CONSUMER CONFIDENCE INDEX SURVEYS:

A NEW INDICATOR FROM PAKISTAN

by

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To

my parents, to whom I had promised I will *"read it all"*,

my husband, who saw me through it,

and my children, who, I hope, will read more

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by

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The primary goal of this study is to analyze the Consumer Confidence Index survey of Pakistan and evaluate whether the index constructed using the Michigan Consumer Sentiments Index methodology is consistent with the underlying structure of the survey responses. In this regard, the study first employed exploratory factor analysis on individual waves of data collection and evaluated each period separately. The waves were then split into two sub-samples. The first sub-sample was used to conduct a final exploratory factor analysis and the second one was used to evaluate reliability and validity of the measurement model. The analysis resulted in a three-factor model that comprised of the following latent factors; *prices, household financial position and general economic conditions,* and *time to purchase durable goods.* The findings indicate that the scale construction of the Pakistani consumer confidence index does not conform to the results of factor analysis. The factor model indicates that the survey makes little distinction based on whether a question pertains to current sentiments or future expectations. Instead, it specifies dimensions based on themes or subject matters of specific items.

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CHAPTER 1

INTRODUCTION

In 2012, the State Bank of Pakistan launched a new consumer confidence index survey with the goal of collecting consumer sentiments data, and developing national economic policy based on consumer attitudes. The goal of this study is to explore the structure of the new Pakistani Consumer Confidence Index survey and answer the following questions:

1. How do the variables structurally reflect latent factors underlying the composite indicator? Does scale construction of the composite measure conform to the results of factor analysis, and how do the results compare with that of similar measures around the world? What is the validity and reliability of the new index survey?
2. How does the new index survey and its associated survey instrument compare with the contemporary indices from around the world in terms of question wording, sampling methodology and data collection strategy?
3. How has the index performed within the backdrop of major events in the country?

1.1 Background

A causal definition of consumer confidence would refer to it as attitudes of optimism or pessimism regarding general economic conditions. Merriam-Webster defines "consumer confidence" as the good feelings that people have about the economy (Merriam-Webster, n.d.). According to the Cambridge Dictionary, Consumer Confidence is the degree to which people feel confident about how well the economy is doing (Cambridge Dictionary, n.d.). In economic literature, this concept is described as how consumers internalize the objective evaluations of the

state of the economy and present it as “subjective economy” (De Boef and Kellstedt, 2004). This subjective economy can also be explained as positive or negative qualitative judgements about their own well-being as well as that of the economy. These judgements are the same elusive factors that John Maynard Keynes referred to as “animal spirits” that prompt consumer spending and influence the real economy (Keynes, 1936). The characterizations above provide a relatively straightforward description of the concept. Measuring it, as is the case with most latent concepts, is more complicated.

Since the first consumer confidence survey was instituted in the 1940s, experts have discussed different ways to measure this elusive concept. The University of Michigan, Survey of Consumers is known to be the first one to operationally define the concept, but since its inception there have been many others that claim to measure it. And though there is little agreement on an accurate operational definition, most researchers appear to recognize consumer confidence indices as necessary, though qualitative, judgments about the economy from the “factors of production” themselves. Therefore several agencies in a number of countries initiated their own surveys that they use in developing economic policies.

The first effort to measure consumer confidence as a construct was made in the 1940s, by George Katona at the University of Michigan. Heralding the launch of behavioral economics, the Index is one of the most widely watched indicators of US economy. The US Department of Commerce’s “Composite Index of Leading Indicators”, also known as the Leading Economic Index (LEI), includes the Index of Consumer Expectations as one of the 10 key variables that are designed to predict recessionary turns in the economy (Curtin, 2002). The Consumer Confidence Index published by the Conference Board is the other major index in the United States.

Elsewhere in the world, one of the more prominent surveys in this area is the one conducted under the EU Directorate of Economic and Financial Affairs. The agency conducts consumer confidence surveys as part of the composite index, Economic and Sentiments Indicator (ESI). The surveys began in 1961 and are conducted under the Joint Harmonized EU Program of Business and Consumer Surveys. Carried out monthly, the surveys include industries, service, consumer, construction and retail trade. The consumer leg of the surveys that presently includes 27 member states, was launched in 1972 with only 5 member states (Duffy and Williams, 2002). The EU surveys are unique in the way that the collection and calculation is harmonized across all member countries. This allows for uniformity and standardization that allows comparison across countries. There are several other index surveys around the world that are conducted by private agencies. For instance, the IIB Bank's Consumer Confidence Index was launched in 2002 and since then has been published as another measure that captures confidence index for Ireland. (Benjamin, 2008).

1.2 Contemporary debate on the Consumer Confidence Index

The most common debate among researchers is the question of what extra information is provided by the consumer confidence index. Researchers are divided on the question of whether consumer confidence index should only be taken as another measure that reflects current and future economic conditions or should it be taken as a measure that predicts economic cycles. Most authors agree that much of what the index measures is already available in standard government statistics (Desroches and Gosselin, 2004). For instance, Fuhrer (1993) states that much of the variation in the ICS can be attributed to variation in unemployment rate, national income, inflation and real interest rate. This spawns the question, what is the additional,

incremental information that this measure possesses that is not available in other statistics and why do economists and decision makers set so much store in the CCI. One of the strengths that are attributed to this indicator is its purported ability to forecast consumer spending. The reason why the Michigan Index is including in the Leading Economic Index is because it is professed to forecast major economic fluctuations and consequently, major shifts in spending. Therefore, the largest body of economic literature on this subject is focused on providing evidence to the extent that confidence indices play a role in forecasting consumer spending (Carroll, Fuhrer, and Wilcox 1994; Bram and Ludvigson 1998; Jansen and Nahuis 2003). However, this question has generated varying array results. One set of studies have found that sentiment indexes have poor predictive ability and they can only be useful to provide qualitative commentary, complementary to an objective evaluation of current conditions (Roberts and Simon, 2001). These findings suggest that confidence indices are more like "mirror" of economic conditions rather than "crystal balls" that predict the future (Cohen 1995; Garner 1991). On the other hand, another set of studies use the example of the preceding decline in consumer confidence indicators before the Great Depression as evidence in the argument that major swings in confidence indexes can herald major fluctuations in the economy (J. Heim, 2009; Kelly, 2009). With the stock market crash of 1929 came fears of further economic downturn, which in turn caused buyers to curtail spending, which greatly reduced industrial output and workforce employment. These "fears" or the enormous "feelings of uncertainty" is said to have been captured in the collapse in consumer confidence that is said to have caused the economic slowdown during the Great Depression as well as the recession of the 1990s. Desroches and Gosselin (2004) illustrated how consumer sentiments indicator can provide essential information in periods of uncertainty. The authors

showed that normally, about 72% of the variation in consumer sentiments can be explained by other explanatory variables such as income, unemployment rate, and inflation. But during periods of high uncertainty, consumer sentiment becomes a statistically significant determinant of consumer spending, even after controlling for other explanatory variables. Though this view has been supported by several authors, many others have found that the association is not too clear on whether declining consumer confidence can be solely held responsible, without taking into account changes in income or wealth (Bechtell, 2014).

There are other authors who provided comparisons between the available confidence indicators with a handful computing validity and reliability estimates for them. Merkle et.al (2004) provide a comprehensive analysis of three main indices that are used to measure consumer confidence in the US. They provide structural analysis of the Conference Board CCI, the Michigan Index (ICS) and the ABC Confidence Index and discuss how each index as well as their components are computed. After comparative analysis of the indices for a 17 year period they conclude that each index is highly correlated with the other and can be used as reliable estimates of current confidence and future expectations (Merkle et.al, 2004). This is true even though the ABC index does not have sub-components and only provides a macro index. In addition each index is significantly correlated with a set of key economic variables.

Following the United States and Europe other countries have also instituted their own versions of consumer confidence indices and have incorporated them in their economic forecasting models. Covering a stratified sample of around 1000 consumers from 30 representative cities, the China Consumer Confidence Survey is conducted under guidance of the University of Michigan and includes questions that are almost identical to the Michigan CSI.

Turkey, Ireland, India, and Canada are a few other countries which have launched their own composite indices designed to measure consumer confidence. Gathering insights into consumer confidence in order to devise astute monetary policies, the Pakistani central bank (State Bank of Pakistan), launched its own version of the confidence index survey in 2012. The survey was developed based on the structure of the Michigan Index and therefore, expected to provide similar observations on the performance of the country's economy. It is this index survey that is the focus of this study.

1.3 Consumer Confidence Survey Pakistan

The Pakistani Consumer Confidence Index is a relatively new tool with only eight years of data available for analysis. It is based on the Consumer Confidence Survey (CCS) conducted by the State Bank of Pakistan and the Institute of Business Administration (IBA). The survey is run during first week of every odd month since Jan 2012. The survey methodology is broadly based on the University of Michigan's Index of Consumer Sentiments (ICS) in which the data collection is done by telephone. To this date no research has been published about its effectiveness in providing a reliable estimate of consumer sentiments and its contribution as a predictive indicator. This study endeavors to fill this gap and present an analysis of the new index in the manner of the analytical themes in existing literature on the more established indices. Key questions that arise are:

1. How do the variables structurally reflect latent factors underlying the composite indicator? Does scale construction of the composite measure conform to the results of factor analysis, and how do the results compare with that of similar measures around the world? Does

validity and reliability of the Pakistani Index produce measures comparable to other similar index surveys?

2. How does the new Index and its associated survey instrument compare with the contemporary indices from around the world in terms of question wording, sampling methodology and data collection strategy?
3. What can be said about index performance over the years that it has been used?

Similar to the Michigan index (ICS), the CCS is made up of an expected economic conditions index (EEC) – which measures expectations of economic conditions in the next six months – and a current economic conditions index (CEC) that measures current economic conditions compared to the last six months. The sampling frame is composed of all households of Pakistan with a PTCL fixed line telephone connection. Using stratified random sampling, the CCS is conducted by telephone bimonthly with more than 1,600 households across Pakistan. The overall sample is divided into two parts, a rotating panel and a fresh sample. In the rotating panel about 33 % of households are re-interviewed after a period of six months from the first interview. The remaining 67 % sample is fresh. The rotating panel is used to provide information upon how expectations of sample participants change 6 months after their first interview. The questionnaire is made up of a total of 44 questions, six of them are used to prepare the current economic condition index (CEC) and the expected economic conditions index (EEC). The combination of these indices is the overall index of consumer sentiments. There are 25 classification questions which are used to categorize and classify the respondents. Nineteen of these variables, shown in Table 1.1, are used in this study. They were selected because of their relevance in evaluating confidence about some important aspect of the economy. The remaining

classification questions are not shown in Table 1.1. They will be used in future studies to decipher demographic, geographic and income level differences in responses.

Table 1.1. Survey Questions with Labels

Question label	Questions
a1	HH current financial position compared to last six months
a2	HH financial position in next six months compared to today's
a3	Current general economic conditions compared to last six months
a4	General Economic conditions over next six months compared to today
a5	Prices of daily use items in next six months
a7	Current Food prices compared to last six months
a8	Food prices in next six months compared to today
a9	Current energy prices compared to last six months
a10	Energy prices in next six months compared to today
a11	Current Non-Food and non-energy prices compared to last six months
a12	Non-food and non-energy prices in next six months compared to today
a13	HH income in the next year compared to previous year
a14	Current time to purchase durable household items compared to previous six months
a15	Next six months for purchasing durable household items
a16	Next six months for purchasing automobile (car/motorcycle)
a17	Current times for purchase or construction of new house
a18	Satisfaction with government's current economic steps
a19	Unemployment in the next six months compared to today
a20	Interest rates in the next six months compared to today

The CCI is an aggregate of the Current Economic Condition Index (comprising a1, a3 and a14) and the Expected Economic Conditions Index (comprising a2, a4 and a19). While broadly based on the Michigan Index, the Pakistani Index is neither a perfect replica of that nor of the Conference Board Index. All three are composite indicators which are designed to measure the same construct, but have different question sets and consequently sometimes give conflicting signals. The question obviously arises as to whether each of these surveys, using different sets of indicators, measure the same "Consumer Confidence" construct. By probing the new Pakistani Index we can attempt to cast light on this question.

CHAPTER 2

METHODOLOGY

Our primary objective is to determine how the Pakistani Index compare with its contemporary indices in terms of overall content, and how far it reflects underlying constructs. This objective is broken down below in terms of specific goals for this study; also briefly discussed are the methodologies through which each of the goals will be achieved in this study:

1. The most important goal that this study will attempt to achieve is to reveal whether the index constructed using the Michigan Index methodology is consistent with the underlying structure of the survey responses. More specifically, how do the variables structurally reflect latent factors underlying the indicator? Does scale construction of the composite measure conform to the results of factor analysis? This goal can be further broken down into multiple themes;
    a. Can we, with the chosen set of questions, capture the concept of consumer confidence?
    b. Is the underlying structure consistent in each period of analysis or does each period project different latent factors?
    c. Does validity and reliability tests of the Pakistani Index produce measures comparable to other similar index surveys?

