

Interview

Arthur Kennickell, Federal Reserve Board, USA

Interviewed by: Matthew Rae and Robert DeHaan, The George Washington University



Dr. Arthur Kennickell

1. “Listening to Other People”: Arthur Kennickell – Leadership on the Survey of Consumer Finances

Dr. Arthur Kennickell, for almost three decades, a survey leader at the Federal Reserve Bank, was interviewed in 2013 by Matthew Rae and Robert DeHaan. During his tenure, the Survey of Consumer Finances (SCF), which he heads, became the leading wealth survey in the United States and, arguably, around the world. With his active support, it has been copied by many National Banks. In the US it has become even more critical as a source of information on the US national economy and the economic livelihoods of American households.

Arthur’s approach to leadership is predicated on absorbing the wisdom of others – be it his own staff, his

interviewers or respondents. He, then, focusing everyone’s energy on achieving the highest data quality possible.

He has utilized the power of listening to overcome a tremendous number of methodological and operational problems, all well documented in <http://www.federalreserve.gov/econresdata/scf/scfindex.htm>. The way in which the SCF has tackled the challenges of change and growing complexity provides a case study of how Arthur collects and synthesizes the information necessary to confront difficult survey challenges. What a role model he is of the scholarly survey practitioner.

2. The survey and the man

In all the capacities that Arthur Kennickell has served the Federal Reserve (Fed), from Economist in 1984 through Assistant Director today, he has been in some way shaping the Survey of Consumer Finances (SCF). In addition to bow ties and a dis-arming sense of modesty, Arthur has brought persistent leadership to the Fed. Through his leadership, the survey has confronted methodological and operational challenges of all sorts. Arthur’s approach to dealing with problems of complexity and change in the SCF provides a window into his leadership approach and maybe instructive for future survey leaders. As a component of the George Washington University certificate program in Survey Management and Data Analysis, the authors interviewed Arthur in the spring of 2012.

The Survey of Consumer Finance is a critical resource in understanding some of the most fundamental economic questions of our day: from who owns what – to how we own what we own. A sign of the SCF’s impact is its reach: from popular publica-

tions, such as articles on income inequality,¹ consumer awareness of their debt holdings² and the indebtedness of younger Americans³ – to scholarly work comparing the assets of uninsured households to the deductibles of health plans with HSAs⁴ and the distribution of household investments.⁵ The survey asks respondents detailed questions about their financial holdings and liabilities, allowing researchers to compare income, stockholdings, home ownership and debt across key demographic groups. The key work product of the survey is the bulletin, which reports the newest findings and crosstabs for key variables in the study.⁶

The survey's unit of analysis is the primary economic unit, or those individuals living together in a household. The sample is drawn from a multistage area probability sample in conjunction with a supplemental list sample of wealthy individuals. The triennial survey rests on almost 5000 interviews, largely conducted in person with the assistance of a CAPI system.⁷ While there have been managerial changes, the survey's methodological approach has remained largely consistent since a survey redesign in 1989.⁸

In 1963, the Federal Reserve conducted the predecessor to the SCF, the Survey of Financial Characteristics of Consumers (SFCC). In the two decades be-

tween SFCC and SCF, economists were left using other household surveys (SIPP, CPS, etc) to analyze the financial health of households. This left researchers and policy makers, alike, with an incomplete picture of the American household. While other surveys provided information on the median household, there were insufficient samples to document the entire distribution of wealth in the country. With a significant portion of the nation's wealth in the hands of a relatively small portion of the population, other surveys had significant coverage issues over wealthy households.⁹ Similar to SFCC, SCF utilizes a dual frame to capture both a sufficient number of wealthier households as well as more typical households. In addition, since the SCF's primary focus is a household's financial situation, the survey instrument specifically targets the rich detail embedded in any household's assets and liabilities. Given the wealth of research and policy questions arising from the structure of household finances, the SCF has become an indispensable source of information.

