

## **New Methods for Measuring Retirement wealth in the HRS**

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### **ABSTRACT**

The Health and Retirement Study (HRS) has a remarkable track record of innovative measurement. In recent waves there has been a radical overhaul of the methods of measuring retirement assets. I propose merging of these methods with recent innovations in measurement of wealth in general and retirement assets in particular associated with the Vanguard Research Initiative (VRI). The key proposals are: (1) to move to a purely subjective “account-based” method for identifying these assets as opposed to a hybrid “plan/account” method as currently implemented; (2) to develop methods of re-presenting response-based asset and balance sheet information to respondents in real time to encourage them to correct any apparent mistakes that such a presentation may make clear; (3) to gain respondents’ permission to access administrative information on a subset of accounts to develop indices of accuracy and possible methods for correcting systematic errors.

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## 1. Introduction

As the U.S. population ages, so the importance of the health, wealth, and working lives of those in the later years will continue to grow. The U.S. is fortunate in this regard to be the home of the Health and Retirement Study (HRS), which pioneered the collection of corresponding data on those of age 50 and above. It remains head and shoulders the most the important source for research on important policy questions concerning health trajectories, working lives, long-term care, financial preparedness, and other age-related issues.

It is profoundly challenging to ensure that the HRS continues to represent the world-wide gold standard in holistic measurement of the forces that shape late-in-life health and other behaviors. In this essay I focus on one particular aspect of this challenge, which is keeping up with the evolving landscape of retirement assets during the ongoing transition from defined benefit to defined contribution pension plans. Following criticisms of its earlier approach to measuring retirement assets (e.g. Venti, 2011), this is an area in which the HRS has recently made important and positive changes. Yet further work remains to be done to consolidate this progress and to ensure that coverage of these assets is as complete and accurate as possible. In this proposal I detail some new measurement methods in relation to wealth in general and retirement assets in particular.

There are two key challenges that the proposal addresses:

- (1) How best to define the basic assets that are being measured? Answers to questions about total wealth and total assets are notoriously unreliable. Hence all surveys break assets up and ask about them on a category-by-category and item-by-item basis. The challenge is how best to do this.
- (2) How do we ensure that respondents provide as full and accurate as possible an accounting of each of the underlying asset sub-categories and of their overall balance sheet? Relatedly, how can we develop methods for validating answers and of correcting identified errors?

In response to each question, I propose the adoption of methods that were developed and implemented in the recently initiated Vanguard Research Initiative (VRI) (<http://ebp-projects.isr.umich.edu/VRI/>), which represents a collaboration of the University of Michigan, New York University, and Vanguard. The VRI is gathering data on a panel of savers, including detailed wealth, health, and demographic information. The panel comprises over 9,000 Vanguard clients. These methods appear to have been substantially successful in producing negligible item non-response rates; correction mechanisms that clearly improved the quality of measurement; and final survey measures that closely approximate administrative measures.

I propose incorporation of VRI methods into the complementary methods that the HRS has recently developed, to the maximum extent possible. With regard to categorization of assets, I propose moving to a purely subjective “account-based” method for identifying these assets and a fully household-based approach. With regard to ensuring accuracy and completeness, the central proposal is to develop and implement methods of re-presenting prior answers to respondents in a

manner that encourages them to correct any apparent mistakes that may by that means become clear. Finally, I propose asking respondents either for copies of financial statements or for permission to receive information from at least one manager of their retirement assets. The motivation for these proposals is the apparent success of corresponding methods in the VRI.

The next section introduces the VRI approach to wealth. Section 3 deals with the VRI self-correction mechanisms based on re-presentation to respondents of their previously supplied responses in balance sheet form. Section 4 summarizes measures of accuracy and provides evidence on the value of the error correction devices. Section 5 makes the concrete proposal for adoption in the HRS and concludes.

## **2. VRI Account Based Measurement**

As detailed in section 5, the HRS (as well as the SCF) approaches measurement of retirement assets in a manner that is somewhat different than its approach to other forms of asset measurement. Specifically, it deals more with individual pensions than with categories of assets, and also adopts a perspective that is more focused on individual household members rather than the household as a unit. In part this stems from legacy issues. As a new survey with a focus on retirement assets, the VRI has been able to adopt a more holistic approach from the start.