    To answer these questions, we intent to follow the methodology used by Białowolski (2014) and Kim et.al. (2011) and use confirmatory factor analytical approach. While a full analysis on data gathered in all 49 data collection waves will be completed as part of this study, to illustrate the methodology, a pilot study was conducted applying exploratory factor analysis on the main 19 items that constitute the composite measure. The pilot study was conducted

on responses collected during the 15th wave of data collection (see Appendix A), to illustrate the kind of analysis intended for this report. The key findings of the study are given below:

a) The results of the exploratory factor analysis revealed four latent factors onto which all items loaded. The four factors can be defined as: "prices of daily household consumption items", "purchase of durable items", "household financial conditions", and "general economic conditions".

b) Contrary to expectations, the resultant factors corresponded more to the nature of items than to the current or future dimensions. The first factor encompassed all questions related to prices of regular household goods that daily affect a household, regardless of whether they referred to current or expected prices. All seven question that loaded onto this factor scored consistently low average scores (ranging from 2.09 to 2.18) with relative cohesion in responses (indicated by relatively low standard deviations). This indicates that respondents considered the prices of daily household consumption items to be higher and they expected them to be higher in the future too.

c) The second factor included purchases of durable items, both in current or future terms. The items in this factor (a14 – a17) received comparatively high average scores (albeit with less uniformity reflected in higher standard deviations), which indicates that Pakistani consumers view the prices of durable goods more favorably than prices of regular daily household items, both in the near and long term.

d) The third and fourth factors reflect two distinct paradigms; personal household financial conditions and general overall economic conditions. These two factors are more in tune with the construct of the survey as adopted from the Michigan Index. The survey, besides

categorizing components on current and expected paradigms, also distinguish between "household" and "general economic" distinctions. The mean scores of either of the two last factors are higher than the first two, indicating comparatively positive opinions for household and overall general economic conditions. This of course can only be interpreted in relative terms, as according to the adapted scale, anything below a score of 3.0 indicated "bad", "very bad" or "neither good nor bad".

These findings are remarkable as they indicate that survey data only partially corresponds with the survey structure envisaged before its launch. The survey questionnaire was clearly designed around "current" and "expected" paradigms. These structure of the CCS is not reflected in the factor analysis findings as items appear to converge under the nature of question groups instead of "current" or "expected" classifications.

This generates several structure related implications about the survey;

a) Are survey participants able to differentiate between the temporal aspects of the different questions?
b) Does this reflect an error in the survey language or a difference in the underlying construct?
c) Is the Pakistani survey behaving differently from its predecessors in terms of structure and design or is it consistent with other indices?
d) This pilot study was conducted on only the 15th wave of the survey, will these findings remain consistent over the remaining waves?

This study will attempt to repeat this pilot study over the entire dataset, all 49 waves, and see if the findings of the pilot study hold true. In the event that the remaining waves hold true

to the findings of the pilot study and the underlying structure of the designed survey instrument does not correspond with the data, this study will recommend a composite index based on the latent factor structure extracted from the survey data.

2. Another important objective of the survey is to compare the survey instrument with the contemporary indices from around the world in terms of question wording, sampling methodology, contact method, and geographical coverage. Since most of the contemporary indicators have been in place for several decades, a comparison with this nascent indicator will have several limitations. Nevertheless, a preliminary analysis will be attempted in order to determine any similarities with existing indices. Also, this analysis may be used as a guide for any future similar studies. The questions to probe are:
    a) In terms of question wording, how does the new Index and its associated survey instrument compare with the contemporary indices from around the world? For instance, the CCS is based on the Michigan Index (as it was in 2012) in terms of the content as well as sampling methodology, however there are significant differences in terms of question wording, nature of products quoted (e.g. the types of daily consumption goods mentioned in the questions as example), question content etc. This study will attempt to uncover similarities as well as differences.
    b) How is Pakistani index computed and does that computation formula compare with other indices?
    c) How does the sampling methodology differ from the other indices? The Pakistani Index uses stratified sampling (similar to the Michigan index), but is still dependent on a sampling frame based on landlines. Responding to changes in phone usage patterns in the

US, in 2015 the Michigan Index switched to a sampling frame based on cell phones only. We propose to present a comparative analysis of the sampling methods used by the Michigan Index and explore the strengths and limitations of using landline and cell-phone based sampling frame in the context of geographical, cultural, social, technological and demographical differences between the US and Pakistan.

3. In terms of index performance over the eight year period, the study will provide an overview of the Pakistani confidence index. As the Pakistani Index is in its very nascent stage and the length of time that the Pakistani CCS has been in use is considerably less compared to the Michigan Index, much of the discussion here would be a summarization of the composite index and its main components within the backdrop of some key events in the country. The purpose here would be to present preliminary findings, leaving the more rigorous analysis for a point in time when we do have enough data.

CHAPTER 3

REVIEW OF LITERATURE

The economist A.C. Pigou (1927) describes one "initiating impulse" of business cycles as "psychological causes". John Maynard Keynes (1964) describes them as "animal spirits," that cause "sudden and violent changes", in the economy based on the expectations about the future aggregate demand. George Katona (1975) envisaged the Michigan Index of Consumer Sentiments survey as a survey that measures "those factors which are capable of giving rise to independent variation in the rate of consumer spending and saving, namely, changes in people's perceptions, attitudes, motivations, and expectations". Katona's approach heralded a new era where consumption was viewed from a more psychological standpoint. In this approach consumer expenditures are a function of the consumers' ability to consume as well as willingness to consume. Willingness is essentially a psychological concept that can't be explained entirely by reactions to economic indicators. For instance, sentiments may drop even in the era of unchanged interest rates and income levels, because consumers are wary of uncertainty caused by unforeseen global events. According to this view, sentiments could cause a fluctuation in consumption independent of and unforeseen by economic measures. In this regard, willingness to consume is negatively related to uncertainty (Acemoglu and Scott 1994). Increased uncertainty negatively affects marginal propensity to consume and therefore the "usefulness of the sentiments index comes from its capacity to measure consumers' assessment of uncertainty" (Desroches and Gosselin, 2004)

Most academic studies researching consumer confidence have focused on the analyzing the predictive ability of the measure to forecast economic activity. This a natural outcome based on

the widespread belief that consumer attitudes and opinions influence economic growth and activity. The largest amount of research has focused primarily on the Michigan Index (largely because it is the oldest consumer confidence index in the world), but more studies are now testing the predictive powers of other indices with relatively large time series available, such as the Conference Board Index.

3.1 Studies on Consumer Confidence and the Economy

The concept of consumer sentiments or confidence is both a statistical one as well as economic. The statistical side is relatively clear as the index is calculated based on a set of questions to a survey while the theoretical construct rooted in economics is a bit ambiguous. It may still be easier to define as a concept but its role as a measure that indicates some changes in major economic measures, such as consumer spending, is still quite vague. Based primarily on fluctuations in income, wealth and interest rates, standard models of consumer spending have little room for consumer confidence as an independent measure. Although academic researchers have been cautious about determining a precise role for confidence in forecasting spending fluctuations, journalists are more readily accepting of the measure's ability to not just forecast it but play a causal role in the variations.

Fuhrer (1993) presents a contrast between the description of confidence in news articles and in academic literature, concluding in part that academic studies are a bit underwhelmed by the potential predictive capacity of the index because the information in the index overlaps the information in government statistics on employment and economic conditions and therefore offers little additional value. The theory that confidence independently causes fluctuations in spending is mostly advocated in newspaper articles instead of academic studies. This theory

discounts the role of traditional determinants of consumer spending such as income, wealth and interest rates, and presents consumer confidence as the sole determinant of spending decisions. Much of the academic literature presents little evidence for the efficacy of this theory and instead proposes that in consumer confidence reflects the same economic variables that determine changes in consumer spending and offers only marginal information on its own. Another theory suggests that sentiments reliably forecast fluctuations in major economic variables such as unemployment rates and inflation. Though most measures of consumer sentiments have impressive correlation between themselves and economic indicators like inflation and unemployment, the track record of forecasting specifics on these indicators have been far less impressive.

An additional theory suggests that sentiments indexes reflect the current economic conditions, measured through other economic variables. Fuhrer (1993) found that a significant portion of the movements in the consumer sentiment index can be explained by the well documented economic measures such as GDP growth, inflation, unemployment, and interest rates. This gives credence to the theory that sentiments indicator is in fact a more passive indicator that reflects economic realities observable through other measures, but contains little independent information.

Another, more cogent theory that provides a reasonable view of the efficacy of the sentiments index is that it reflects current, respondent-specific economic conditions. This view takes into account the fact that the respondents reflect on their feelings about the economy before the largely disseminated economic measures such as inflation, unemployment and quarterly GDP, are made public. In essence, the respondent may not know the current numbers on

unemployment or the growth in GDP, but they are aware of the changes taking place in their own neighborhood. This theory, which is tested in the largest numbers of studies in academic literature, tests the hypothesis that sentiment or confidence indexes provide important additional information about the current state of the economy that cannot be found in other market indicators (Fuhrer, 1993). The remaining part of this sub-section covers the findings of different researchers when testing these theories.

One of the first few authors on the topic, Roper (1985) provides an overview of the different types of questions in the survey and tests different types of confidence questions to see which could be classified as predictive or reflective. The author compares the question series against the US Commerce Department trend charts of leading indicators, coincident indicators and lagging indicators. The questions that track with the leading indicators would be classified as predictive, whereas the question that tracked with coincident or lagging indicators would provide evidence of being reflective measures. The author finds that the good time to buy measures provide strong evidence in predicting the consumer portion of the economy but not necessarily the entire economy. The interpretation suggests that consumer attitudes indicators accurately show how consumers appear to be feeling at a point in time. However, Roper cautions, the attitudes surveys are not conducted in a vacuum. The consumers are being affected by coincident economic measures available at the point in time and therefore would extend or curtail their eagerness to purchase accordingly.

Carrol, Fuhrer and Wilcox (1994) explore the relationship between consumer sentiments (using the Michigan Index) and spending. They observe that the positive contemporaneous correlation between the two is not surprising because improving economic prospects would

cause people to give positive responses to questions in the survey. So, essentially, the economic indicators that affect spending also affect confidence measures and therefore a contemporaneous correlation between confidence and spending growth is a plausible outcome. The first question that they explore is whether consumer sentiments has predictive power to forecast future growth in spending, and the second one is whether it provides any additional information about future growth in spending aside from the information that is provided by other economic and financial indicators. Using the lagged values of the ICS, the authors find that on its own, the ICS explains 14 percent of the variation in growth in personal consumption expenditure. The answer to the second question is a little unclear. Including lagged values of other economic indicators and ICS to forecast growth in spending, the authors find that ICS incrementally contributes around 3 percent to the R squared value. The relationship is less clear when it was tested on a different sample period. This led the authors to a cautious conclusion that ICS has some incremental predictive power but the evidence is inconsistent, and the extent of the influence is not very impressive.

On a similar vein, Bram and Ludvigson (1998) attempt to uncover if the two well-known confidence indices (CCI and CSI) provide any additional meaningful insights about future spending, beyond what can be already gauged from existing economic indicators. The study also provides a structural comparison between CCI with CSI and evaluates if one is more informative than the other. The study finds that because of the nature of the question included in the present conditions component of the Conference Board index, it closely tracks the US unemployment rate. Michigan Index, on the other hand, is less tightly knit to labor market conditions and appears to reflect changes that are more tied to household financial conditions. The cyclical

behavior of the two indexes also reflect their underlying questions; the Michigan Index appears to peak in the early stage of economic recovery while the Conference Board Index peaks in late stages.

The authors find that sentiment indices have some degree of forecasting power, however CSI exhibits weaker forecasting ability compared to the CCI. CCI exhibits greater forecasting power in total personal consumption expenditure, motor vehicles expenditure, services, and durables excluding motor vehicles. The results are statistically significant even when economic indicators such as income, interest rates and stock prices are known. The Michigan Index, however, displayed weaker predictive ability for most consumer spending groups. Even when both indexes are included in the equation, the Conference Board variables remain statistically significant.

Kilic and Cankaya (2016) appear to echo these findings. They also found that Conference Board's CCI has some explanatory power on some economic activity. However, this power is limited to variables like manufacturing, housing market, durable and nondurable goods and services goods. For personal consumption expenditures, CCI showed significant results for services instead of durable and nondurable items.

Cotsomitis and Kwan (2005) examine the ability of consumer confidence to forecast consumer spending across different countries. Using the Consumer Confidence Indicator developed by the European Commission, the authors adopt a similar method employed by Carroll, Fuhrer and Wilcox (1994), Bram and Ludvigson (1998) and Ludvigson (2004) to gauge the efficacy of the indictor to predict spending. The authors find that the empirical results indicate variability across the various countries included. They conclude that confidence indices

provide limited forecasting ability to predict spending and at best appear to trail the movement of other major economic variables.

Although the efficacy of sentiments on consumption or other economic indicators thus far appears mixed, the impact of sentiments in periods of high volatility appears to have greater degree of support from several studies. Desroches and Gosselin (2004) find that consumer sentiment is a statistically significant determinant of personal consumption during high uncertainty periods. Garner (1991) also provides an explanation of why different studies have posted different conclusions. Some, who have studied time periods where confidence has had frequent large variations, have been more likely to find predictive value for the confidence measure. The reason could be that confidence index are more useful in periods of large variation and not when the changes are small (Hyman, 1970). Garner tested the consumption equation, with and without confidence measures, in different time periods of large and unanticipated changes in confidence. The author found that consumer confidence indexes is not very useful when the volatility in confidence is caused by economic factors. In such cases economic variables that capture the economic issues are better able to predict consumption. However, confidence indexes are more useful in predicting consumption when the nature of the abrupt changes is unanticipated and non-economic, such as wars or natural disasters. As stand-alone indicators of durable goods spending, confidence indicators have little complementary value.

