict this well on a regular basis.

The main purpose of the IGM is, of course, to forecast giving during, rather than after, a calendar year. To this end, we designed the model to be calibrated annually and modified every three months based on data that are released quarterly or more frequently. These data include price and market indices, along with components of income and net-worth components. These data enable us to provide quarterly estimates that will comprise at least a current indicator of how individual charitable giving is progressing on a national basis.

A valuable aspect of the model is that, in the course of obtaining aggregate national estimates of individual giving, it produces estimates on a household-by-household basis. This does not mean that each individual household estimate is accurate. Rather, due to cancellation of errors, we do believe that estimates for large groupings of households, such as baby boomers, inheritors, business owners, age groups and income and wealth segments, are accurate enough to indicate quarterly and annual trends in giving.

Predictions for Individual Giving in 2009

To estimate levels of giving requires knowing or projecting household income and wealth for the relevant time period. In using the model to estimate giving for 2009, we used federal data on household income and wealth through the third quarter of the year. In predicting giving for subsequent quarters into 2010, we projected income and wealth based on an array of financial indicators. We developed high-growth and a low-growth estimates of charitable giving based on respective high-growth and low-growth projections of income and wealth.

We believe Version 1.0 of the model tends to overstate giving. For instance, the component of unemployment income is negatively related to charitable giving. Hence, its absence in the current model leads to higher predictions than will be the case when we make unemployment income one of the determinants in the model. Through a series of technical procedures we were able to obtain an approximation of the difference including income would make in current predictions for 2009. From this analysis, we deem that the following projections need to be lowered by as much as 2.1 percent.

Low-Growth Scenario

Charts 1 and 2 present the income and wealth paths of the

Prediction Model

Chart 1
Personal Income (Billions of Current Dollars per Year)
Low-Growth Scenario
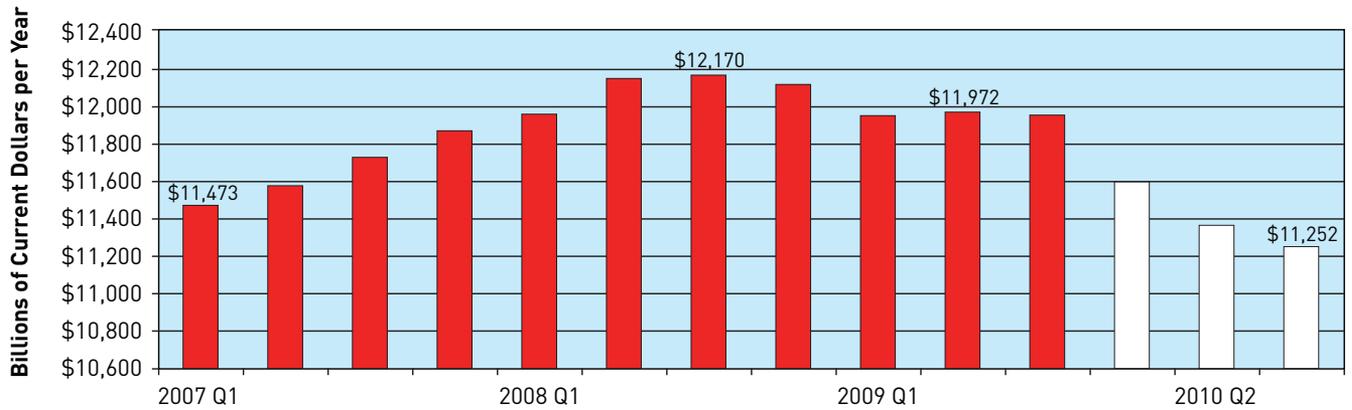
$11,473 ... $12,170 ... $11,972 ... $11,252

2007 Q1 — 2008 Q1 — 2009 Q1 — 2010 Q2

Calculated at the Center on Wealth and Philanthropy at Boston College.