Perhaps uniquely among wealth surveys, the VRI adopts a uniform method that operates throughout at the household level and is doggedly subjective in its approach to classification of assets. It asks individuals themselves to identify all of their “accounts” without in any way trying to come up with an objective definition of such an account. Respondents are asked to report their financial assets account-by-account. This is designed to elicit information from respondents in the form in which they think of it rather than by requesting responses using accounting or economic categories that may not be meaningful to them. The hope is that this subjective account-based approach will induce respondents to report numbers that closely correspond to how they receive their statements. The approach avoids asking respondents to map their balances into accounting or economic constructs, and does not require them to do addition or distribution of amounts. Respondents are then asked to give meaningful nicknames to their accounts in the process of providing full dollar values.

There are four steps in the basic VRI wealth elicitation process.

### Step 1: Account Type:

The respondents are shown a list of 15 account types divided into groups. The major groups are

1. “Tax deferred-retirement accounts” (IRA, employer sponsored plans, pension with account balance, and other retirement assets).

2. “Savings/Investment accounts that are not in a tax-deferred retirement plan or account” (checking, savings, money market mutual funds, CDs, brokerage, and directly held securities).
3. “Insurance-related accounts” (annuities with cash value and life insurance with cash balance).
4. “Educational accounts.”
5. “Other accounts.”

We show below how the survey tabulates these account types and the checkbox for having each type.

Which of the following types of investment, savings, and retirement accounts do you have? We are asking for a complete list of financial accounts that you own. Please answer for your own accounts only.

We have grouped the accounts listed below into categories to help make it easier for you to think about all of the various types that you may own. The purpose of this question is to obtain a comprehensive view of the various types of investment, savings and retirement accounts that households may own.

For each account that you own, please include it under only one type of account.

**Tax-deferred retirement accounts**

IRA (including ROTH, traditional, an IRA rolled over from an employer-sponsored plan)

Employer-sponsored retirement plan account (401(k), 403(b), 457, etc.)

Pension with an account balance which you can access as a lump sum

Other type of tax-deferred retirement account (such as SEPs, Keoghs, etc.)

**Savings/investment accounts that are not in a tax-deferred retirement plan or account**

Checking account

Savings account

Money market account

Mutual fund account (other than money market mutual fund)

Certificate of deposit (CD) portfolio (aggregate of all CD holdings)

Brokerage account (including stocks, municipal, corporate, or other bonds, mutual funds, ETFs and other assets)

Directly held securities or other financial assets (US Treasury Bonds or savings bonds at Treasury Direct, stocks, bonds or individual securities you own that are not at a brokerage, Dividend Reinvestment Programs.)

**Insurance contracts/accounts with a cash value or balance**

Annuity accounts with a balance or cash value (excluding immediate annuities reported in the previous section)

Life insurance with cash value (excluding term life insurance)

**Educational Accounts**

Section 529 College Savings Plans or Coverdell Accounts

**Other accounts**

Other accounts not specified above

Step 2. Number of accounts:

The survey shows a list of account types that the respondent has checked in step 1. The respondent is asked to indicate the number of each type of account using a drop-down menu.

## Number of accounts

You mentioned that your household has the following types of investment, savings, and retirement accounts. How many of each type does your household have?

For example, your household may have three checking accounts. In this case, you would enter '3' below for 'checking account'.

Or, for example, your household may have two IRAs (one owned by you, one owned by your spouse/partner) and one CD. In this case, you would enter a '2' below for 'IRA' and a '1' below for 'Certificate of Deposit (CD)'.

- Note, when you are counting, there is not a need to break out the subcomponents of an account. You can just count the overall account.

Please indicate the number after each.