Howrey (2001) tested the Michigan index for ability to forecast a recession. They found Michigan ICS to be statistically significant predictor of the future rate of growth of real GDP. The author reported that although the index produced only a minor reduction in standard error in forecasting real GDP a quarter ahead, its impact was more discernable in accurately forecasting

the probability of a recession. The author conclude that ICS's monthly values either alone, or in conjunction with other economic indicators are good predictors for the probability of a recession.

Leeper (1992) explores the relationship between sudden changes in the sentiments index and the established economic measures to investigate if the sentiments do indeed contain some independent information. The author argues that when swings in sentiments related to recent economic performance, as revealed in low interest rates and higher employments, the impact was minimal. However, there are some changes in attitudes that are not predictable from past economic information. Giving the example of falling sentiment in the beginning of the Persian Gulf conflict as a sudden change in response to noneconomic events, the author explores the ability of the index to provide new and independent information that changes the behavior of consumers and subsequently changes economy. Bypassing the typically researched relationship between attitudes and individuals' consumption behavior, the author focuses on how well attitudes forecast industrial production and unemployment. The author found minimal correlation between unanticipated changes in consumer attitudes and large subsequent movements in industrial production and unemployment, once information in real (inflation-adjusted) stock prices and short-term nominal interest rates is factored into account. Therefore, they report that empirical evidence for consumer sentiments as having important independent influence is quite sparse.

3.2 Studies on Politics and Consumer Sentiments

The concept of consumer confidence has become a critical element in the task of predicting the future of the economy. Although most of the academic literature evaluates consumer attitude from economic standpoint, the relevance of this indicator is not restricted to the economy.

Intuition as well as evidence advocate that politics would play some sort of a role in determining consumer sentiments about economic future. Logically, if people have confidence in the ability of the political leaders, they would have confidence in their abilities to handle the economy, and consequently would be optimistic about the state of the economy in the future. On the other hand, if they have less confidence in the ability of the political leaders, they would also have less confidence in their ability to manage the economy, and therefore would be pessimistic about the future. Much of the optimism and pessimism would be a function of the consumers' partisan political leanings; consumers who have supported or voted for a candidate would likely be more optimistic about his/her capacity to manage the economy, while those on the other end of the political divide would be less optimistic.

Overall, political sentiment weave into economic sentiments, leading researchers to conclude that the conduct of politics plays an important role in determining economic sentiment (De Boef & Kellstedt, 2004). Moreover, specific political events such as elections have a heightened impact on consumer sentiments. Suzuki (1992) observed that consumer sentiments spike during elections. The role of politics is not only limited to being a function of sentiments. Rising consumer sentiments may be taken as a sign of approval for the performance of political leaders. Studies are also frequently providing evidence that confidence also influences the performance evaluations of politicians and confidence in government (MacKuen, and Stimson 2002; Keele and Kelly 2006). Which indicates that relationship between politics and economic sentiments is also true when the direction of causality is reversed, making the two concepts inherently endogenous. This of course raises the question, to what extent can political players engineer a positive evaluation by making dramatically optimistic pronouncements about the state of the

economy and whether that "fool" consumers into giving positive expectations about the future. Also, what impact does news coverage of the economy have on how consumers view a political leader's ability to manage economy? De Boef & Kellstedt (2004) find that after controlling for economic conditions, media coverage impacts citizens' perception of the president's capacity to manage the economy. However, they also find that citizens can be quite discerning about the sources of information in the long run. They provide more credence to independent, non-political sources in providing economic information. Presidential rhetoric on economic performance in the absence of strong economic indicators can affect economic sentiments in the short run. In the long run, however, media coverage from non-political sources drives their evaluations of expectations.

3.3 Studies on Reliability and Validity of Consumer Confidence Surveys

The importance of the construct of consumer confidence is based upon its publicized ability to inform us about the human side of consumption. Katona (1975), conceived the concept in terms of the human element in consumption and savings decisions or what has popularly been identified as the "willingness to consume" aspect of a potential transaction. Given the amount of interest among researchers to find evidence of its influence on key economic measure, it is surprising to find that the number of studies that measure the reliability and validity of the common measures of the consumer confidence are conspicuously limited. Most of the academic literature reviewed for this study base their finding on the assumption that consumer sentiments are measured following a reliable and valid methodology. However, few researchers have conducted any structural analysis on these measures. Therefore, for all the time that consumer confidence indexes have been used, few have attempted to inquire if the items included in the

questionnaires do actually capture the concept of confidence and if they do, is the composite measure a formative or reflective concept. Białowolski (2014) warns that ignoring such crucial questions is problematic because a concept that is inherently multi-dimensional may be misinterpreted as unidimensional and vice versa. Also, it is important to evaluate if the concept has remained the same through the various data collection cycles. If the concept has evolved over the different periods, then the concept that was being measured in the beginning of a survey's life may not be the one measured in later periods.

The fact that the concept of consumer confidence is a complex concept and needs to be operationally defined, indicates that it relies on some theoretical framework made up of other concepts in our frame of reference. Białowolski (2014) argues that aside from being used as forecasting tools for economic variables such as consumer spending and GDP, the selection of questions in the composite measure have been rarely analyzed. Kellstedt et al. (2015) argue that the construct of consumer confidence should provide independent value; it should provide information that is independent of economic conditions and predictive of consumer behavior in the marketplace. Vuchelen (2004) warns that although consumer confidence has been tested for predictive abilities over the years, the concept itself is not well understood.

Kellstedt et al. (2015) conduct a validity analysis on the Index of consumer sentiments. The researchers first conduct an internal consistency reliability test that measures the strength of relationship between the index and its components. In addition, using the data from Michigan's index of consumer sentiments and Conference Board's consumer confidence index, they conduct parallel form reliability test. They show that the ICS and its components do appear to reveal internal consistency which means that it captures the same things in the same way over a period

of time. However their results also show substantial volatility in the relationship between the ICS and CCI. The two measures appear to be measuring distinct concepts. This is surprising, because the two indicators are the longest running consumer confidence measures that have spawned numerous other such indicators around the world. One would expect that the two measures would have greater consistency between them. Even if there were no differences in their approach, methodology, survey question, the placid assumption that they are measuring the same concept (willingness to consume) is a problem. The formal dictionary definitions provide little guidance in terms of measuring the concept which leaves theorists relying on their own perceptions to operationalize the concept.

Pickering et al. (1973) raises the issue of whether the concept should be treated as a reflective or formative measure and objects to the way composite measures are currently created, stating that summating the responses as a single composite number fails to retain the important differences as well as interrelationships between the variables. Białowolski (2014) suggests that confidence measures essentially reflect future economic situations, therefore it is a safe assumption to treat them as reflective measures. The author conducted a detailed confirmatory factor analysis of Poland's consumer and industrial tendency survey and found that the measures are not unidimensional and should not be treated as such. They also found that the consumer survey lacks construct validity and consistency.

With the aforementioned studies providing a background and our goals for this study in the context, we shall attempt to analyze the Pakistani Consumer Confidence Index survey in the following pages.

CHAPTER 4

RESULTS AND ANALYSIS

4.1 Structural Analysis of the Pakistani Consumer Confidence Survey

The first goal of this study is to reveal whether the index constructed using the Michigan Index methodology is consistent with the underlying structure of the survey responses. More specifically, how do the variables structurally reflect latent factors underlying the indicator?

The purpose of the Pakistani consumer confidence survey is to measure the construct, "consumer confidence". This structure of the composite index was not empirically determined. Instead, it was assumed that the existing surveys (namely the Michigan Index) had enough construct validity and therefore, the items selection for the index was based on what the Michigan index included in its composition. The first task of this study was to determine which items would theoretically and structurally reflect consumer confidence. The preceding literature review and the discussion in section 4.2 of this manuscript provides an overview of the concept as well as other similar indexes around the world. Based on this overview the concept of consumer confidence is operationally defined in similar fashions in all similar indexes. Which means that the questions included most commonly in such composite indicators are similar to the ones used in the Pakistani survey. However, is this enough to determine that this indeed are the theoretical underpinnings for the construct? We decided to test this first by running exploratory factor analysis (EFA) using the six index questions; a1, a2, a3, a4, a14 and a19. The extraction was based on Principles Axis Factoring method and we limited it to pull exactly two factors. Contrary to the expectations based on the structure of the Pakistani index, the items loaded on factors based on their content rather than any time dimensionality. In other words the factors

were distinct based on the content of the questions rather than their placement in the current or expected component indexes. These results were tested repeatedly on several waves and they produced similar results. Intrigued by these results and also by the results of the earlier pilot test on the 15th wave, we decided to include all the 19 questions in the EFA and develop theoretical construct of consumer confidence based on empirical findings instead of precedence. This was especially necessitated because the construct validity of Michigan and other indexes have rarely been tested. We decided to begin the next phase of this study by exploring the dimensions in the data itself. In other words, we began with theory development.

The survey questionnaire is made up of a total of 44 questions, of which 25 are classification questions which are used to categorize and classify the respondents. Six of the remaining 19 variables are used to prepare the consumer confidence index. The remaining 13 questions which are also adapted from Michigan and other similar surveys, encompass a broad range of elements that are used to represent consumer confidence.

The purpose of this section is to explore the 19 items and uncover any underlying patterns via a factor analytic procedure (all procedures utilized SPSS). The goal is to be able to evaluate if the items used in the CCI are the best items to measure the construct. Also, whether the items used within the index followed the factor structure presented by the data. The analysis presented in this section examines the extent to which the composite index relates to the items that are included in it. Babbie (2007) suggests that items that are poorly related to the construct do not contribute much to the power of the index and therefore may be excluded. Therefore, at the end of this analysis we propose some changes in the index composition as well as the survey questionnaire.

In order to validate the items included in the index and ensure that the composite index represents what it is slated to represent, item level responses were scrutinized for underlying patterns via exploratory factor analysis. Items that strongly loaded onto a factor, as well as textually aligned with the factor, were retained, whereas items that depicted poor loading and appeared divergent from the factor content were removed in the final consideration.

As a first step, exploratory factor analysis with orthogonal rotation was conducted on all 19 items for all 49 waves of data collection that have so far been completed (the data from the third wave was unavailable and therefore excluded from the analysis). Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity were employed to determine the appropriateness of the EFA. The value of 0.60 for KMO is considered an acceptable threshold for determining adequacy. EFAs for all 49 waves resulted in KMO measure of above 0.70, higher than the required value. Similarly, the chi-square values for the Bartlett test were consistently significant at $p<0.01$ level.

The results of all EFAs on the 49 waves were compiled together and consistent factors resulting from the analysis were analyzed. At the outset it is important to identify the items that converge together in terms of the concept that they address. The concepts identified in this step indicate the broad classification clusters or the primary topics to which each group of items appear to be corresponding. Table 4.1 presents the questionnaire items aligned with the classification clusters to which they belong. These clusters are used later to define the primary factors that emanate as a result of the EFA.

Table 4.1. Survey Items under Broad Classification Clusters

					Prices					
	Current	Future	Financial Position	General Economic Conditions	Food and Daily Use Items	Energy	Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Unemployment and Interest Rates
a1. HH current financial position compared to last six months (a1_HHFinPosCur)	x		x							
a2. HH financial position in next six months compared to today's (a2_HHFinPosFut)		x	x							
a3. Current general economic conditions compared to last six months (a3_GenEcoCur)	x			x						
a4. General economic conditions over next six months compared to today (a4_GenEcoFut)		x		x						
a5. Prices of daily use items in next six months (a5_PrDlyItmFut)		x			x					
a7. Current food prices compared to last six months (a7_PrFoodCur)	x				x					
a8. Food prices in next six months compared to today (a8_PrFoodFut)		x			x					
a9. Current energy prices compared to last six months (a9_PrEnrgyCur)	x					x				
a10. Energy prices in next six months compared to today (a10_PrEnrgyFut)		x				x				
a11. Current Non-Food and non-energy prices compared to last six months (a11_PrOthrCur)	x						x			
a12. Non-food and non-energy prices in next six months compared to today (a12_PrOthrFut)		x					x			

Table 4.1. Continued

					Prices					
	Current	Future	Financial Position	General Economic Conditions	Food and Daily Use Items	Energy	Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Unemployment and Interest Rates
a13. HH income in the next year compared to previous year (a13_HHIncmFut)		x						x		
a14. Current time to purchase durable household items compared to previous six months (a14_PrchsDurCur)	x								x	
a15. Next six months for purchasing durable household items (a15_PrchsDurFut)		x							x	
a16. Next six months for purchasing automobile (car/motorcycle) (a16_PrchsAutoFut)		x							x	
a17. Current times for purchase or construction of new house (a17_PrchsHseCur)	x								x	
a18. Satisfaction with government's current economic steps (a18_GovtSatisCur)	x									x
a19. Unemployment in the next six months compared to today (a19_UnemplyFut)		x								x
a20. Interest rates in the next six months compared to today (a20_IntRateFut)		x								x

Table 4.1 presents the 19 major survey questions under broad content classification clusters. The clusters group questions based on the themes in order to summarize the content. Questions a1 and a2 can be classified under “Financial Position” cluster, a3 and a4 under “General Economic Conditions”. a5, a7 and a8 under “Food and Daily use Items Prices”, a9 and a10 under “Energy Prices”, a11 and a12 under “Other Non-food and Non-Energy Prices”, a13 under “Household Income”, a14, a15, a16, a17 under “ Time to Purchase Durable Items”, and a18, a19 a20 under the “Government Satisfaction, Unemployment and Interest Rates” cluster. In addition to the thematic classifications, the questions can also be classified based on the “current” or “future” dimensions. Out of the 19 questions, eight (a1, a3, a7, a9, a11, a14, a17, a18) are focused on current conditions while the remaining eleven (a2, a4, a5, a8, a10, a12, a13, a15, a16, a19, a20) are oriented towards the future.