| Red | Available Data |
| White | Projected Data |

Chart 2
Household Net Worth (Billions of Dollars)
Low-Growth Scenario
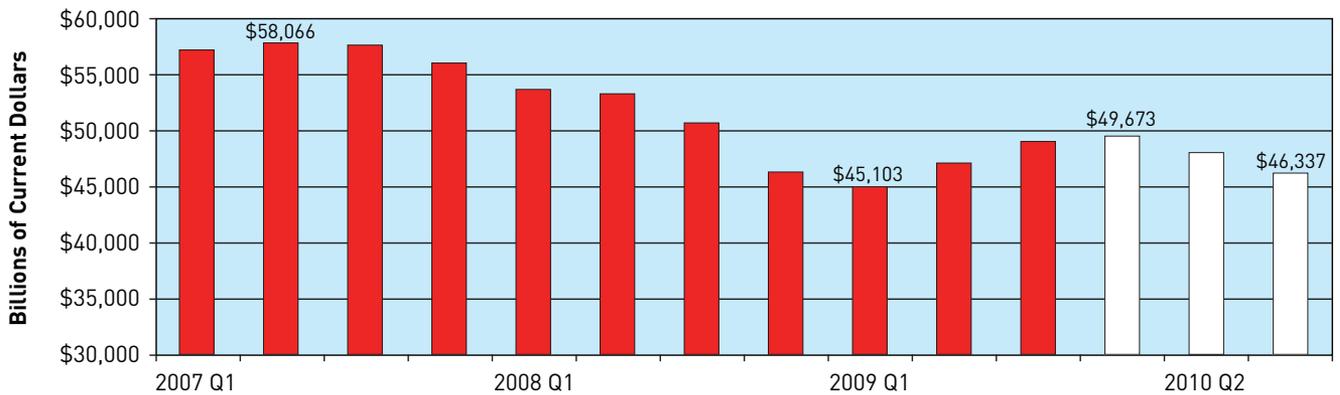
$58,066 ... $49,673 ... $45,103 ... $46,337

2007 Q1 — 2008 Q1 — 2009 Q1 — 2010 Q2

Calculated at the Center on Wealth and Philanthropy at Boston College.

| Red | Available Data |
| White | Projected Data |

Chart 3
Preliminary Annualized Levels of Individual Giving (Approx by Quarter)
Lower-Growth Scenario
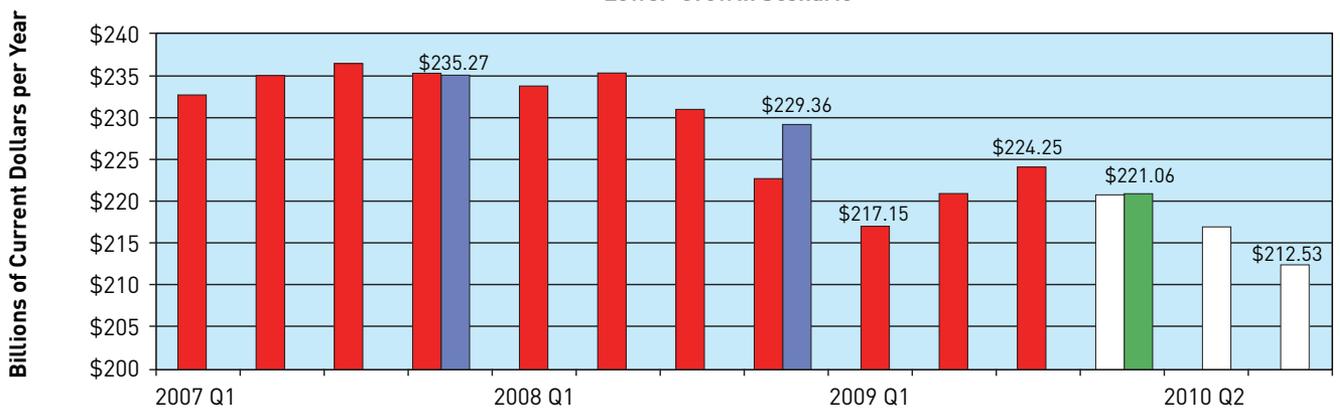
$235.27 ... $229.36 ... $224.25 ... $221.06 ... $217.15 ... $212.53

2007 Q1 — 2008 Q1 — 2009 Q1 — 2010 Q2

Calculated at the Center on Wealth and Philanthropy at Boston College.

Red — Level of Annual Giving Predicted at End of Each Quarter (based on available data)
Blue — Level of Annual Giving Predicted for the Year (based on available data)
White — Level of Annual Giving Predicted at End of Each Quarter (based on projected data)
Green — Level of Annual Giving Predicted for the Year (based on projected data)

low-growth scenario. Chart 3 presents the model's estimate of charitable giving in the low-growth scenario. In all three charts, the red bars indicate what has happened each quarter so far, while the white bars are projections for future quarters. In Chart 3, the blue bars indicate the predictions for total giving in a past year, while the green bar is the estimated level of giving for 2009.