		Number of accounts
Tax-deferred retirement accounts	IRA (including Roth, traditional, rolled-over from an employer-sponsored plan)	2
	Employer-sponsored retirement plan (401(k), 403(b), 457, etc.)	1
Savings/investment accounts that are not in a tax-deferred retirement plan or account	Checking account	1
	Mutual fund account (other than money market)	1

**Step 3. Nicknames of accounts and basic verification:** The survey then shows a list of accounts with a number of subcategories and rows corresponding to the numerical counts gathered in the first two steps. The respondent is asked to give a nickname to each account.

## Nickname accounts

We will be asking you additional questions about each of the investment, savings, and retirement accounts you mentioned that your household has. To assist with this, it would be helpful if you give each account a "nickname." The nickname you assign could be any name, as long as it helps you keep track of which specific investment or savings account you are responding about in future questions.

Nicknames should be descriptive and are meant to help you remember the account types you have just selected - for example, if your household has two IRAs, one 401(k), and one checking account, you may elect to name your accounts as follows:

- *IRA 1:* My IRA
- *IRA 2:* Mary's IRA
- *Employer-sponsored retirement plan (401(k), 403(b), 457, etc.) 1:* Her 401(k)
- *Checking account 1:* Joint checking account at credit union

Please type in a nickname for each.

<i>IRA 1:</i>	Rollover IRA
<i>IRA 2:</i>	Roth IRA
<i>Employer-sponsored retirement plan (401(k), 403(b), 457, etc.) 1:</i>	Retirement
<i>Checking account 1:</i>	Chase
<i>Mutual fund account (other than money market) 1:</i>	Vanguard

After the respondent enters all the nicknames, the survey displays a summary table. As noted in Ameriks et al. (2014b), respondents were perhaps surprisingly willing to provide details on many accounts. The median respondent provided information on seven accounts. One quarter provided information on 12 or more accounts.

#### Step 4. Balances.

Respondents are asked to input the balance of each account by its nickname. They are also asked whether or not they checked records and whether or not the account is at Vanguard, and where relevant, the proportion of the account assets held as equities. The survey then loops over accounts. For accounts other than saving/checking/MMMF, the respondents are shown the table with balances and asked to enter the share of stock held in each account. The table updates and translates the share into dollars of stock for each account, as below.

### Account-by-account stock share

Thinking about all of the investment, savings, and retirement accounts that your household currently has, what percentage, if any, of each account is held in stocks or stock market investments? In other words, what percentage of the underlying assets or funds in each account is held in stock investments?

Please note: Checking accounts, Savings accounts, Money Market accounts, CDs and Life insurance are not displayed in the table below since they have no stock/stock market investment value. The amounts on the far right of the table will compute after you click out of the box where you enter the approximate percentage.

	APPROXIMATE PERCENTAGE HELD IN STOCKS/STOCK MARKET	IMPLIED VALUE OF STOCK INVESTMENTS IN THIS ACCOUNT
IRA 1: Rollover IRA	<input type="text" value="50 %"/>	\$60,000
IRA 2: Roth IRA	<input type="text" value="100 %"/>	\$160,000
Employer-sponsored retirement plan (401(k), 403(b), 457, etc.) 1:	<input type="text" value="25 %"/>	\$100,000
Retirement		
Mutual fund account (other than money market) 1: Vanguard	<input type="text" value="100 %"/>	\$275,000

Finally, the respondent again sees the table with balances. There is also a checkbox indicating whether or not each relevant account is held at Vanguard, and also whether or not records were checked. This table excludes account categories not offered at Vanguard (e.g., life insurance). This step enables comparison of responses with the administrative data. Respondents were quite willing to refer to records. For each account type, a significant majority reported referring to their records.

#### #. Balance Sheets and Self Correction

The explicit goal of the VRI is to gather information on all of the household's assets. Hence what the respondent is providing ideally is a complete balance sheet. Having made the goal of being comprehensive clear, the VRI used the full balance sheet construct to provoke possible corrections.

The first possibility for correction occurs at the end of Step 3 above, after the numerical listing of account types and the selection of nicknames. At this point respondents are shown a summary of their responses in tabular form. Respondents are then asked whether all the information is correct. If not, they are asked whether they want to correct the list of accounts (either add or

delete an account type or change the number of accounts for any type). Depending on their answers, they are brought back to either step 1 or step 2. Respondents can then make corrections without having to re-enter previously correct items.