In the next table (Table 4.2) the factors resulting out of the exploratory factor analysis of each of the 49 waves are classified under each of the cluster identified in the preceding table. The first column in the table identifies the waves, the second column indicates whether any of the factors captures the current and future dimensionality, the third column indicates the number of factors identified in the survey wave. The remaining columns are identical to the clusters of the previous table. The waves are also color coded to identify the factors; the numbers inside the cells indicate the survey question numbers.

Table 4.2. Results of Exploratory Factor Analysis of each Individual Wave Classified under Common Factors

Waves	Month/Year		No. of Factors	Financial Position	General Economic Conditions / Govt. Satis.	Prices: Food and Daily Use Items	Prices: Energy	Prices: Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Govt. Satis. Unempl. and Int. Rates
Wave 1	Jan-12	Current/Future	6	a1	a3, a18	a5, a9, a11				a14, a15, a16	
		Future		a2, a4		a8, a10, a12					
Wave 2	Mar-12	Current	5	a1, a3		a5, a7, a8	a10, a11, a12			a17	a18, a19, a20
		Current/Future		a1, a2					a13	a4, a14, a15, a16	
Wave 3											
Wave 4	Jul-12	Current	4	a1, a2		a7, a8, a10, a11, a12				a14, a15	
		Future			a4, a5						
Wave 5	Sep-12	Current	6	a1, a2	a3, a4, a18		a9	a11, a12		a14, a15, a16, a17	
		Future				a5, a8					
Wave 6	Nov-12		5	a1, a2	a3, a4, a18	a7	a5, a8, a9, a10, a11, a12		a13	a14, a15, a16	a19
Wave 7	Jan-13		6	a1, a2	a3, a4	a7, a8, a9, a10		a11, a12		a14, a15, a16, a17	a19, a20
Wave 8	Mar-13	Current	6	a1, a2	a3, a4	a7				a14, a15, a16, a17	a19
		Current/Future				a8, a10, a11, a12					
Wave 9	May-13	Current	5	a1, a2	a3, a4, a18	a7, a9, a11				a14, a15, a16, a17	
		Future				a4, a5, a8, a10, a12					
Wave 10	Jul-13	Current/Future	4	a1, a2, a3, a4		a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	
		Future				a5, a8, a10					a18, a19
Wave 11	Sep-13	Current	5	a1, a2	a3, a4, a18	a7, a9				a14, a15, a16, a17	
		Current/Future				a8, a10, a11, a12					
Wave 12	Nov-13		5	a1, a2, a3, a4, a18		a5, a7, a8, a9	a10, a11, a12			a14, a15, a16, a17	a19, a20

Table 4.2. Continued

Waves	Month/Year		No. of Factors	Financial Position	General Economic Conditions / Govt. Satis.	Prices: Food and Daily Use Items	Prices: Energy	Prices: Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Govt. Satis. Unempl. and Int. Rates
Wave 13	Jan-14		5	a1, a2, a3, a4		a5, a7, a8	a9, a10, a11, a12			a14, a15, a16, a17	a20
Wave 14	Mar-14		5	a1, a2	a3, a4	a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a18, a19
Wave 15	May-14		4	a1, a2, a3, a4	a3, a4, a18, a19	a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	
Wave 16	Jul-14	Current	5	a1, a2, a3, a4		a7, a9				a14, a15, a16, a17	a18, a19
		Current/Future				a8, a10, a11, a12					
Wave 17	Sep-14	Current	5	a1, a2	a3, a4, a18, a19	a7, a9, a11				a14, a15, a16, a17	
		Future				a8, a10, a12					
Wave 18	Nov-14	Current	5	a1, a2, a3, a4, a18		a7, a9, a11			a13	a14, a15, a16, a17	
		Future				a5, a8, a10, a12					
Wave 19	Jan-15		4	a1, a2, a3, a4		a5, a7, a8, a9, a10	a9, a10	a11, a12		a14, a15, a16, a17	
Wave 20	Mar-15		4	a1, a2	a3, a4	a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a20
Wave 21	May-15	Current	5	a1, a2, a3, a4, a18		a7, a9, a11				a14, a15, a16, a17	a19
		Future				a8, a10, a12					
Wave 22	Jul-15		4	a1, a2	a3, a4, a18	a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	
Wave 23	Sep-15		4	a1, a2, a3, a4, a18		a5, a7, a8	a9, a10, a11, a12			a14, a15, a16, a17	
Wave 24	Nov-15		4	a1, a2, a3, a4, a18		a5, a7, a8	a8, a9, a10, a11, a12			a14, a15, a16, a17	

Table 4.2. Continued

Waves	Month/Year		No. of Factors	Financial Position	General Economic Conditions / Govt. Satis.	Prices: Food and Daily Use Items	Prices: Energy	Prices: Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Govt. Satis. Unempl. and Int. Rates
Wave 25	Jan-16		4	a1, a2, a3, a4, a18		a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a19, a20
Wave 26	Mar-16		3	a1, a2, a3, a4		a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17, a18	a19, a20
Wave 27	May-16		5	a1, a2, a3, a4, a18		a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a19, a20
Wave 28	Jul-16		5	a1, a2	a3, a4	a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a19, a20
Wave 29	Sep-16		4	a1, a2, a3, a4		a7, a8, a9, a10, a11, a12			a13, a14, a15, a16, a17, a18		
Wave 30	Nov-16		4	a1, a2, a3, a4, a18		a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a19
Wave 31	Jan-17		4	a1, a2, a3, a4, a18		a7, a8, a9, a10, a11, a12				a14, a15, a16, a17, a18	a7, a9, a19, a20
Wave 32	Mar-17		4	a1, a2, a3, a4, a18		a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a5, a19, a20
Wave 33	May-17		4	a1, a2, a3, a4		a7, a8, a9, a10, a11, a12				a14, a15, a16, a17, a18	a19, a20
Wave 34	Jul-17		4	a1, a2, a3, a4, a18		a5, a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a19, a20
Wave 35	Sep-17		4	a1, a2, a3, a4		a7, a8, a9, a10, a11, a12				a14, a15, a16, a17, a18	a19, a20
Wave 36	Nov-17		4	a1, a2, a3, a4		a7, a8, a9, a10, a11, a12				a14, a15, a16, a17, a18	a19, a20

Table 4.2. Continued

Waves	Month/Year		No. of Factors	Financial Position	General Economic Conditions / Govt. Satis.	Prices: Food and Daily Use Items	Prices: Energy	Prices: Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Govt. Satis. Unempl. and Int. Rates
Wave 37	Jan-18	Current/Future	4	a1, a2, a3, a4		a5, a7, a8, a9, a10, a11, a12			a13	a14, a15, a16, a17	a19, a20
		Future								a15, a16	
Wave 38	Mar-18		4	a1, a2, a3, a4		a7, a8, a9, a10, a11, a12				a14, a15, a16, a17	a19, a20
Wave 39	May-18		4	a1, a2	a3, a4	a7, a8, a9, a10, a11, a12				a14, a15, a16, a17, a18	a19
Wave 40	Jul-18	Current	5	a1, a2	a1, a2	a7, a9			a13, a17	a14, a15, a16	
		Future				a5, a8, a10, a12					a19
Wave 41	Sep-18	Current/Future	5	a1, a2, a3, a4		a7, a9, a11				a14, a15, a16	a18, a19
		Future				a5, a8, a10, a12					a19, a20
Wave 42	Nov-18	Current	4	a1, a2, a3, a4		a7, a9, a11				a14, a15, a16, a17	
		Current/Future				a5, a8, a10, a12					a18, a19, a20
Wave 43	Jan-19	Current	4	a1, a3, a4, a18		a7, a9, a11				a14, a15, a16, a17	
		Current/Future				a5, a8, a10, a12					a19, a20
Wave 44	Mar-19	Current	4	a1, a2, a3, a4, a18		a7, a9, a11				a14, a15, a16, a17	
		Future				a5, a8, a10, a12					a19, a20
Wave 45	May-19	Current	4	a1, a2, a3, a4, a18		a7, a9, a11				a14, a15, a16, a17	
		Future				a5, a8, a10, a12					
Wave 46	Jul-19	Current	3	a1, a2, a3, a4, a18		a7, a9, a11				a14, a15, a16, a17	
		Future				a5, a8, a10, a12					a19
Wave 47	Sep-19	Current	4	a1, a2, a3, a4		a7, a9, a11				a14, a15, a16, a17	
		Future				a5, a8, a10, a12					a18, a19, a20

Table 4.2. Continued

Waves	Month/Year		No. of Factors	Financial Position	General Economic Conditions / Govt. Satis.	Prices: Food and Daily Use Items	Prices: Energy	Prices: Other: Non-Food & Energy	HH Income	Time to Purchase Durable Items	Govt. Satis. Unempl. and Int. Rates
Wave 48	Nov-19	Current	4	a1, a2, a3, a4		a7, a9, a11			a13	a14, a16, a17	a18
		Future				a5, a8, a10, a12				a15, a16	a18, a19, a20
Wave 49	Jan-20	Current	4	a1, a2, a3, a4		a7, a9, a11			a13	a14, a15, a16, a17	a18
		Future				a5, a8, a10, a12					a19
All Waves Combined		Current	4	a1, a2, a3, a4		a7, a9, a11				a14, a15, a16, a17	a18
		Future				a5, a8, a10, a12					a19, a20
Split Waves 1-25		Current	4	a1, a2	a3, a4, a18	a7, a9, a11				a14, a15, a16, a17	
		Future				a5, a8, a10, a12					a19

4.1.1 Results of Preliminary Exploratory Factor Analysis on Individual Waves

The 49 waves were analyzed using principal axis factoring with Varimax rotation using the 19 responses. The factors were selected based on the criterion that eigenvalues were greater than 1.0. The items that loaded with factor loadings of greater than 0.40 were accepted as part of the factor. In addition, items were also evaluated based on their meaning to determine their relationship to each factor. Since each wave was evaluated separately in this section, the discussion encompasses the results of all 49 waves (for results of the EFAs, see Appendix B).

The first data collection wave for the Consumer Confidence Index was conducted in January 2012. The results produced six latent factors on which 14 of the 19 questions loaded. The survey somewhat captured the current/future dimensionality as three questions that inquired into prices of food, energy and non-food/non-energy items in the future (a8, a10 and a12) loaded onto one factor. Similarly a2 and a4, both future oriented, loaded onto another factor. The results indicate that respondents treat the "intention to purchase" durable high ticket items questions the same way, regardless of the type of item or the current/future paradigm, as all three questions (a14, a15 and a16) loaded onto a single factor. This is a consistent pattern in nearly all waves, as question a14 through a17 (in some cases a18) converged onto single factors. Questions a3 and a18 loaded onto the same factor, indicating that "*current general economic conditions*" and "*satisfaction with government's current economic steps*" appear to correlate together.

The second wave of data collection was conducted in March 2012 and resulted in five latent factors. This wave was unique in the way the factors grouped relatively diverse concepts. Questions a1, *"current financial position"*, a3, *"current general economic conditions"*, a13, *"future household income"* and a17, "*current time to purchase durable items"* loaded on to one

factor. The time dimensionality aspect was captured relatively clearly in this factor as aside from a13, all the questions were "current" oriented. Question a1 additionally loaded on to another factor along with a2, indicating that respondents distinguish between "financial position" today and that of the future. However, "financial position" also appears as a latent factor that independently influences their responses. Another factor captured questions a4, "*future economic conditions"* and a14, a15, and a16, which are all related to "time for purchasing durable items". This indicates a confluence of perception of future economic conditions and purchasing of big-ticket items both in current paradigm as well as the future. As far as questions related to prices of food, energy and other items is concerned, the current/future distinction was not visible; a5, a7, and a8 – questions related to prices of food and daily use items loaded on to one factor (that also included a18, a19 and a20), whereas a10, a11 and a12 – all related to prices of energy and non-food and non-energy items loaded onto another factor. This result appears frequently in the survey, especially so in the later waves, where price-based questions converge onto one or two factors with no distinction between the current/future paradigm. In the 4th wave the current and future paradigm was near absent as both a1 and a2 loaded onto "*financial position*" factor, a7, a8, a10, a11 and a12 (the prices questions) loaded onto a separate factor and a14 and a15 loaded onto "*time to purchase durable items*" factor. The 5th wave was also unique in the sense that we can see some distinction between current and future paradigms as well differentiation of prices of specific goods (food, energy and other). Questions a5 and a8, based on questions on prices of daily use items and food in the future converged onto one factor, a9, which pertained to 'current energy prices" covered another factor and a11 and a12 (non-food/non-energy prices) converged onto a separate factor. The remaining three factors reflected appropriate themes – *"financial*

position", general economic conditions" and *"time to purchase durable items"* – but not any current/future distinction.