Arthur came to the SCF in the midst of the revival of the 1983 survey. He was assigned the challenge of developing the survey weights, a task complicated by accommodating the dual sampling frame. Before arriving at the Federal Reserve, he had already developed a deep appreciation for the importance of data quality and the underlying complexity of good measurement. As a graduate student in economics, Arthur came to realize that the aggregate models of behavior that economists study were only as meaningful as the underlying data was robust. As Arthur puts it, "The immediate obvious fact . . . was, that the things we wanted to model didn't aggregate – the relationships didn't hold when they were aggregated . . . this was like the computer in the old science fiction movies where the smoke starts coming out the top." This realization "caused a meltdown" for Arthur, pushing him to rethink the sort of work he had intended to study in graduate school. Following this, Arthur's work became increasingly focused on statistics, survey management and measurement. In completing his dissertation on savings behavior he asked the fundamental questions about the data commonly being used by economics – "what is this stuff?" Arthur came to believe that statistics and survey management provide a

¹Reinhadt, Uwe. "Are We a Nation of Property Owners?" *Economix Blog*. Ny Times. Web. 13 May 2012. <http://economix.blogs.nytimes.com/2010/07/30/are-we-a-nation-of-property-owners/>.

²Appelbaum, Binyamin. "How Much Do You Owe? Guess Again." *Economix Blog*. Ny Times. Web. 13 May 2012. <http://economix.blogs.nytimes.com/2011/10/20/how-much-do-you-owe-guess-again/>.

³Rampbell, Catherine. "Young and in Debt." *Economix Blog*. Ny Times. Web. 13 May 2012. <http://economix.blogs.nytimes.com/2009/02/26/young-and-in-debt/>.

⁴Jacobs, P. D., and G. Claxton. "Comparing The Assets Of Uninsured Households To Cost Sharing Under High-Deductible Health Plans." *Health Affairs* 27.3 (2008): W214-221. <http://content.healthaffairs.org/content/27/3/w214.full>

⁵Bertaut, Carol C. "Stockholding Behavior of U.S. Households: Evidence from the 1983–1989 Survey of Consumer Finances." *Review of Economics and Statistics* 80.2 (1998): 263–75.

⁶Bucks, Brian; Kennickell, Arthur and Moore, Kevin (2006), "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances." Federal Reserve Bulletin, vol. 92, pp. A1–A38, www.federalreserve.gov/pubs/bulletin/default.htm. http://federalreserve.gov/econresdata/scf/files/2007_scf09.pdf.

⁷Bucks, Brian; Kennickell, Arthur and Moore, Kevin (2006), "Changes in U.S. Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances." (Federal Reserve Bulletin, http://federalreserve.gov/econresdata/scf/files/2007_scf09.pdf), page 50.

⁸Montalto, C. P. 1998. Everything you always wanted to know about the Survey of Consumer Finances. (<http://ehe.osu.edu/cs/scf/cmacci98.htm>), page 5.

⁹Avery, Robert; Elliehausen, Gregory and Kennickell, Arthur. 1986. *Measuring Wealth with Survey Data: An evaluation of the 1983 Survey of Consumer Finances*. (Federal Reserve. <http://www.federalreserve.gov/pubs/oss/oss2/papers/wealth83.pdf>), page 1.

framework in which descriptions of aggregate behavior could be made.

In addition to Arthur's intellectual commitment to measurement issues, he is by nature a deeply curious and observant person. Noting his work as an artist he stated "I am interested in observing things in other ways and I think that this mentality just carries through in a lot of ways."

Collecting, assembling and interpreting a nationally representative financial survey presented a series of tremendous methodological and operational challenges. These challenges seemed so daunting that some believed that the SCF could not be reestablished in any way that would be meaningful. Arthur noted that one of the successes of the 1983 survey was that it "showed that it could work when people believed that it couldn't work at all." Critics argued, "that the results would be meaningless . . . – that the non-response problems would be so large that the results would be meaningless." Interestingly some of the challenges, which seemed the most important during different iterations of the survey, have been overshadowed by other challenges. Two of the most important ongoing crises facing any survey, but especially a survey of this sort, are complexity and change. First complexity, the financial picture of any single household may be immeasurably complicated with varying account types and different holdings, a task made yet more daunting by the challenges of correctly collecting information within the scope of a limited interview. Secondly, change; over the course of Arthur's tenure at the Federal Reserve the national economy has evolved in a plethora of ways. This change poses a challenge for survey leaders attempting to draw trend analyses and ensuring that survey techniques remain relevant. Either challenge: complexity or change, had the potential to erode the relevance of the SCF if not accounted for. As a survey leader, Arthur has had the insight to understand and minimize both in the design and implementation of the survey.

3. Complexity and interviewer intelligence

High data accuracy in any survey is a challenge, let alone one tackling a technical subject matter. The SCF faces several challenges ranging from unwilling or uninformed respondents to an instrument, which is not well specified for a particular observation. Arthur articulated the underlying challenge of complexity by stating "any survey instrument, which is applied to real

world situations, if it has any degree of complexity at all, is going to fail in some way. It has to be the same words – There are words that distribution of meaning across people – the mental constructs maybe aren't stable in the same way for everybody." Much of the information that the SCF collects is on individual financial holdings, information that even a willing respondent may not be able to recount.