## Account verification

Please scroll down to see a summary of your household's investment, savings, and retirement accounts. Please review this summary for accuracy - does this correctly reflect all of your household's investment, savings, and retirement accounts? What's most important is that nothing significant is forgotten or double-counted in the list.

If this information is not correct, you will be able to go back to the beginning of this section to update your information.

It is very important for the rest of the survey that your responses here be as complete and accurate as possible and we appreciate you taking the time to thoroughly review and update if necessary.

Please select one.

- Yes - this is accurate and I am ready to continue  
 No - I need to go back to make an update

Summary of My Household's Investment, Savings and Retirement Accounts	
<b>Tax-deferred retirement accounts</b>	
<b>IRA</b>	
1: Rollover IRA	
2: Roth IRA	
<b>Employer-sponsored retirement plan (401(k), 403(b), 457, etc.)</b>	
1: Retirement	
<b>Pension with an account balance which you can access as a lump sum</b>	
None	
<b>Other type of tax-deferred retirement account (such as SEPs, Keoghs, etc.)</b>	
None	
<b>Savings/Investment accounts not in a tax-deferred retirement plan or account</b>	
<b>Checking account</b>	
1: Chase	
<b>Savings account</b>	
None	
<b>Money market account</b>	
None	
<b>Mutual fund account</b>	
1: Vanguard	

In addition to the count of accounts, there is also an opportunity to make quantitative corrections. The survey presents back to respondents a summary table of accounts with all of their quantitative responses, as well as a computation of total assets. There is also a checkbox at the bottom of the table that asks whether everything is correct. If the respondent checks “No, I need to go back and make an update,” the screen updates with two checkboxes asking whether the respondent needs to add/delete accounts or correct the dollar amount. Both buttons can be checked. If the respondent indicates a need to correct amounts, the account summary table updates with a new column of checkboxes asking which need to be corrected. The survey asks only for the required corrections. Specifically, if the respondent clicks on the “add/delete account” box, they are taken back to step 1 with all previous responses pre-filled. On the other hand, if the respondent needs to correct only the amounts, the survey returns to step 4.



# Balance Verification

Please refer to the below table and verify the balances you reported for each of your accounts, and indicate whether you referred to records or statements in supplying these figures.

	REPORTED VALUE	REFERRED TO RECORDS?	
		YES	NO
IRA 1: Rollover IRA	\$120,000	<input type="checkbox"/>	<input type="checkbox"/>
IRA 2: Roth IRA	No response provided		
Employer-sponsored retirement plan (401(k), 403(b), 457, etc.) 1: Retirement	\$400,000	<input type="checkbox"/>	<input type="checkbox"/>
Checking account 1: Chase	\$15,000	<input type="checkbox"/>	<input type="checkbox"/>
Mutual fund account (other than money market) 1: Vanguard	\$275,000	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL	\$810,000		

Is this correct?

- Yes – this is accurate and I am ready to continue  
 No – I need to go back to make an update

The above illustrates the checkbox for “referred to records.” Once the respondent returns to step 5, the respondent is again asked if the answers are correct and again allowed to make corrections. There is no limit on the number of times respondents can go through the correction sequence.

## Revised balance summary; Can correct multiple times

Please refer to the below table and verify the balances you reported for each of your accounts, and indicate whether you referred to records or statements in supplying these figures.

	REPORTED VALUE	REFERRED TO RECORDS?	
		YES	NO
IRA 1: Rollover IRA	\$120,000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IRA 2: Roth IRA	\$150,000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Employer-sponsored retirement plan (401(k), 403(b), 457, etc.) 1: Retirement	\$400,000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Checking account 1: Chase	\$15,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mutual fund account (other than money market) 1: Vanguard	\$275,000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TOTAL	\$960,000		