Waves six and seven were similar as neither provided any identification of current/future paradigms. The 6th wave threw together all questions on prices with the exception of a7, *"current food prices compared to last six month"*, whereas the 7th wave threw together food and daily use items together in one factor and other non-food/non-energy prices onto another. Both waves grouped the "time to purchase durable items" questions together in one factor and "government satisfaction, unemployment and inflation" type questions in another. The sixth wave is one of the three waves in the dataset that included a13, "*expected household income in the next year compared to the last one"*, in a factor. Interestingly, none of the other waves included this question in the latent factors, and the three that did, identified it as a single question factor. The 6th wave also included a18 in the *"general economic conditions"* factor. Item a18 reflects "*satisfaction with government's current economic steps*" and loaded with a3, and a4 in several waves onto the "general economic conditions" factor.

Waves 8 through 11 are similar in the sense that there are some distinctions in terms of current/future paradigms at least as far as price questions are concerned. However, no similar differentiation was noticeable in the other factors. In the 8th, 9th and 11th waves the *"financial position"* factor combined a1 and a2, whereas in the 10th wave the a1, a2 along with a3 and a4 loaded on one latent factor signifying that personal "financial position" correlated strongly with "general economic conditions". This is another common pattern emerging from the survey that respondents appear to conjoin the two concepts together in terms of how they answer the questions. In waves 8, 9 and 11, the "*time to purchase"* factor encompassed questions a14

through a17, whereas the 10th wave was the one in all the waves in which this factor did not manifest itself. As far as the price questions were concerned, mixed results were obtained as these waves only marginally distinguished between current/future paradigms. Some differentiation was observed in waves 8, 10 and 11 for prices by commodity type (food, energy and other). From waves 11 onwards, each survey resulted in a "*time to purchase durable items*" factor onto which a14 through a17 loaded. In five of those waves this factor also included a18, implying that satisfaction with government's economic policy was related to time to purchase durable big-ticket items.

The results of waves 12 and 13 were almost identical. The "*financial position*" and *"general economic conditions"* factors converged together into one factor indicating the respondents are not differentiating between the two concepts. Wave 12 also included a18 into the factor indicating the satisfaction with the government is also affected by the same latent factor that impact a1, a2, a3 and a4. Although this wave did not result in a current/future distinction in the price questions, it did result in differentiating food and daily use items from energy and other items. Predictably, the time to purchase factor emerged from question a14 through a17. In addition, unemployment and interest rates question converged to form another factor.

Waves 14 and 15 resulted in similar outcomes as "*financial position*" factor was distinct from "*general economic conditions"* factor, albeit wave 15 "*general economic conditions"* factor also included a18 and a19. In both waves any distinction between current/future paradigms was absent and all price questions loaded onto a single factor without any discrimination between items.

Waves 16 through 18 provided current/future distinctions in the price questions. Wave 16 resulted in one single "*financial position and general economic conditions*" factor and some differentiation between type of items in the price questions. Wave 17 distinguished between financial position and general economic conditions with a1 and a2 loading on one factor and a3, a4, a18 and a19 onto another. The current/future distinction was identifiable however, none of the three items subgroups were distinguishable. Wave 18 was similar to the preceding wave in its current/future distinction, however, a1, a2, a3, a4 and a18 converged together to form the "*financial position and general economic conditions*" factor.

Wave 19 was unique in the sense that each of the three item groups in the price questions were identified by separate factors, however, none of them could be distinguished on current/future dimensionality. Two of the factors, "*financial position and general economic conditions*" and "*time to purchase durable items*", were identical to the ones in wave 16, whereas unemployment and interest rates could not be associated with any factor. Wave 20 on the other hand heralded the kind of results to come in the subsequent waves. The results identified four factors: "*financial position", "general economic conditions*", "*prices of food, daily use, energy and other items*", and "*time to purchase durable items*". None of the factors distinguished between current and future dimensions. Wave 21 on the other hand did provide some distinction between the two dimensions but only for price questions.

The subsequent 15 waves were nearly identical with the exception of a few differences. Only wave 22 and 28 differentiated between "*financial position*" and "*general economic conditions"* factors. All the other remaining waves conjoined together these two factors to form "*financial position and general economic conditions*" factor. Only in waves 23 and 24 the "*prices of daily*

use and food items" is a separate factor from "*prices of energy and other items".* None of the other waves resulted in either current/future dimensionality or item differences. The composition of the factor varied from wave to wave as a5, "*prices of daily use items in the next 6 months"* loaded onto this factor in some waves but not others. The *"time to purchase durable items"* factor was also identified in all the waves, however, the composition of the factor varied with a18, "*satisfaction with government's current economic policy"* loading onto this factor in five of the cases. A18 appeared to be an anomaly as it appeared to move from between *"general economic conditions"* and *"time to purchase durable items"* factors. The "*unemployment and interest rates*" factor was identified in 10 of the remaining waves with some variation in item composition.

Waves 37 through 49 produced another set of very similar results. In all but two waves, items a1 through a4 loaded on the same factor. The distinction between current and future time dimension became clearer in waves 40 through 49 as the items pertaining to current prices loaded onto one factor whereas items pertaining to expected prices loaded onto another. Although the survey responses did not distinguish between types of products (food/daily use, energy and other non-food/non-energy), the separate factors did indicate that respondents see current prices distinctly from expected prices. These waves also continued the trend of loading items a14 through a17 on a single factor. Also, item a13 rarely produced sufficient factor loadings to be relevant.

4.1.2 Discussion on EFA on Individual Waves

Overall, the results of the exploratory factor analysis indicate that out of the 49 waves, 23 resulted in factors that captured any time-based dimensionality in the survey. The survey questions that were intended to capture differences in respondents' opinions based on current and future expectations, are serving the purpose in only about half of the responses, whereas the other half does not capture this dimensionality. In addition, the all-important index items (a1, a2, a3, a4) do not load on current and future factors as expected. Instead, a1and a3 ("*HH current financial position.."* and *"current economic conditions…"),* along with a2 and a4 ("*HH future financial position.."* and *"future economic conditions…")* load onto the same factor in a majority of the cases. The cases where there are any distinctions in these four items in terms of factor loadings are only based on the question type. So a1 and a2 (current and future HH financial positions) load together in all but one responses. a3 and a4 (current and future economic conditions) load together in all but 3 responses. All four items load together in nearly two thirds of the responses. The only cases where current and future dimensionality was captured relatively consistently (waves 1 through 21 and then waves 40 through 49) by separate factors were in the questions pertaining to prices of daily use items, food and energy prices (a5 through a12).

The exploratory factor analysis findings pose questions for the index design. The Pakistani CCI is composed of two components; Current Economic Conditions Component and Expected Economic Conditions Component. Items a1 and a3 belong in the former while a2 and a4 in the latter component. The essential premise behind item placement in these components was that these items would capture the time dimensionality and would be distinct from each other. The results of the exploratory factor analysis contradict this premise as these items all appear to load

on the same factor, indicating that there is only one latent factor behind these items. The effort to separate the current and future dimensions in a model that was forced to load on two factors instead of the eigenvalues based method, worsened factor loadings. The factor plot in Figure 4.1 shows the convergence of the four items in the rotated factor space. The proximity between a1 and a2 as one factor and a3 and a4 as the other, indicates that the only separation between the four items are based on item content rather than the time dimension.

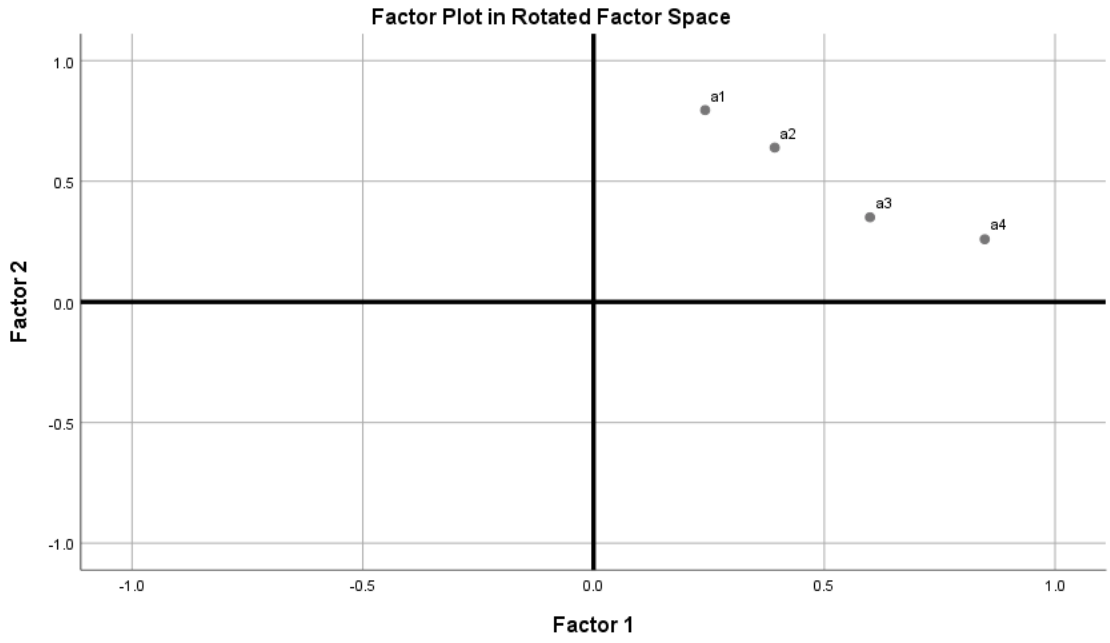

Figure 4.1. Factor Plot in Two-Dimensional Space

It is also interesting to note that the discernable differences in between current and future expectations were evident in the initial waves, but as the waves progressed, the current/future distinction dissipated in the results. Later, after the 38th wave we can see the distinction creeping back into the survey results. In addition, the first few waves resulted in a higher number of factors that produced diverse connections between seemingly unrelated questions. As the survey matured however, the diversity in the responses lessened and more predictable pattern emerged,

that is almost identical in waves 25 through 35. It may be advisable to uncover the cause behind this pattern in the survey as it may reveal additional insights into the interviewing methodology and enumerator training. The following few paragraphs present brief overview of the results of the waves.

The means and standard deviation of items across nearly all waves showed that in every wave, question a13, "*HH income in the next year compared to previous year,* produced the highest mean. In most cases it also produced the highest standard deviation too. Interestingly, a13 produced the lowest factor loadings resulting its removal from the final measurement model. The lowest means were noted in question a9, "c*urrent energy prices compared to last six months",* a7, "c*urrent food prices compared to last six months"* and a5, "*prices of daily use items in the next six months".* These results indicate that Pakistani consumers are consistently optimistic about their household income rising compared to the last six months. On the other hand they are also consistent in expressing concern about rising prices, especially for energy and daily use item prices.

4.1.3 Splitting the Sample

We now approach the data with confirmatory factor analysis in mind. We empirically tested an index for consumer confidence for Pakistan by employing the methodology used by Kim et.al. (2011). The methodology includes a three-step process. First, we split the entire dataset into two subsets. We performed exploratory factor analysis on the first subset to generate a factor structure. This EFA is separate from what we performed earlier on individual waves. The second subset was used for confirmatory factor analysis. It is pertinent to review the basis of the splitting the sample. Our literature review advised us to create subsets based on random selection

(Kim et.al. 2011). However, discussion in the previous passage regarding apparent evolution of factor structure in later waves prompted us to split the data based on the earlier and later waves. Therefore waves 1 through 25 were separated from waves 26 through 49. The first subset was used for constructing the factor structure using the EFA whereas, the second subset was used for CFA. It is pertinent to note here that the apparent evolution in factor structure in Table 4.2 is based upon preliminary results. The factor structures in the table include items with very low communalities and without item deletion and/or attempts to present a robust model. When splitting the dataset, waves were combined despite the variation to look at a holistic model that was extracted from a large dataset. The items included in this stage were included based on relevance, and deleted based on their irrelevance with the factor structure. Despite the size of the combined dataset the factor loadings thresholds were kept at 0.40 in order to arrive at a rigorously tested model.

The data (waves 1 through 25) used for the EFA (n=14,993) produced four factors. Items a1 and a2 loaded onto one factor; "*financial position*" (noted as FinPos). Items a3, a4 and a18 loaded onto one factor "*general economic conditions and govt. satisfaction*" (GenEcoGovtSatis). Items a5, a7, a8, a9, a10, a11, a12, and a19 loaded on *"current and expected prices of food, daily use, energy and other items*" (Prices). Items a14, a15, a16 and a17 loaded on "*time to purchase durable items*" (TimePurchDur). The rotated factor matrix for the EFA is presented in Table 4.3. To select the factors the criterion of eigenvalues greater than 1 was applied. The KMO measure of sampling adequacy was high at 0.892 and the model explained total cumulative variance of 41.46 percent. As expected, item a13 did not load onto any factor. This item consistently produced low communalities in individual wave EFAs and infrequently loaded onto any factor.