Based on actual and projected data, the income path declines from the beginning through the end of 2009. Due to the actual growth in wealth during the second and third quarters, wealth trends upward for the year, even in the low-growth scenario. Chart 1 indicates that total income declines in 2009 at an annual rate of 4.3 percent in current dollars and 6.4 percent when adjusting for inflation that occurred during the year (assuming a 1 percent rate of inflation in the fourth quarter). Chart 2 indicates that during the same period, net worth increases at an annual rate of 7.0 percent in current dollars and 4.6 percent in inflation-adjusted dollars.

Based on these paths, the model predicts giving levels for this low-growth recovery scenario. Chart 3 indicates that household charitable giving is predicted to be $221.06 billion in current dollars in 2009 and $216.19 billion when adjusted for the inflation that occurred during 2009. These estimates constitute a decline in charitable donations of 3.6 percent from their 2008 level in current dollars and 5.7 percent in inflation-adjusted dollars. As indicated above, these percentages do not take into account the impact of income components. With these income components in the mix, the decline measured in current dollars could reach 5.7 percent, while the decline in inflation-adjusted dollars may be as great as 9.0 percent, respectively.

This means that 2009 charitable giving could be closer to $216.29 billion rather than $221.06 billion in current dollars, and closer to $208.22 billion than to $216.19 billion adjusting for inflation. If income and wealth follow our low-growth projections, charitable giving in 2010 will continue to decline to an annual level of $212 billion in the second quarter of 2010, an additional decline of 3.9 percent from 2009. With full income integration, the decline in 2010 would also be greater than what Chart 3 currently indicates.

High-Growth Scenario

Charts 4 and 5 present the income and wealth projections for the high-growth scenario, which envisions a recovery. Chart 6 presents the corresponding high-growth estimates for charitable giving. Charts 4 and 5 follow the same color scheme as Charts 1 and 2; Chart 6 follows the same color scheme as Chart 3.

From the beginning through the end of 2009, the income path in the high-growth scenario declines at 1.3 percent in current dollars and declines by 3.4 percent in inflation-adjusted dollars, assuming a 1 percent rate of inflation in the fourth quarter of 2009. During the same period, the net worth path grows at 8.1 percent in current dollars and 5.8 percent in inflation-adjusted dollars.

The high-growth projections for individual charitable giving shown in Chart 6 indicate that household giving is predicted to be $223.13 (current dollars, assuming low inflation in the fourth quarter) in 2009 and $218.22 in inflation-adjusted dollars. This estimate of charitable giving reflects a decline of 2.7 percent from its 2008 level in current dollars and 4.9 percent in inflation-adjusted dollars. Again, with the

Chart 4
Personal Income (Billions of Current Dollars per Year)
High-Growth Scenario
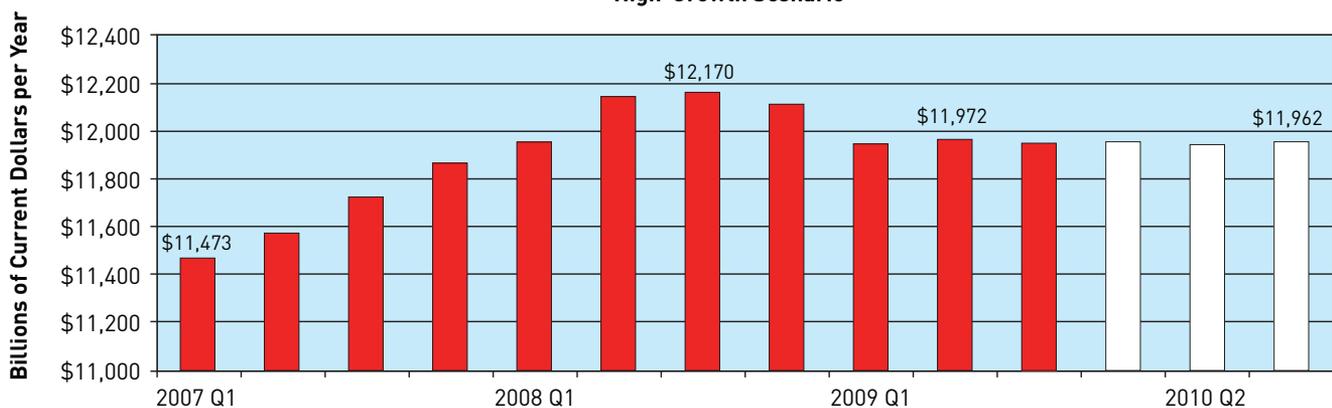
Calculated at the Center on Wealth and Philanthropy at Boston College.