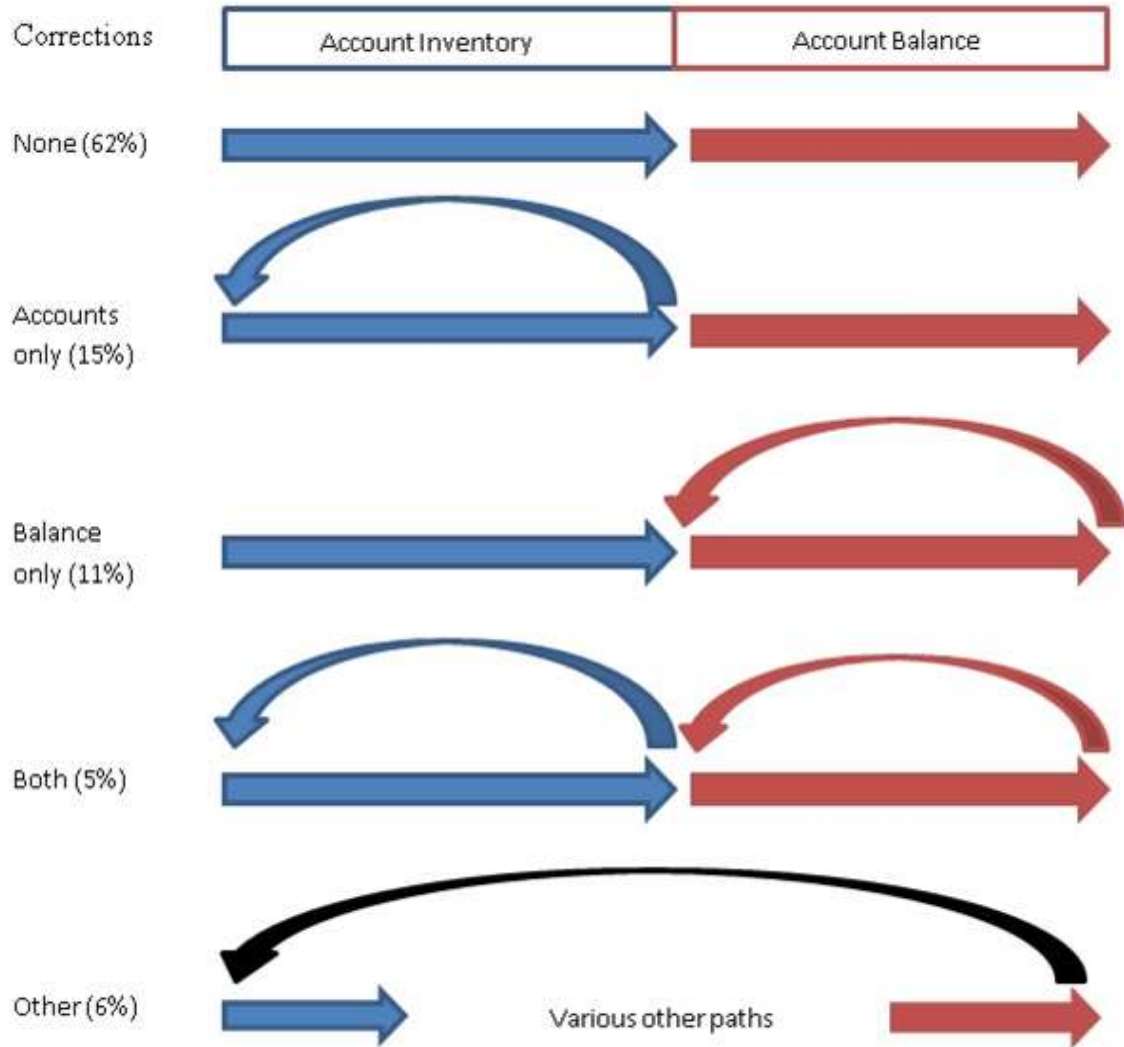
Is this correct?

- Yes – this is accurate and I am ready to continue  
 No – I need to go back to make an update



As noted above, after the respondent indicates that the summary table of balances needs no correction, the survey presents follow-up questions about the composition of the accounts. Specifically, for all relevant accounts it asks for the proportion in equities.