The other items which produced communalities less than 0.4 were a19 and a20 (not shown in the table). Item a20 has several problems; it consistently produced low communalities and factor loading during EFA of individual waves as well as the final EFA with all waves combined together. This item loaded on a factor in fewer than half of the waves. Also, in the cases where it did produce sufficient loadings, it only managed to load with a19, which precedes it in the questionnaire. Reviewing the item content reveals that it inquires about the expected interest rates in the next six months and therefore, can be classified as a complex question. This question is likely to produce confusion in the respondents because although most people can understand the impact of government economic policy and inflation in broader terms, specific monetary policy tools like interest rates are not a likely part of an average person's vocabulary. It is likely that a20 and a19 might load together not because of the respondents' comprehension and understanding but because of a20's position in the questionnaire. Conceptually, this is problematic because a19 essentially deals with expected unemployment which is a different construct from interest rates. Item a19 itself is problematic too because even though it is one of the three items on the Expected Economic Conditions Component of the CCI (making it one of the six most important survey questions), it showed very low factor loadings. Repeated testing did not improve the factor loadings or explained variance, which indicated that a19 contribute less to the common factors and more to its unique variance. Therefore, a19 was also eventually placed on a list of removed items.

Table 4.3. Results of the First Exploratory Factor Analysis on Waves 1-25

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months				0.71
a2. HH financial position in next six months compared to today's				0.66
a3. Current general economic conditions compared to last six months			0.60	
a4. General economic conditions over next six months compared to today			0.64	
a5. Prices of daily use items in next six months	0.49			
a7. Current food prices compared to last six months	0.58			
a8. Food prices in next six months compared to today	0.66			
a9. Current energy prices compared to last six months	0.59			
a10. Energy prices in next six months compared to today	0.68			
a11. Current Non-Food and non-energy prices compared to last six months	0.61			
a12. Non-food and non-energy prices in next six months compared to today	0.67			
a13. HH income in the next year compared to previous year				
a14. Current time to purchase durable household items compared to previous six months		0.69		
a15. Next six months for purchasing durable household items		0.68		
a16. Next six months for purchasing automobile (car/motorcycle)		0.66		
a17. Current times for purchase or construction of new house		0.54		
a18. Satisfaction with government's current economic steps			0.41	
a19. Unemployment in the next six months compared to today				
a20. Interest rates in the next six months compared to today				

KMO=0.89 (Chi-square=85,163, $p<0.05$); total variance explained=41.46 percent; n=14,993

In the next iteration of the EFA, item a13 was dropped first to improve the cumulative total variance explained. This did not affect the KMO and the Bartlett Test result at all but improved the total variance explained only marginally. Based on the review of the item wording and position as well as the results of the CFA, item a20 was dropped and a new EFA was run. Items a5, a7, a17, a18, and a19 were also subsequently excluded from the analysis and the resultant variance improved to 50.2 percent. The KMO measure dropped slightly to 0.84 but none of the resultant communalities were below 0.34 and factor loadings were all above 0.59.

The final EFA (n=25,645) resulted in a parsimonious three-factor measurement model. Items a1, a2, a3 and a4 loaded onto one factor; "*financial position and general economic conditions*" (heretofore referred to FinPosGenEco). Items a8, a9, a10, a11, and a12 loaded on *"current and expected prices of miscellaneous items*" (Prices). Items a14, a15 and a16 loaded on "*time to purchase durable items*" (TimePurchDur). The rotated factor matrix after item deletion is presented in Table 4.4.

The next step was to conduct confirmatory factor analysis on waves 26 through 49. The factor matrix obtained in the EFA was tested using the remaining waves to evaluate model fit.

Table 4.4. Results of the Exploratory Factor Analysis after Item Deletion

	Factor		
	1	2	3
a1. HH current financial position compared to last six months		0.65	
a2. HH financial position in next six months compared to today's		0.72	
a3. Current general economic conditions compared to last six months		0.59	
a4. General economic conditions over next six months compared to today		0.61	
a8. Food prices in next six months compared to today	0.63		
a9. Current energy prices compared to last six months	0.61		
a10. Energy prices in next six months compared to today	0.74		
a11. Current Non-Food and non-energy prices compared to last six months	0.65		
a12. Non-food and non-energy prices in next six months compared to today	0.72		
a14. Current time to purchase durable household items compared to previous six months			0.67
a15. Next six months for purchasing durable household items			0.77
a16. Next six months for purchasing automobile (car/motorcycle)			0.63

KMO=0.84 (Chi-square=109,259, $p<0.05$); total variance explained=50.2 percent; n=25,645

4.1.4 Validation of Factor Structure through Confirmatory Factor Analysis

The final rotated factor matrix from the first sub-sample (waves 1-25) was used for confirmatory factor analysis on the second sub-sample (waves 26-49), using AMOS 25. The resulting first-order three-factor measurement model is reproduced below with standardized

estimates (Figure 4.2). This model produced regression weights ranging from 0.53 to 0.78. The lowest weights is produced by item a9. Cross loading of 0.60 between the factors TimePurchDur and FinPosGenEco indicates that one or more items contribute to both latent factors. Using the method proposed by Kim et.al. (2011), several model fit indices, including chi-square/degree of freedom, comparative fit index (CFI) and root-mean-square residual (RMSEA) were examined to test for adequate fit of the model on the second sub-sample. Table 4.5 shows the fit indices for the measurement model for consumer confidence. Overall, the fit indices showed a moderate fit with the data; CFI= 0.92, RMSEA=0.07 according to the criteria presented by several authors (Hair et al. 2010; Hu and Bentler, 1999). The chi-square/degrees of freedom was exceptionally high at 94.93. However, the dataset is nearly 26,000 records, therefore the chi-square (4,841 for this model) is unlikely to be a useful measure. Figure 4.2 presents the first iteration of the CFA.

Table 4.5. Model Fit Indices of the Measurement Model

Model	Chi-square/df	CFI	RMSEA
Initial first order 3-factor model	94.9	0.92	0.07
Model with MI applied	51.34	0.96	0.05

To improve the fit, the modification indices were evaluated. Since several variables had already been sheared away from the measurement model in the EFA, we evaluated the modification indices for possible error covariance to improve the fit. The parameters that were specified as free were covariances between error terms associated with a9 and a11, as well as a1 and a2. The resulting model fit values of CFI= 0.96 and RMSEA=0.05 were considerably improved. In addition, the chi-square/degrees of freedom measure was almost halved to 51.34 (see Table 4.5).

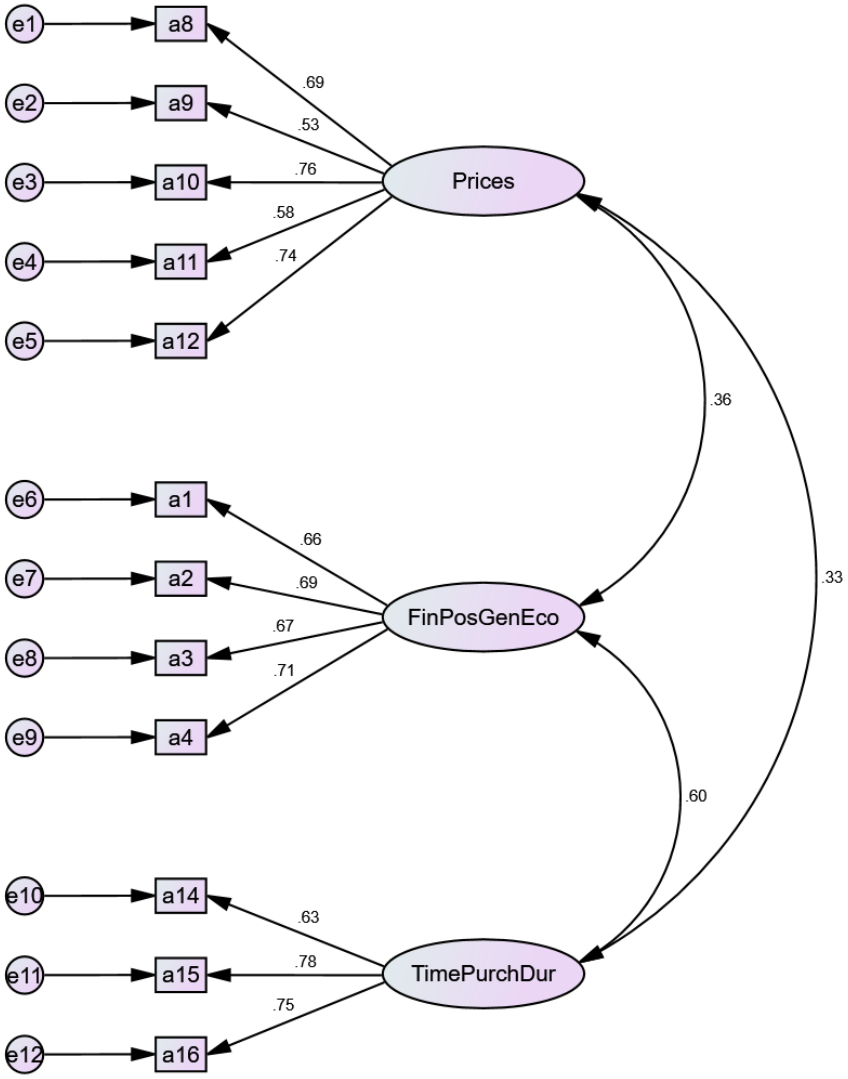

Figure 4.2. Results of the Confirmatory Factor Analysis

Figure 4.3 presents the measurement model with covariance of errors. The resulting model fit measures present an acceptable fit according to the thresholds provided by Hu and Bentler (1999). Although the modification indices still indicated room for improving the model fit if additional error terms were freed to covary, we complied with the guidelines provided by Hermida (2015) on limiting the covariance of error terms as a model fit method.

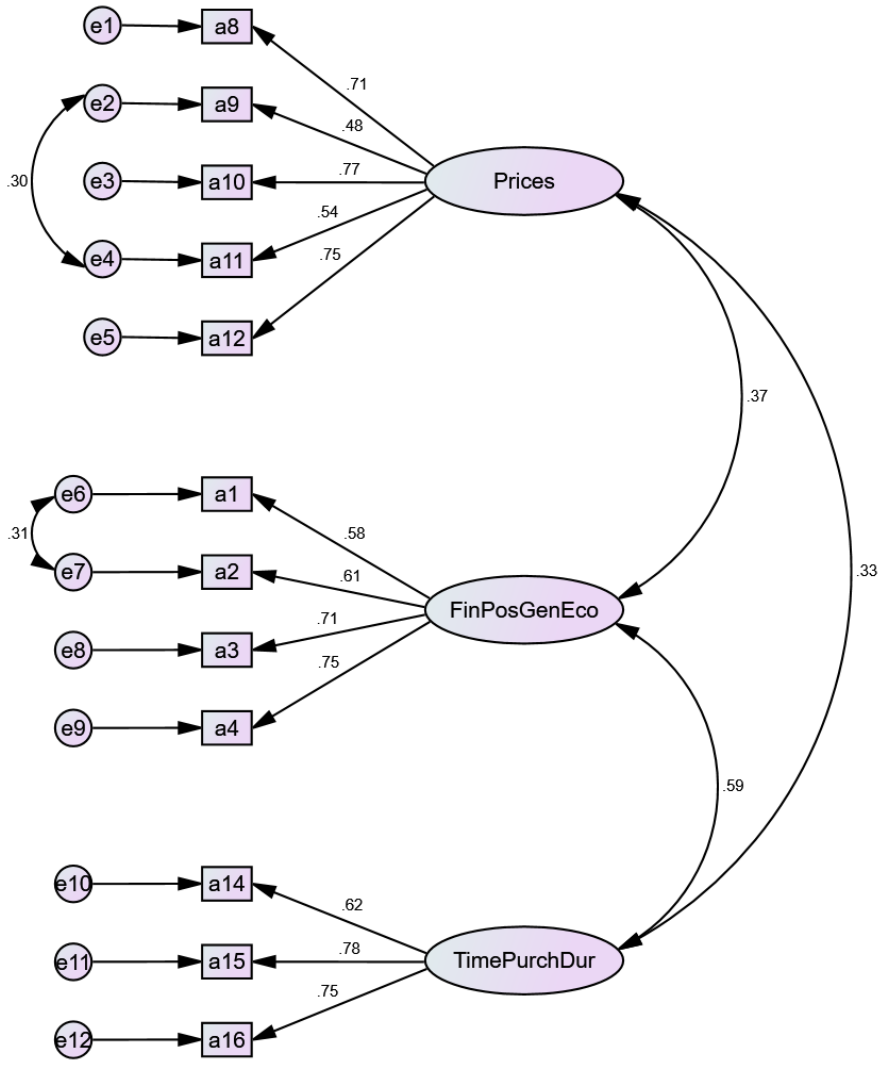

Figure 4.3. Results of the Confirmatory Factor Analysis with Error Covariance

Table 4.6 presents descriptive statistics and reliability coefficients for the three dimensions. The Cronbach's alpha score indicates internal consistency or inter-item reliability of the dimensions. A score of 0.70 or higher is generally considered to be a measure of good reliability. Each of the factors in the model have 0.76 or higher score on this measure, indicating good reliability for

each factor. In addition, the overall index resulted in a reliability score of 0.82, demonstrating very good reliability.