Red   Available Data
White   Projected Data

incorporation of income components, the aforementioned declines could be as high as 4.8 percent and 8.7 percent, respectively. This means that 2009 charitable giving in the high-growth scenario could be closer to $218.35 billion rather than $223.13 billion in current dollars, and closer to $209.45 billion than to $218.22 billion adjusting for inflation.

It is also important to note that the high-growth annual estimate is only $2 billion more than the corresponding low-growth annual estimate for 2009. This is because income and net worth for 2009 are known through the third quarter. As a result, the only difference between the low-growth and the high-growth scenarios derives from the disparity in projected high-growth and low-growth levels of wealth and income for just the final quarter of 2009. Looking toward 2010, the high-growth scenario forecasts a return to a pre-recession level of individual charitable giving. However, this predicted upturn could be reduced when the model fully integrates components of income.

Conclusion

Although our IGM estimates short-term changes in individual charitable giving, it assumes that the deeper motivations for giving continue to operate at the individual and household level. Giving depends on the capacity to give. *Nemo dat quod non habet*—no one (can) give what one does not have. However, much of our work on philanthropy over the past 25 years has emphasized the moral and spiritual aspects of the supply or donor side that also mobilize financial philanthropy. So many of the dynamics of giving for individuals depend not only on financial capacity, but also on the level of urgency, meaningfulness, identification and gratitude that donors feel.
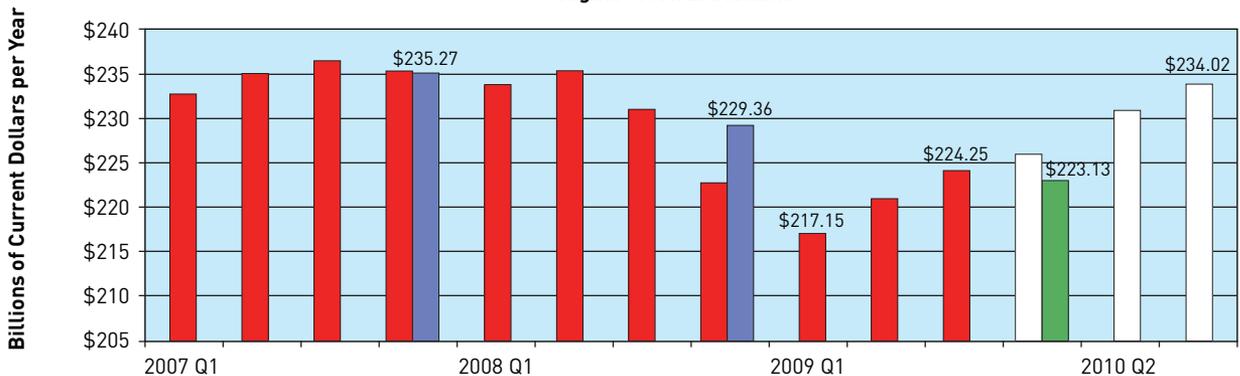
Chart 5
Household Net Worth (Billions of Dollars)
High-Growth Scenario
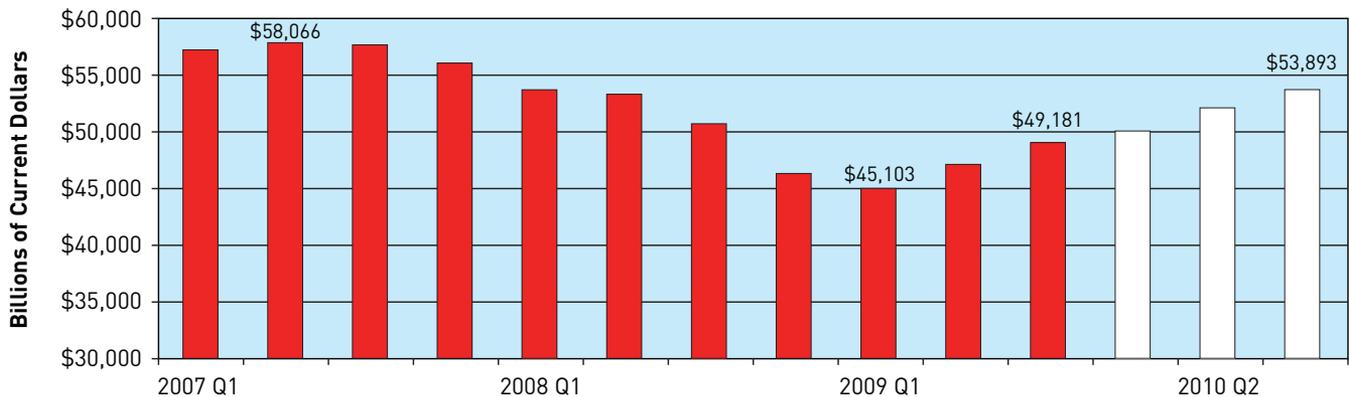
Calculated at the Center on Wealth and Philanthropy at Boston College.