Under Arthur's leadership, the SCF has used a variety of statistical and data management techniques to improve data quality, but as Arthur states, "the interviewer is the front line of defense." Arthur believes that "hearing the intelligence of interviewers . . . is critically important for a complicated survey". Over the years, Arthur has developed different techniques to take advantage of the intelligence of interviewers.

First, interviewers on the SCF are highly trained to ensure that respondents are fully and accurately completing the survey. "The interviewer is there and the interviewer is trained with the sense (to think) – 'What is the intention here?' And if something deviates enough from the intention the interviewer can try and guide the respondents – if the respondent can be guided." Rather than simply completing the questionnaire, the interviewers can circle through the survey, clarify potential errors and provide exemplary information. "In addition to being given these structured required comments to complete, interviewers are trained to record comments whenever the respondent provides information that clarifies a reported value, where there are questions about what should be done in the interview, or wherever the interviewer feels additional information would be useful."¹⁰ As Arthur elaborates, the interviewers add something more than asking respondents to complete self-administered questionnaires. "An interviewer's decisions whether to follow the interview protocol, to probe ambiguous responses, to supply important auxiliary information, to signal to the respondent the importance of coherent reporting, to support the respondent's confidence in the confidentiality of the information, etc. are critical determinants of data quality."¹¹

¹⁰Kennickell, Arthur. 2007. *Look and Listen, But Don't Stop: Interviewers and Data Quality in the 2007 SCF*. (<http://www.amstat.org/sections/srms/proceedings/y2007/Files/ISM2007-000648.pdf>), page 7.

¹¹Kennickell, Arthur B. 2006. *Who's asking? Interviewers, Their Incentives, and Data Quality in Field Surveys*. (Federal Reserve. <http://www.federalreserve.gov/econresdata/scf/files/iarw20067.pdf>) page 2.

Rather than simply clarifying responses that are out of range, Arthur has developed extensive protocols to ensure that an interviewer can clarify a response in the least awkward way possible. This is the first critical task that interviewers play in overcoming the survey's complexity.

Secondly, Arthur has developed an array of processes for interviewers to debrief visits.¹² SCF has been constantly adapting and improving the survey instrument by utilizing as much information as possible from the current surveys to inform the next. The SCF team reviews each interviewer note while making logic edits to determine if the observation should be changed.¹³ Beyond what comes to his attention during debriefs, Arthur has demonstrated a tremendous commitment to utilizing interview insights; for example before the advent of the CAPI system, he would sit "with a big pile of questionnaires and go through them." As he states "You could learn a lot in that stage not just from the comments but from the ways that interviewers traced on the page; when something was the wrong phrase or in a variety of ways in which the physical layout of the questionnaire interacts – the words that were being used, creating context and all this – they would end up drawing things all over the page – and we could ask ourselves: 'How is this not working?'" Beyond capturing information on how the instrument should be refined, Arthur used these feedback mechanisms to gather a fuller sense of the flavor of the interactions taking place. "There are insights into how respondents think about things, how interviewers are relating to questions and how maybe what we were asking didn't really make any sense from the point of view of the respondents." The constant improvement in the survey instrument has ensured that the underlying data being collected is increasingly consistent with the constructs survey managers are attempting to capture.

As the survey and the world more broadly have evolved away from scribble marks to keystrokes, Arthur has worked to ensure that interview notes would not be lost. In developing the CAPI system in 1992, Arthur made it "a number one goal . . . to build as much of this intelligence from paper into the computerized questionnaire." As an example he notes that on "pa-

per questionnaires you would sometimes have these big grids of things where you would ask about live examples of something. Sometimes you would get into it and realize they had another [type of account] and they need to add that, or they didn't really have as many as they thought, or they are really bored and they are not going to tell you about all of them but they are going to tell you about one of them and add it all together. By drawing things on paper you could mark that – that is harder to do in CAPI so we developed a framework for doing exactly that. It's an approximation but the guiding principal behind it." In doing so, Arthur preserved one of the strengths of paper collection while utilizing the advantage of the digital collection.