Table 4.6. Descriptive Statistics and Reliabilities of the Three-Factor Model

Factors	Number of variables	Mean	SD	Reliability (Cronbach's alpha)
Prices	5	2.33	0.76	0.79
FinPosGenEco	4	3.12	0.93	0.78
TimePurchDur	3	2.87	0.93	0.76
Overall Index	12	2.73	0.87	0.82

Note: Mean scores based on a 5-point scale; (5 = very Good, 4 = good, 3 = neither good nor bad, 2 = bad, 1 = very bad)

Looking at the items included in this dimension demonstrates why they converge on each dimension. *Prices* includes 5 items; *food prices in next six months compared to today* (a8), *current energy prices compared to last six months* (a9), *energy prices in next six months compared to today* (a10), *current Non-Food and non-energy prices compared to last six months* (a11) and *non-food and non-energy prices in next six months compared to today* (a12). All question in this factor pertain to prices of food, energy and non-food/non-energy items. This dimension reports the lowest average value of 2.33, indicating that in waves 25 through 49, consumers have the most negative view regarding prices (either current or expected) among the three factors. As we had discussed earlier that the results do not show any distinction between current and expected dimensions and therefore all price related questions converge on to one dimension. The five items include two question regarding current prices and three questions regarding expected prices, which unbalances the factor in favor of expected prices. This is due to the fact that we had to remove item a7 (*current food prices compared to last six months*) to improve model fit. Items a7 is the "current" version of a8 (f*ood prices in next six months compared to today)*. When selecting items for a robust index in the future, it might be useful to

consider weighting items to balance this dimension. The second factor, *FinPosGenEco* (financial position and general economic conditions) includes four items; *household current financial position compared to last six months* (a1), *household financial position in next six months compared to today's* (a2), *current general economic conditions compared to last six months* (a3) and g*eneral economic conditions over next six months compared to today* (a4). In this factor, two items pertain to household financial position (current and expected) and two pertain to general economic conditions (current and future). The convergence of the four items on one dimension speaks to the perceived association between a family's current and future financial position and their perception about the country's economic conditions. The finding indicates that Pakistani consumers strongly associate their financial wellbeing with the strength of the economy and see the two as inter-dependent. The dimension has a mean value of 3.12 which is the highest mean among the three factors. This indicates that in the waves 25 through 49, Pakistani consumers have a relatively positive view of their financial wellbeing and general economic conditions. The third factor in the model is *TimePurchDur* (time to purchase durable goods). The factor includes three items; *current time to purchase durable household items compared to previous six months* (a14), *next six months for purchasing durable household items* (a15) and *next six months for purchasing automobile/car/motorcycle* (a16). Two of the items relate to the future and one to current situation, indicating that consumers makes no distinction between current and future dimensions in answering questions about whether it is a good time to purchase durable items. The factor has a mean of 2.87, indicating relative unfavorable view of consumers to purchase durable items in waves 25 through 49.

Table 4.7. Convergent and Discriminant Validity Measures

Factor	CR	AVE	MSV
Prices	0.788	0.486	0.132
FinPosGenEco	0.759	0.444	0.347
TimePurchDur	0.762	0.519	0.347

The next step in the process was to evaluate convergent and discriminant validity of the model. As is visible in Figure 4.3, the coefficients of regression were quite high ranging from 0.58 to 0.78, indicating convergent validity. According to guidelines provided by Hair et.al. (2010), convergent validity is adequate if the composite reliability (CR) is greater than 0.7 and average variance extracted (AVE) is greater than 0.5. However, Malhotra and Dash (2011) advise that "AVE is a more conservative measure than CR. On the basis of CR alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error" (Malhotra and Dash, 2011, p.702). To establish discriminant validity, the maximum shared variance (MSV) must be less than the AVE score. Our model showed adequate convergent and discriminant validity regarding CR and MSV scores (see Table 4.7).

The proposed three-factor measurement model is based on twelve items and offers adequate validity and reliability scores. This factor analytic measurement model presents an alternative operational definition for the concept of consumer confidence. As we discussed in the previous pages, the model failed to distinguish between current and future perspectives of the consumers, therefore, no such distinction is present in the factor model. Instead the model distinguishes between important conceptual elements within the broad concept of consumer confidence. These

elements are *Prices*, *Household Financial Positions and General Economic Conditions*, and *Time to Purchase Durable Items.* As a construct, our findings extract these conceptual clusters that weave together to form the consumer confidence construct. In light of these findings we propose the development of a parallel index measure based on these items and evaluate its performance in terms of predicting consumer demand.

4.2 Comparison of Pakistani Consumer Confidence Index with Michigan and Conference Board Indexes

In this section we will provide a comparison of the Pakistani survey with Michigan and Conference Board Index surveys. As evaluated in the previous section, consumer confidence, though measured through several surveys and indices, remains a highly subjective term. Most surveys aim to measure the same conceptual construct, however, the differences in methodologies affect how they are rendered and perceived. The purpose of this section is to compare and contrast the Pakistani consumer confidence index with the Michigan Index and the Conference Board consumer confidence index. The structure of this analysis broadly follows the outline offered by Merkle et al (2004) inasmuch as they structurally compare the Michigan and conference indices with the ABC News/Money magazine survey of consumer confidence. Table 4.8 below provides a summary of the comparisons and though the broad outline is the same as that followed by Merkle et al (2004), the results are vastly different. This can be attributed to the 16 year difference between the production of this manuscript and their paper. The Michigan and Conference Board Indexes have gone through some major changes primarily in their sampling and weighting methodologies during the 16 year period.

Table 4.8. Broad Comparison of Michigan, Conference Board and Pakistani Consumer Confidence Index Surveys

	Michigan Index of Consumer Sentiment	Conference Board Consumer Confidence Index	Pakistan Consumer Confidence Index
Method	Telephone (Cell phones only)	Mail	Telephone (Landlines only)
Sampling	RDD cell phone sample	Stratified random sampling	Stratified random sampling
Sampling frame	List of cell phone numbers	The frame includes household addresses stratified geographically within the census division	Fixed line telephone connections divided into 59 strata according to population
Weighting	Weighting applied for household income, region, gender, age and homeownership.	Post-stratification weighting for census division, age of head of household, gender and income of household	No weighting applied
Frequency	Monthly	Monthly	Once every two months
Sample Size	At least 500	At least 3,000	Approximately 1,600
Rotating Sample	40% of the current sample is from a sample interviewed six months before	No rotation	33 % of households are re-interviewed after a period of six months from the first interview
Began in	Started annually in 1946; monthly in 1978	Started every other month in 1967; monthly in 1977	Tested in 2011; started in 2012

4.2.1 Sampling Plan

The sampling plan of the CCI, Pakistan was essentially based on the original Michigan Index plan. The Michigan Index began in the late 1940s as a face-to-face survey which published its results annually. By the late seventies the Survey used a frame based on landlines within the 48 coterminous States and District of Columbia. The population of households was stratified based

on census numbers. One adult, age 18 or older, was selected randomly from among the household members using the Kish procedure. No restrictions were placed on the number of times an unanswered number would be called to convert initial refusals.

Owing to the growing usage of cell phones as the primary means of communication, and a steep decline in response rate (to landline phone numbers) to almost 48% in 2003 (Curtin et al, 2005), the survey moved to a dual-frame landline-cellular telephone sample. By 2014, the percentage of adults with only cellphone service had risen to 39.1%, just 8% only owned landline phones (increasingly limited to older respondents) while the percentage of people with cellphone service, with or without fixed phone service, had risen to almost 91% (Blumberg 2013; Curtin & Dechaux 2015). By July 2015, the Michigan survey switched the survey to a monthly nationally representative sample of persons using random digit dialing (RDD) of cellular telephone numbers only. The main concern of Michigan survey team was that switching to primarily cellular phones would undermine the survey coverage in terms of age of the respondent. However Curtin & Dechaux (2015) report that the current cellular samples are closely approximating census data across all age groups. The coverage of the single frame methodology is expected to soon reach the acceptable 94-95 percent coverage rates in case of landline based frames.

After moving to all cellular sample, the Michigan Index also had to adjust for the shift in sampling unit. Earlier, landlines were considered a household phone. Cell phones on the other hand are personal phones. To incorporate for the questioning methodology still primarily focused on household as the decision-making unit, the survey team included administrative questions

about number of cell phones in the household in order to correctly compute selection probabilities.

The Michigan Index also adopts a rotating panel design in which around 60 percent of the respondents are new, while 40 percent are selected from respondents interviewed 6 months ago. So, in a final sample of approximately 500 respondents, 300 are new respondents, whereas 200 are from a group interviewed 6 months ago.

The Conference Board began the Consumer Confidence Survey in 1967 as a mail survey conducted every two months. By 1977, the survey began monthly data collection. Initially there was little clarity on whether the survey was based on random sampling (Merkle et al, 2005), however, in 2011, the Conference Board's adopted a new sampling method in which the sampling frame is derived from the list of all residential households of the U.S. Postal Service. The frame is propounded by the Conference Board to provide near-universal coverage of all residential households in the US. Each month's sample is selected randomly from the household frame. The frame is stratified geographically within the census division to provide proportionate geographic representation. A systematic sample of household addresses is then selected from the stratified frame. Post-stratification weights are applied for gender, income, geography, and age.

The sample size for the Conference Board survey is often mistakenly said to be 5000. The index is actually based on around 3000 completed questionnaires which are received by the surveyors during the month. The questionnaires are mailed so that they reach the sampled households by the first of the month. The preliminary estimates, based on nearly 90 percent of the total returned questionnaires, are released around the 18th of each month, whereas questionnaires received after this date are included in making the final estimates that are released

with the following month's preliminary data. In order to ensure quality control over the process, a random sample of the each month's completed questionnaires are independently verified by survey managers.

Pakistan's Consumer Confidence Survey was tested in July 2011 and launched formally in 2012 by a joint partnership between the State Bank of Pakistan (SBP) and the Institute of Business Administration (IBA). The survey is conducted and compiled every odd month of the year and is based on telephone interviews. This method was adopted primarily in order to ensure geographical coverage while maintaining speed of data compilation and the requisite response rate. The sampling frame of the survey is based on the telephone directory published by the Pakistan Telecommunication Company Ltd. (PTCL). The frame includes all landline numbers and addresses in use in all geographical areas in Pakistan except the Federally Administered Tribal Areas (FATA), Azad Jammu and Kashmir (AJK) and Gilgit Baltistan (G&B) regions. All regions in the frame are broken into 59 stratas. Each area gets its proportionate representation in the final sample according to its population in the 1998 census.

Similar to the Michigan survey, the Pakistani survey has also adopted a rotating panel design in which around 67 percent of the interviewees are new respondents whereas 33 percent are taken randomly from the sample interviewed six months prior to the current month. The rotating panel is adopted to capture historical changes in respondent attitudes. Unlike the initial methodology of randomly selecting an 18 or older adult from the household followed by the Michigan survey, the Pakistani survey is based on interviews from the head of household or any adult aware of or involved in financial matters of the household.

4.2.2 Question Wording

The three surveys also differ in how they operationalize the concept of consumer confidence and how the questions are worded. The Michigan and Conference Board survey have five questions which contribute to the monthly index computation. Two of them pertain to current conditions, whereas three relate to future expectations. Pakistan Consumer Confidence Index is based on six questions; three pertain to current conditions and three to future expectations. Each index further groups the current conditions questions to compute the Current Economic Conditions Index and, the future expectations to compute the Expected Economic Conditions Index.

Table 4.9 presents the Index questions in all three indexes. The Michigan and Pakistani indexes are similar in terms of the framing of questions. However, the time horizon used for comparing current situation as well as future expectations is different. The Michigan Index uses one year as a comparison point whereas the Pakistani Index uses six months. Both indexes includes questions on present financial position of the family in comparison to the past as well as future. In addition both indexes include a question on whether the present condition is a good time to buy large items such as a refrigerator, stove or television. The Pakistani Index includes six month as a time horizon, in contrast to the Michigan Index, which does not indicate any specific time comparison for this question. Generally, the application of time horizons vary based on the surveys. The Pakistani CCS and the Conference Board CCI use six months in all index components. The Michigan ICS use 12 months in two questions and 5 years to indicate long term horizon. The impact of these differences in question wording is not clearly known. It is unclear if asking a respondent to limit the frame of reference to six months from the day of the

interview would set an effective limit to his time horizon. Similarly, asking him to compare his financial condition to what it was 12 months from today places no restrictions on him comparing his condition to the previous calendar year instead of 12 month prior to today. Roper (1982) discusses these challenges in question wording offering little insight into whether people can actually able to think in 12-month (or 6-months) cycles as well as they can in calendar years. The wording of all attitudes surveys is built on the assumption that they can.

Table 4.9. Differences in Index Composition

Present Situation Component		
University of Michigan	Conference Board	Pakistan Consumer Confidence Index
We are interested in how people are getting along financially these days. Would you say that you (and your family living there) are better off or worse off financially than you were a year ago?	How would you rate the present general business conditions in your area? Good, normal, or bad?	We are interested in how people are getting along financially these days. How do you assess present financial position of your family compared to the last six months?
About the big things people buy for their homes - such as furniture, a refrigerator, Stove, television, and things like that. Generally speaking, do you think now is a good or bad time for people to buy major household items?	What would you say about available jobs in your area right now? Plenty, not so many, or hard to get?	In your opinion, compared to the last 6 months how do you see the current time for buying durable goods such as furniture, refrigerator, television etc.?
		Now turning to general economic conditions in the country as a whole- How do you assess present general economic condition of the country compared to the past six months?