Red — Available Data
White — Projected Data

Chart 6
Preliminary Annualized Levels of Individual Giving (Approx by Quarter)
Higher-Growth Scenario

Calculated at the Center on Wealth and Philanthropy at Boston College.

Red — Level of Annual Giving Predicted at End of Each Quarter (based on available data)
Blue — Level of Annual Giving Predicted for the Year (based on available data)
White — Level of Annual Giving Predicted at End of Each Quarter (based on projected data)
Green — Level of Annual Giving Predicted for the Year (based on projected data)

As Anthony Giddens insists (*The Constitution of Society: Outline of the Theory of Structuration*, University of California Press, 1984, pp. 343–354), there can be no absolute laws or sure predictions regarding the behavior of knowledgeable agents. Even in the face of harsh circumstances, agents remain imbued with knowledge and choice. As such, agents are always able "to intervene in the world;" that is, they are able to "act otherwise," thereby voiding a predicted trajectory (*The Constitution of Society: Outline of the Theory of Structuration*, p. 14). So, too, with our predictions. In the face of both upturns and downturns, donors on the supply side and charities on the demand side may change their conduct so as to deter or spur giving in contrast to whatever a financially based prediction model would forecast. There are certainly many technical ways our model may fal-ter or be in need of improvement. However, even when we are far along in developing its financial parameters, it will remain important to recognize the major socio-logical insight about money: financial activity is never simply behavior; it is always simultaneously a matter of normative consciousness. For that reason, we need to explore at every crossroad in philanthropic giving and not just its economic dynamics. We also must ex-plore how self-reflective agents alter the trajectories of the economic forces. Ⓟ

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The Individual Giving Model

The Individual Giving Model (IGM) is based on a number of techniques, in-cluding multivariate statistics and micro-simulation. The goal is to forecast the annual amount of individual charitable contributions, and the unit of analysis is the household. The model translates changes in financial resources and their components into changes in charitable giving on a household-by-household ba-sis for a nationally representative sample of households. The process is modified by various characteristics of the house-hold. In contrast to models that directly measure aggregate giving, the IGM is a bottom-up, micro-level prediction and estimation model. It builds up to aggre-gate findings from individual household estimates.

Figure 1 lists the income compo-nents, the wealth components and the other variables in the model. In devel-oping the model, we found that a sim-ple model based on income and wealth predicts giving in 2007 with a modest explanation of 22 percent of the varia-tion in giving (R^2 = .22). Our first full Version 1.0 of the IGM predicts giving for the 2007 base year with an explana-tory power of 57 percent (R^2 = .57), more than double that of the simple model. We intend to improve the model with the goal of having subsequent versions eventually reach or surpass the ability to explain 80 percent of what is going on with individual giving. Currently, only total aggregate household income is fully integrated into the model. The first and most important next step in improving the model will be to substi-tute the various *components* of income in place of just total income.

Figure 1
CWP Individual Giving Prediction Model Version 1.0

Goal: Estimate annual household charitable giving based on readily available data
Dependent variable: Annual charitable giving of household
Independent variables:

INCOME
Earned income
    (wage, salary,
    self employment)
Unearned income
    (interest, dividends,
    rents, royalties,
    capital gains)
Income from
    retirement funds
Other Income

WEALTH
Real estate
Vehicles

Other tangible assets
Business equity
Deposits (checking,
    saving, time, money
    market, call
    accounts)
CDs
Stocks
Bonds
Mutual funds
Savings bonds
Retirement funds
Cash value of
    life insurance

Annuities and trusts
Other financial assets
Real estate debt
Credit card debt
Installment debt
Lines of credit
Other debt

OTHER VARIABLES
Age
Race
Marital status
Education
Employment status

Retirement status
Occupation
Welfare status
Health status
Home ownership
Business ownership
Presence of family
    foundation
Volunteer behavior
Positive savings
    from income
Philanthropy-
    motivated saving
Luck in financial
    affairs

Risk taking in financial
    decisions
Spending more if assets
    appreciate

Unit of analysis:
Household

Prediction by simple
model (income and net
worth) of household giv-
ing in base year R^2 = .22

Prediction by IGM of
household giving in
base year: R^2 = .57