In addition to the importance of interviewers' intelligence in overcoming survey complexity, Arthur believes that involving interviewers is critical to building team cohesion. "How can I motivate people to do this; this impossible task; this queasy task. 'I don't tell my children about my finances, why should I tell you about it?'" "This is none of the government's businesses. How do you deal with these really hostile experiences unless you have some personal motivation and intelligence about why you are there?" Helping to instill this sense of motivation in interviewers has a real impact on quality. With interviewers committed to the survey's greater meaning and purpose, SCF leadership hopes that the interviewer will listen to the respondents with the diligence necessary to correctly document the case.

Interviewers are given a real incentive to take data quality seriously. New interviewers are required to pass an aptitude test and since 2004 all interviewers are rated on a quality metric. Interviewers with higher item non-response rates are assigned a lower ranking and correspondingly have quality review sessions with managers. According to analysis of the metric, the system has given the interviewers "a changed understanding of what it means to be productive."¹⁴ Interviewers are giving an opportunity to provide feedback on NORC, the firm responsible for data collection through a mail survey.¹⁵ In as many ways as possible, Arthur has sought to convert his passion for good measurement into the team's passion for good measurement.

¹²Kennickell, Arthur. 2007. *Look and Listen, But Don't Stop: Interviewers and Data Quality in the 2007 SCF*. (Federal Reserve, <http://www.amstat.org/sections/srms/proceedings/y2007/Files/JSM2007-000648.pdf>), page 5.

¹³Kennickell, Arthur. 1999. *Measuring Data Quality In the 1998 Survey of Consumer Finances*. (Federal Reserve, <http://www.federalreserve.gov/econresdata/scf/files/quality.pdf>), page 2.

¹⁴Kennickell, Arthur B. 2006. *Who's asking? Interviewers, Their Incentives, and Data Quality in Field Surveys*. Federal Reserve, <http://www.federalreserve.gov/econresdata/scf/files/iariw20067.pdf>.

¹⁵Kennickell, 1999, page 5.

4. Change and consistency

Since 1983, the underlying concepts that the SCF is attempting to measure have drastically evolved. In addition to the advent of new financial instruments, all sorts of financial holdings have become much more complex. Arthur noted that the challenge by stating “we have a fixed instrument and the world changes all around it.” Citing the example of retirement accounts he explained “when we started, there were still a lot of defined benefit pensions; 401 ks and IRAs were still a really tiny thing, it was all new. So it was pretty clear to people if you had a pension with some sort of account or if you just had a regular old pensions.” Today, an individual’s retirement account may consist of a range of different financial instruments, falling with varying degrees into the instrument’s neat definitions. The problem of change is compounded by relatively low financial literacy amongst respondents. As financial instruments become more complicated, it is harder for respondents to distinguish between different types of financial products. “Things like money market accounts used to be very clear, well they are not so clear anymore, checking accounts with varying interests rates, some of them are exactly like what money market accounts used to be, except with some strict number of transactions you are allowed to have on a money market account, they start sounding very much the same, and people’s ability to distinguish between the two of them gets less and less. So things of that sort need to be taking account of.” Arthur’s leadership in managing change provides insight into how survey managers can balance the goal of improving accuracy while preserving trend.

In order to ensure the consistency of the constructs being measured, the SCF had to evolve as an instrument to match the changing world. While change must be made with “great reluctance”, Arthur notes that sometimes “the world changes so much there isn’t anything that you can do” but adapt. Arthur explains, “You can ask the same questions forever, but then in a sense the meaning changes anyway, because it is not the same world.” In order to modernize the instrument Arthur conducts a checklist of tasks: “looking closely at the data, listening to what you hear back from the interviewers and seeing how it lines up with the aggregate statistics and being skeptical and watching very closely all the time, watch all the time, always watching”.

While the instrument has changed, the SCF has attempted to remain consistent by ensuring that “the new

elements could map onto the old framework”. While this approach helps preserve researcher’s ability to compare changes in consumer financial health there is an underlying measurement problem. As Arthur notes, “The words that we use are different, and we know that words make a huge amount of difference [in how respondents answer a question].” In order to account for this the team conducts careful pretesting and analysis to minimize this sort of non-sampling errors.