At the end of the wealth section, the survey displays a summary table of financial wealth combined with two pie charts showing the stock share in the overall portfolio and the share of wealth at Vanguard. The survey prompts respondents to print out this page, if desired. This summary was provided in the hope that this potentially useful measurement for survey respondents would increase the likelihood of their continued participation in the survey.



The correction mechanisms were used by respondents, as illustrated above. In total, more than one third of respondents used the correction mechanism in some way.

Path 1. No corrections. More than 3 in 5 respondents (62.49%) completed the wealth section without making any corrections.

Path 2. Inventory corrected before balance entered; balance not corrected. About 15% of respondents corrected their inventory (the first checkpoint in step 3 described in Section 2.2), but did not correct balances.

Path 3. Only balance corrected. About 11% of respondents corrected their balances without either previously correcting their inventory or going back to correct after entering balances.

Path 4. Inventory corrected, then balance corrected. About 5% of respondents corrected their inventory, entered their balances and then corrected their balances, but did not go back to revise inventory subsequent to entering balances.

Path 5. Non-sequential corrections. About 6% of respondents made complex corrections. Specifically, these respondents typically went back to the start of the wealth section to correct the inventory of their accounts after having entered balances.

The survey instrument not only captures the final responses, but also saves the initial answers. Therefore, for respondents who modified their answers after seeing the summary tables, we can check whether or not their answers got closer to the administrative data (see next section).

#### **4. Administrative Validation**

Analysis in Ameriks et al. (2014a, 2014b) indicates that the VRI's asset measurement is of high quality, and also that the correction mechanism works well to enhance the accuracy of the account data. Our ability to perform such validation derives from the fact that the VRI is integrated with administrative data. We are able to show that the approach provides unbiased measures of the level of assets as opposed to the understatement typically observed in survey responses. Additionally, we can show that our correction mechanism does reduce the variance of response errors.

The VRI contains administrative data on the account holders' total wealth and information about its composition. The administrative data, though exact, are not perfect. The linking of accounts to clients might not be perfect, especially for married clients. Additionally, the administrative data are end-of-month, so intra-month transactions and changes in value can cause discrepancies between survey and administrative data. Nevertheless, the administrative wealth data give an unusually good reference point for evaluating the quality of the survey data and vice versa. The administrative data are, of course, limited to accounts at Vanguard. To shed some light on the difference between the administrative and survey measures, Table 1 splits the sample by line of business and single status. The first line of each panel shows the survey data, the second line the administrative, the third line the survey minus the administrative data, and the last line the percent difference. The administrative data are the weighted average of the end of month before the survey and after the survey with the weight equal to the fraction of the month elapsed on the survey date.

The results are broken out by whether the subject has a Vanguard account only due to having a specific employer that works with Vanguard (“Employer Sponsored”), or as an individual with accounts that are not associated with such an employer (“Individual Client”). It is also broken out by whether the respondent reports in the survey that they are or are not married or partnered.

For the employer-sponsored sample, the median difference is \$890, or 0.6%; for the individual client sample, the median difference is \$2,623, or 1.4%. Hence a first take away from the table is that there is not the gross undercounting of assets that has been a long-standing concern in wealth measurement.

It has traditionally been found that assets are under-reported—because individuals forget about accounts and because they are reluctant to share account amounts (see Juster, Smith and Stafford (1999)). The VRI, with its account-by-account approach, builds on the insights of Juster and the designers of the HRS and SCF by presenting the respondents with a detailed list of asset types, so that they do not neglect to report certain items. Remarkably, the VRI data show no evidence of such under-reporting on average, so this approach appears to be effective. It appears that the holistic account-based approach to survey measurement of wealth yields measurements that are unbiased relative to administrative measurements.

Note that having a partner greatly complicates the comparison between administrative and self-reported assets. A potential reason for divergence between administrative and self-reported assets is that some accounts might not be linked to the survey respondent in the administrative data. Since the administrative records are at the account-holder level, they will not include a spouse’s account if it is registered solely under the spouse’s name. This factor is likely more important for the individual client sample because employer-sponsored respondents are less likely to have a family-level relationship with Vanguard. In particular, note that the large upper tail of difference in the individual sample is dramatically reduced for singles relative to the overall sample in Panel B.

