University of Michigan’s Survey of Consumers:
Measuring and Interpreting Economic Expectations

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Three Key Issues Confronting U.S. Sentiment Surveys

1. How to best adapt to constant change in social, demographic, economic, technological & regulatory conditions affecting sentiment surveys.
   - Robust estimates of economic perceptions and expectations need to be independent of changes in the measurement methodology.

2. Need to insure that the content of the questionnaire reflects changes in the economic environment and people’s economic concerns.
   - Private wealth, pensions, entitlements, global economy as well as revised questionnaire response scales.

3. Shift in expectations of long-term economic prospects affects people’s material aspirations and willingness to increase human capital and work.
   - Problem of interpretation since mean levels of sentiment variables are largely unaffected by long-term changes in the performance of the economy.
Survey Measurement Methodology

1945 – 1975

- Personal interviews based on area probability samples
  - Nearly full coverage of population
  - Costs forced shift to phone samples
Survey Measurement Methodology

1976 – 2012

- Landline Telephone interviews based on RDD design

--- 90% of households owned telephone in late 1970’s; 98% by 2000

--- Dual personal and telephone samples in transition 1975 - 1978
Survey Measurement Methodology

2012 – ?

- Cell phone telephone interviews based on RDD design

--- Rapid decline in landlines: ownership fell to 51% in 2014
--- 88% of households and 90% of adults owned cell phones in 2014
--- Just 8% of all households only owned landlines in 2014
--- Dual landline/cell samples in transition 2012-14; no differences detected
--- Cell samples required change in respondent selection; no differences
Mail/internet sample based on postal address (ABS)

- Nearly full coverage of population
- Low response rates forced inclusion of mail/internet
- Mode effects (oral vs. visual display of questions) not significant in cross-section
Mixed Mode Effects

- Critical measure from sentiment surveys is period-to-period change
  --- Variance counts as levels are discounted in regression type analysis.

- Repeated finding of cross-section mode effects.
  --- Different survey modes may yield different response distributions.
  --- Cross-section designs implied mode effects were constants.

- Little if any research on time-series mode effects.
  --- Most have simply assumed that survey-to-survey changes eliminate mode effects.
  --- Example: $Y_{2+mode} - Y_{1+mode} = Y_{2-Y1}$
  --- True only by assumption, no rigorous tests of mode as constant factor.
Conventional assumptions do not apply to mixed-mode surveys.

--- Mode effects can differ based on combination of modes.
--- Example: \( Y_2 + \text{mode2} - Y_1 + \text{mode1} \neq Y_2 - Y_1 \)
--- Nonetheless, mixed mode surveys now in wide use. If assume mode equals constant, could estimate within mode change and total sample weighted change as:

\[
w_1 \Delta Y (\text{mode1}) + w_2 \Delta Y (\text{mode2}) = \Delta Y
\]
Hand-Held Devices

- Rapid technological change toward more powerful smart phones.
  - Households replacing desktop and laptops with tablets and smartphones.
  - Smartphones will have computing capacity of laptops.
  - Smartphones can connect with keyboard and TV screens.

- Smartphones as means to collect internet interviews.
  - Screen size limits questions and response codes.
  - Limited number of questions before breakoffs occur.
  - Could do several short interviews to increase length.
  - Can include automatic data checks, but could slow process.

- Smartphones are simply an extension of current methods.
  - Methodological issues remain unchanged (sample, response rate, etc.).
  - For surveys that need a quick and short response may be ideal at present.
  - Few may ever be willing and able to connect with keyboard and screen.
  - Nonetheless may be good interim methodology
Convenient, quick, large numbers of interviews at very low costs.
--- Widespread use among commercial survey firms.
--- Incorrect use of standard errors and significance tests.
--- Bayesian methods in development, but currently cumbersome to use.

Michigan has begun to explore appropriate «big data» resources.
--- Scans of digital news to estimate sentiment used for decades.
--- Need to associate digital data with socioeconomic characteristics.
--- How to assess future economic issues not currently in news media.

Measurement choice between inputs and outputs of sentiment.
--- Most currently attempt to measure references to inputs such as jobs and incomes.
--- Could use software to assess digital images of outputs (faces) as well as inputs.
--- Expressions of confidence contained in purchase behaviors.
Big Data challenges are as great as research opportunities.

--- Predictive accuracy replaces science of probability samples as key criteria.
--- The problem switches from the question of which data to construct to the question of which data we should look at in the infinite cloud of big data.
--- Dynamic analysis could be greatly improved since it is empirically possible to test for every lags.
--- Reduced costs and increased scope of data benefits society.
Questionnaire Content

- Changing impact of economic factors on spending and saving decisions.
  - Social, demographic, and economic changes over the past half-century.
  - Jobs and incomes still critical but now more sophisticated expectations.
  - Household wealth (financial and housing) more important.
  - Entitlements and pension provisions

- Benefits of open-ended response questions.
  - Allows respondents to reference whatever issue is important.
  - Best way to determine what new questions need to be added.
  - Open-ended responses have greater predictive power.

- Response codes need more robust data for predictive purposes.
  - Difference between cross-section and time-series predictive power.
  - Move toward percentage, probabilities, and exact dollar amounts.
  - Costs of greater precision: greater respondent fatigue and DKs.
  - Need balance of costs and benefits.
Reconciling objective quantitative data with subjective ordinal indicators.

--- While objective economic measures don’t change, the interpretation of any given economic outcome is relative and context dependent.

--- Sentiment questions essentially ask people to compare their economic situation with some standard of comparison or benchmark.

Best benchmark: actual long-term performance of economy (rational)

Length of period: multiple cycles (economists), life events (people)
--- Psychological concept comparable to equilibrium is homeostatis: people initially react negatively or positively to changes in their economic situation but ultimately regain the same characteristic level of optimism/pessimism.

--- Homeostasis implies changes in reference standards, thus causing economic evaluations to return to the same long-term level.

--- This is the essential reason that sentiment is trendless over long time periods, despite unmistakable trends in the economy.
Secular stagnation first used by Alvin Hansen in 1939 to describe limits on economic growth, and is now a hotly debated reason for slow growth.

- Supply side hypothesis: cost of capital exceeds returns.
- Demand side hypothesis: risks of higher debt exceeds benefits.

Both explanations involve lower material aspirations and work effort.

- Loans could no longer be repaid with weakened job and wage prospects.
- Losses have greater impact on economic behavior than gains.
- Usual counter cyclical fiscal and monetary policies ineffective.
Secular Stagnation

- Aspirations: realistic goals, not unrealistic hopes or dreams.
  -- Quickly rise with accomplishment; slowly fall with frustration and failure.
  -- Rising aspirations powered US spending and work effort in past.
  -- Restrained aspirations promote smaller spending gains and work effort.

- Economists discount the power of aspirations since assume people always want to consume as much as possible; don’t consider impact of reductions.
  -- Change in aspirations are not uniform across population.
  -- Reflects and instigates growing income and wealth inequality.
Economic evaluations are relative, context dependent, and use the long term performance of the economy as benchmarks for comparisons.

Psychological processes, unlike economic, act to maintain the long-term level of optimism/pessimism at a constant level.

Secular stagnation is partly due to weakened demand growth and partly due to lessened impact of material aspirations and labor force participation.

Development of new statistically robust substitutes for current sampling and data collection methods are crucial for the long-term survival of sentiment surveys.
Thank you!

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