In another important way, Arthur led his team to keep pace with a changing world. In the midst of the economic meltdown in 2008, Arthur devised an approach to document the impact of the recession on the American consumers. “We hope that something like this would never happen again or at least that it would be very long time before something this horrible happened again. Certainly we have an obligation to go out and try and see what has happened to people’s lives and use this as well as we can to understand the underlying mechanism.” This sense of obligation led Arthur and the SCF team to win approval from the Federal Reserve Board for a one-time re-interview of the 2007 cross sectional survey respondents. The 2009 panel filled a gap in our understanding of consumer finances during the recessions; by examining how the drastic changes in the economy affect different economic groups different.¹⁶

Obviously the advent of the financial crises did not follow a known timetable. In order to successfully design and implement the panel, Arthur and his team had a limited 3-month window.¹⁷ “It is like training for a marathon, you do these super long 22 mile runs in order so that you can run the 26 miles. That is what it was like; it was all of the experience we had, to be able to pull pieces of things together really quickly.”

Converting the SCF into a panel poses a series of interesting methodological challenges. One of the more interesting issues that the SCF had to account for was the changing unit of analysis. “People get married and divorced, people’s kids move out, they move in with their parents. What is the unit of observation; we are not tracking people at the person level. So even over that period there is a substantial amount of that going

¹⁶Bricker, Jesse; Bucks, Brian; Kennickell, Arthur; Mach, Traci and Moore, Kevin. 2011. *Surveying the aftermath of the storm: Changes in Family Finances from 2007 to 2009*. Federal Reserve. <http://www.federalreserve.gov/pubs/feds/2011/201117/201117abs.html>.

¹⁷Kennickell, Arthur B. 2010. *Try, Try Again: Response and Non-response in the 2009 SCF Panel*. (Federal Reserve. <http://www.federalreserve.gov/econresdata/scf/files/ASA2010final.pdf>), page 2.

on.” Given that the SCF had not initially intended to re-interview the sample frame, and in many cases the PEU changed in the pursuant the two years, the panel survey could have faced a significant non-response problem. Through a persistent and organized plan, the panel achieved a remarkable 89% participation rate and illustrated few correlations of non-response.¹⁸

5. Conclusion

Leadership all too often is portrayed as simply inspiring others to action. While recognizing the importance of moving a team forward, Arthur does not neglect the necessary precursor to action: listening. “The really big thing is listening to other people... It is so easy for our brains to chatter at high volume and suck up all the available space for reality.” Stemming from his great modesty, Arthur’s approach to the survey is to listen to how others can improve the projects; be it through interviewer comments, respondent feedback, examining the data, or listening to the changing times. Leadership in this sense does not start with the first step, but with gathering the information needed to decide where you are going. “You have to listen to everyone and try to the extent possible to get everyone on the same wave length. And, to me, that is the most important ... [part of leadership]. And then, trying to synthesize in some way that you can lead people to a common point, but to me listening is far more important.”



Matthew Rae, holds a Master of Public Administration and a Masters of Public Health from Columbia University in New York. He expects to complete the Graduate Certificate in Survey Management and Data Analysis in the fall of 2012. He currently works on survey issues as a Senior Health Policy analyst at the Kaiser Family Foundation.



Robert DeHaan, holds a Bachelor’s Degree in Economics from the University of Maryland. He will be completing the Graduate Certificate in Survey Management and Data Analysis in the spring of 2012. He currently works on the Voice of the Customer survey team at GEICO as a Business Analyst.

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Appendix

Multiple Imputation and the Survey of Consumer Finance.

When dealing with data from a survey as complex as the SCF, dealing with sensitive topics like personal income and net worth, inevitably analysis plans will need to factor in missing data. Using imputation methods, be it hot decking, regression modeling, help to address some of the estimation biases that may be created by systematic non-response at the item level of the survey. The problem that often arises in using a basic imputation is that the variance of your imputed value is lost, leaving the new data point to be treated, at least in some senses, as real when used in subsequent analyses of the survey data.

The SCF, under the leadership of Arthur Kennickell, goes to great lengths to preserve the variance potentially created by the imputed data by using a method called multiple imputation. The basic idea behind multiple imputation is to follow the same basic principles that would be followed when doing only one imputation for a missing value. The variance is saved by doing this process more than once; in the case of the SCF, five imputations are done. Instead of relying on one (mean-based) plausible imputed value, the five values are randomly selected from the distribution of plausible values. These five values will calculate a pooled value, similar to the value that would be used when imputing only once, but will also retain a variance among themselves.

The use of multiple imputation in the SCF shows the attention to detail that Arthur Kennickell considers paramount to the success of the survey. Furthermore, it highlights the importance he sees in being truthful to the matter at hand. By ignoring the variance lost by imputing missing values the data consequently becomes misleading to end-users, creating correlations in observations that may be artificially inflated by the imputed values that carried no variance with them.

¹⁸Ibid.

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