For these reasons, the comparison of administrative and self-report data is most pertinent for singles. To address this issue, we conduct the same comparison only for singles. The results are reported in Table 1, Panels C and D. The bottom line is that for singles, the errors are substantially lower. For the singles in the individual account holder sample, the median deviation is almost zero (-0.03%) and the interquartile range of the deviation is -2.9% to 2.2%.

The ability to check records also allowed assessment of the correction mechanisms (see Ameriks et al. (2014a,b)). When respondents did not make any corrections, their initial responses were already very close to the administrative information. The interquartile range is -3.3% to 2.6% for those who made no corrections; for those who corrected account inventory only, it is very similar, -3.5% to 2.5%. For respondents who corrected their balances, their initial responses seem to be noisier. Though the median percentage difference is close to that of those who do not correct balances, the pre-correction interquartile range for those who correct balances is much larger. After the corrections, however, the width of the interquartile range shrinks dramatically toward that with no corrections. Indeed, the corrected range is a bit smaller than for those who made no corrections at all. Therefore, the correction mechanism did prove to be effective. It significantly reduces the variance of errors relative to the administrative account data.

We are also able to examine whether checking records matters for accuracy of survey responses. Interestingly, checking records shrinks the deviation of administrative and survey reports, but being logged on to the Vanguard website during the survey does not play a significant role in this result.

## **5. Proposals and Concluding Remarks**

The central proposal is that the HRS adopt VRI-based procedures to the extent possible. It is understood that there are important issues of continuity that may prevent this from being appropriate in the short run. Historically, the HRS dealt only to a limited extent with retirement assets (see Venti, 2011). For example, they were covered in the “Employment” rather than “Asset” sections of the survey. This has recently changed to a structure in which retirement assets are far more thoroughly investigated. The HRS 2012 asks about IRAs (up to three accounts per respondent and spouse) as part of the pension module. Confirming the basic validity and further improving these new measures is a high priority in light of the ongoing transition from defined benefit to defined contribution pension plans.

The recent change in the HRS represents a major step forward and will produce a panel of pensions for each household. However there are still legacy issues and inconsistencies between distinct wealth modules. For non-retirement assets, the HRS asks respondents to aggregate the balances across accounts into the asset classes: stocks and stock mutual funds; bonds and bond mutual funds; checking, savings, and money market accounts; and CDs, government bonds, and Treasury bills. It also treats assets on the household level. In contrast, for pensions, the HRS takes a pension-by-pension approach and ties each pension to a corresponding adult household member. The HRS respondent and spouse each report up to three separate pension accounts.

The Survey of Consumer Finances (SCF) also uses something of a hybrid approach. For checking, savings/money market, and mutual funds, it asks for the number of accounts and the balance for each account. For CDs, savings bonds, individual stocks, and brokerages, it asks for asset-class totals as in the HRS. For IRAs, it asks for an inventory of types of IRA (regular, Roth, rollover) and then asks for total by type. The SCF household head reports up to three separate pension accounts for each household member.

The inconsistencies in measurement are legacy issues and may be hard to change in the short term. However the larger challenge is to understand exactly what the respondents think of as “an individual pension”. This is in fact not an easily defined construct. Retirement assets can be classified in many different ways: by employer; by type of asset (equity fund; etc.); by asset manager (e.g. Vanguard, Fidelity, TIAA); by “account name”; by “Plan” (as defined by employer and asset manager; etc. What this means is that it is hard to know precisely how each wealth holder categorizes their assets subjectively, and therefore what assets they summarized in the HRS. The most worrying possibility would be that they take a very fine-grained definition, in which case it is reasonable for individuals to have very many “different” pensions. In this case a report on three such pensions may significantly understate total retirement assets.

I now enumerate a series of proposals that emerge from the above analysis. In essence, the proposal is that the HRS adopt for retirement assets the VRI strategy in cases in which this is

feasible. The two broad goals are those indicated at the outset: to use asset categories that are meaningful to respondents and to encourage self-correction.

- Proposal 1: **Statement of Purpose:** Make clear at the outset of the pension section that the goal is to get information on all retirement assets.
- Proposal 2: **Household Basis:** Make clear that this is for the household rather than separately for each individual.
- Proposal 3: **Subjective Account Basis:** Adopt the purely subjective account-based method of identifying subsets of these assets.
- Proposal 4: **Balance Sheet Based Account Correction:** Once assets are named, provide an opportunity to correct the balance sheet as at the end of Step 3 of the VRI.
- Proposal 5: **Balance Sheet Based Balance Level Correction:** Once asset values have been stated, re-build the balance sheet and allow quantitative error correction.
- Proposal 6: **Source of Information:** Get indications of which asset values respondents are deriving from records, which is to be encouraged, as opposed to from memory.
- Proposal 7: **Source of Information:** It goes almost (but not quite) without saying that gaining access to records of even a subset of respondents on any subset of assets would also be hugely advantageous. It is listed as a proposal due to its inestimable value even though it is understood that it will be hard to implement in practice.

It is my belief that adaptation and adoption of as many as possible of these proposals will further strengthen the comprehensiveness and accuracy of the HRS measurement of retirement assets.

## REFERENCES

- Steven F. Venti. 2011.** “Economic Measurement in the Health and Retirement Study.” Dartmouth Working Paper [http://www.dartmouth.edu/~bventi/Papers/Venti-DMC-review\\_final\\_1-22-11.pdf](http://www.dartmouth.edu/~bventi/Papers/Venti-DMC-review_final_1-22-11.pdf)
- Ameriks, John, Andrew Caplin, Minjoon Lee, Matthew D. Shapiro, and Christopher Tonetti (2014a)** “The Wealth of Wealth-Holders,” Vanguard Research Initiative Working Paper. <http://ebp-projects.isr.umich.edu/VRI/papers/VRI-Wealth1.pdf>
- Ameriks, John, Andrew Caplin, Minjoon Lee, Matthew D. Shapiro, and Christopher Tonetti (2014b)** “Vanguard Research Initiative: Survey 1 Documentation and Tabulations,” Vanguard Research Initiative Working Paper. <http://ebp-projects.isr.umich.edu/VRI/papers/VRI-Document1.pdf>
- Juster, F. Thomas, James P. Smith, and Frank Stafford (1999)** “The Measurement and Structure of Household Wealth,” *Labour Economics* 6, 253-275.

**TABLE 1: Total Vanguard Assets: Survey versus Administrative Data**

**A. Employer-Sponsored (N=2,243)**

	Mean	Percentiles				
		10	25	50	75	90
Survey	331,753	27,000	75,000	195,485	432,000	755,000
Administrative	299,540	29,519	69,668	181,375	400,707	656,832
Difference	32,213	-27,394	-4,093	890	12,999	95,978
% Difference	3.92%	-17.44%	-2.48%	0.63%	9.10%	47.83%

**B. Individual client (N=6,705)**

	Mean	Percentiles				
		10	25	50	75	90
Survey	517,724	29,000	87,017	260,000	615,081	1,178,158
Administrative	380,277	25,345	67,382	193,682	472,732	900,747
Difference	137,447	-23,315	-1,637	2,623	91,950	380,262
% Difference	18.53%	-14.42%	-1.20%	1.44%	32.89%	100.32%

**C. Employer-Sponsored, Singles (N=585)**

	Mean	Percentiles				
		10	25	50	75	90
Survey	240,488	22,000	49,000	125,000	300,000	574,000
Administrative	231,306	22,757	46,236	127,630	282,362	529,760
Difference	9,183	-24,297	-3,867	365	7,483	35,390
% Difference	2.05%	-22.06%	-3.04%	0.33%	6.21%	29.68%

**D. Individual client, Singles (N=2,349)**

	Mean	Percentiles				
		10	25	50	75	90
Survey	317,004	21,000	57,000	165,400	420,000	790,000
Administrative	305,997	22,501	58,759	160,638	406,609	744,563
Difference	11,008	-32,803	-4,180	-19	3,902	39,677
% Difference	-0.64%	-22.23%	-2.91%	-0.03%	2.18%	24.34%