Table 4.9. Continued

Expectations Component		
University of Michigan	Conference Board	Pakistan's Index
Now looking ahead - do you think that a year from now you (and your family living there) will be better off financially, or worse off, or just about the same as now?	Six months from now, do you think they will be better, the same, or worse?	Now looking ahead- how do you expect your financial position to change over the next six months from now?
Now turning to business conditions in the country as a whole - do you think that during the next twelve months, we'll have good times financially or bad times, or what?	Six months from now, do you think there will be more, the same, or fewer jobs available in your area?	And how do you expect general economic conditions in the country to develop over the next six months from now?
Looking ahead, which would you say is more likely - that in the country as a whole we'll have continuous good times during the next five years or so, or that we will have periods of widespread unemployment or depression, or what?	How would you guess your total family income to be six months from now? Higher, the same, or lower?	How about people getting out of work during the coming 6 months—what do you think unemployment over the next six months from now?

The questions relating to the general economic conditions are similarly worded; the Michigan Index includes a question in the expected economic conditions component and asks respondents to evaluate the business conditions in the next twelve months. The Pakistani Index includes two questions; one comparing current economic conditions to the past six months, and another seeking to assess how economic conditions will fare in the next six months. One unemployment related question is included in both Michigan and Pakistani index, however, the Michigan index question is a fairly general question where the respondents are asked to assess if the country as a

whole will have continuous good times during the next five years or that it will have periods of widespread unemployment or depression. The Pakistani index asks respondent to assess potential of unemployment over the next six months which appears to be more aligned with changes in the economy on a near term basis.

The Conference Board index is considerably different from the other two indexes. The index focuses more on business conditions instead of personal or family financial experiences. The index includes two questions pertaining to jobs and unemployment; one each in the two components. The differences in question framing indicate that the Conference Board Index is more aligned with labor market conditions and tends to reflect economic activity rather than recent changes in the economy. Ludvigson (2004) also observes that this is reflected in the Michigan Index current conditions component peaking at the early stages of economic recovery, while the Conference Board Index peaking at later stages of economic expansion when unemployment is low and level of economic activity is high. The future expectations component of the Conference Board Index includes a question pertaining to family income in the coming six months. This fact that the question inquires about changes in nominal income leads the author to observe that it may overstate confidence during periods of high inflation. The question format is also distinct as the respondents are provided their "area" as a frame of reference instead of the entire country.

In the question by question analysis performed by Bram and Ludvigson (1998), the questions that ask about the present or the future have more predictive ability to forecast consumption growth than the questions that ask respondents to compare the present with the past. In addition questions that ask about personal financial situations have more predictive power than questions

about present buying conditions or financial conditions in the recent past. It may be fair to conclude that consumers' perception of future job availability may have a greater influence on spending than their opinions on general business and economic conditions. And it may be wise to pay attention to the specific questions that cause major swings in consumer confidence index. The upswings driven by questions on job availability may indicate greater future spending.

The job market and unemployed related questions in Conference Board Index, interestingly, have the most explanatory power in predicting consumption growth. Both the Michigan Index and the Conference Board Index are highly correlated with each other; albeit the expectation component in the two Indexes are more closely correlated than the current conditions component. The Pakistani Confidence Index emulates the Michigan Index in having a high correlation of 0.84 between the present and expected components. On the other hand, there appears to be a weak correlation between the two components of the Conference Board Index.

4.2.3 Measurement Scales

One of the most prominent differences in the three scales is the number of response options. The Michigan and Conference Board indexes generally use three-point scales besides the "Don't Know" option, whereas the Pakistani survey uses a 5-point, balanced scale besides the "Don't Know" option. The Pakistani index methodology on these terms is similar to the European Union's index of consumer confidence survey, which also employs five-point scales. Generally, providing a higher number of options to respondent is considered better in terms of capturing adequate discrimination and nuances in responses. The difference in measurement scales also highlights important differences between the two US surveys and the Pakistani survey. In this case, the Pakistani index benefits from being one of the newest entrants to the growing list of

confidence survey around the world as it is able to utilize key learnings from the more mature surveys into its methodology and content.

Besides number of response options, the Pakistani index also employs different scale wording based on the question types. For instance, question a1 reads "*We are interested in how people are getting along financially these days. How do you assess present financial position of your family compared to the last six months?*" The answer choices for this question could be translated as "very good", "good", "neither good nor bad", "bad" and "very bad". In contrast, question a4 that read "*And how do you expect general economic conditions in the country to develop over the next six months from now?"*, had response options that can be translated as "will get a lot better", "will get better", "neither get better nor worse", "will get worse" and "will get a lot worse". Similarly other questions in the survey had different response options based on question wording. Initial coding for this and similar question ranged from -1 to +1. All question selected for this study had similar coding except respondent classification questions and questions that required specific prices of certain items (such as a6 and its two parts). The data was recoded so as to remove inconsistencies and align it with a 5-point category scale (see Table 4.10).

Table 4.10. Example of Response Options, Coding and Recoding of the Pakistani Index

Response Category	Translation	Coding	Recode
بہت اچھا ہے	Very Good	1	5
اچھا ہے	Good	0.5	4
اچھا ہے نہ برا	Neither good nor bad	2	3
برا ہے	Bad	-0.5	2
بہت برا ہے	Very bad	-1	1
معلوم نہیں	Don't know	4	Recoded as missing

4.2.4 Computation of Indices

Each of the three indexes use different methodologies to construct their indices from the survey data. This study follows the structure followed by Bram and Ludvigson (1998) in presenting a comparison between the three Index calculations. Using hypothetical data for a single survey question in Table 4.11 we shall illustrate the differences in computing the three indexes.

Table 4.11. Index Computation for the three Indexes with Hypothetical Data

	Base Period	Prior period	Current Period
Percentage of Responses			
Very Positive	15	16	12
Positive	20	14	20
Total Positive	35	30	32
Neutral	55	55	55
Negative	7	8	9
Very Negative	3	7	4
Total Negative	10	15	13
Michigan Index			
Diffusion measure	125	115	119
Michigan Index	100.0	92.0	95.2
Conference Board			
Diffusion measure	77.8	66.7	71.1
Conference Board Index	100	85.7	91.4
Pakistan CC Index			
Net Response	18.5	12	13.5
Diffusion Index	59.25	56	56.75

It is important to note that both Michigan and Conference Board indexes only have three response options in their questions. In contrast, the Pakistani CCI has five response options; two positive, two negative and one neutral option. This is designed to add a degree of gradation and capture more nuance in responses. Consequently, in reference to the hypothetical data in Table

4.11, Michigan and Conference Board indexes are computed using the total positive and total negative response percentages, whereas, the Pakistani index will use the full range of responses: very positive, positive, negative and very negative. Neutral options are ignored in all computations.

The Michigan index is calculated by first computing a diffusion measure by adding the difference between the positive and negative percentages to 100. In the example, the current period's value is 119 (100+32-13), and the prior period's level is 115 (100+30-15). An index is then calculated by dividing the level of the diffusion measure by the base-period level of 125 and multiplying by 100. This calculation results in a current value of 95.2 (119 ÷125 x 100) which is up from the prior period level of 92.0 (115÷125 x 100). The Conference Board constructs the diffusion measure by dividing the percentage of positive response by the sum of the positive and negative response percentages. This results in a value of 71.1 (32÷(32+13) x 100) for the current month and 66.7 (30÷ (30+15) x 100) for the prior month. The index is then computed by dividing the current value of the diffusion measure by the base period value and multiplying by 100. The index shows values of 91.4 (71.1÷77.8 x 100) for the current period which is up from 85.7 (66.7÷77.8 x 100) in the prior period.

The Pakistani index computes a "Net Response" measure by assigning weights to the response options: NR = (1.00 x very positive) + (0.50 × positive) + (-0.50 × negative) + (-1.00 x very negative). In the example, the current period value is 11 {(1.00 x 12) + (0.50 × 20) + (-0.50 × 4) + (-1.00 x 9)} and the prior period is 12 {(1.00 x 16) + (0.50 × 14) + (-0.50 × 8) + (-1.00 x 7)}. The net response is then added to a 100 and the sum is then divided by 2. This results in an index of 55.5 {(100+11)÷2} for current period and 56 {(100+12)÷2} for the prior period.

The Pakistani index is different from the Michigan and Conference Board indexes as the monthly diffusion index is reported as is and not in relation to the base period[1]. By not anchoring the index to the base period, the Pakistani index can be interpreted for each period independently as well as in contrast to any other period. An index value greater than 50 signifies net positive responses whereas a value less than 50 indicates net negative responses. This value can furthermore be compared to any other time period to evaluate the direction of the movement as well as the magnitude.

The hypothetical data and computations illustrate the differences in the computation method employed at the question level. However, the actual index construction is not illustrated here. To compute the monthly index, Michigan averages the diffusion indexes (for each question used in the index) into a composite diffusion index and then converts the results to a base period index. The formulas shown below summarizes the computation. The Conference Board on the other hand converts each diffusion measure (for each question included in the composite index) to a base-year index and then computes an average of the indexes. Since the Pakistani index skips the step of anchoring the index to the base period, the computation of the final index is an average of the diffusion measures of each question included in the index. It is important to note that the index levels under discussion are not actually comparable. Each have different base periods and response patterns (needless to add that the Pakistani index is reflecting the consumer confidence of a completely different country). However, using the hypothetical data results in illustrating the

[1] This method was adopted in 2017 in accordance with the practices used by the Joint Harmonized EU Program of Business and Consumer Surveys
http://ec.europa.eu/economy_finance/publications/

wider range of movement in the Conference Board index compared to the Michigan index. Bram and Ludvigson (1998) point out that identical shifts in underlying data produces significantly larger movements in the Conference Board index than the Michigan index. Comparing the diffusion measures of the Michigan and Conference Board indexes to the Pakistani diffusion index appears to indicate that the Pakistani index has even smaller movement than Michigan's, however, the different response options and weighting scheme employed in constructing the Pakistani index makes this comparison moot.

There are several other surveys in use around the world. The European Commission Business and Consumer Survey conduct a number of surveys in several EU countries. The questionnaires in use are identical and therefore harmonized and comparable across countries. Although the questions included in the composite index are quite different from the ones used in the Pakistani index, the index computation method is the same. The European Commission uses a relatively broader measure of confidence in 1985, the Economic Sentiments Index (ESI). The ESI is a weighted average of four indexes; the Industrial confidence indicator, consumer confidence indicator, construction confidence indicator and the retail trade confidence indicator.

4.3 Index Performance over its Eight Year History

Over a period of eight years since its inception, the Pakistani consumer confidence survey has had 50 waves (including March 2020 which is not part of section 4.1) of data collection. The CCI data series along-with its component series, is presented in Figure 4.4. Since the Pakistani CCI is essentially a diffusion indicator, it has to be gauged based on whether values are below or above the "neutral" point of 50, instead of comparing it to a base year. Figure 4.4 indicates that the series is rarely above 50, signifying that negative values are greater than positive ones. Out of the 50 waves, only 8 resulted in values above 50, mostly in the latter part of the series. The entire CCI series results in an average of 42.2 (standard deviation 7.36), with the highest point of 52.5 occurring in the middle of 2017. The component series, CEC and EEC, post low averages, 43.06 and 43.9 respectively, with EEC notably leading the other two indexes at the end of the series. The two component series are highly correlated (with a correlation coefficient of 0.84), with exceptions visible in the earlier part of the series and in May 2013 reading when the two diverged visibly (CEC slid at 32.8 and EEC bounced at 41.4).

The eight year data series superimposed with significant event markers is too limited to see something beyond anecdotal evidence, but it does add credence to the body of literature that says key political events and economic or social upheavals influence consumer sentiments about the economy. Indeed, a casual review of the above chart does indicate that certain political shifts in the country precipitated a shift in the confidence indicator. The only two elections in the eight year series correspond with rising expectations. Figure 4.4 shows that right before Pakistan Muslim League Chairman, Nawaz Sharif was elected prime minister for the third time in elections held in June 2013, all three indices spiked notably. Sharif was elected at a time when

the public was increasingly dissatisfied with the government led by Asif Zardari of the Pakistan People's Party (PPP). Economic mismanagement exacerbated by long term structural issues plaguing Pakistan, and cases of corruption, encumbered the Zardari government. The elections resulted in hung parliament, leading Nawaz Sharif to form a coalition government. This also marked the first time when EEC and CEC diverged, signifying the consumer expectations to be higher than their review of current economic conditions. The spike in EEC was not long lived, as after some stabilization, it plummeted in November of the same year to 35.5. The highest values recorded for both CCI and EEC were 55.97 and 60.32 respectively in September 2018 (after former cricketer, Imran Khan was elected prime minister following removal of Nawaz Sharif on corruption charges). Interestingly, Khan, rode on a wave of discontentment with Nawaz Sharif's performance on both economic and political fronts. Sharif's political legacy was irrevocably tarnished by the Supreme Court's ruling that permanently banned him from holding office. Imran Khan rose from the turmoil as a charismatic leader, promising *tabdeeli* (change) and *naya Pakistan* (new Pakistan). Similar to the previous elections, EEC exceeded CEC in the 2018 elections too, indicating greater optimism about the future.

In both cases of the election cycle, the challenging politician promised highlighted the economic mismanagement of the incumbent and promised recovery if elected. Providing credibility to the conclusion of De Boef & Kellstedt (2004) that politicians can impact consumer expectations by their slogans and catchphrases. We find parallels of this in the US when politician use of catchphrases ("The War on Poverty") or catchwords ("Reaganomics", "Obamacare") can potentially influence subjective evaluations about the economy. MacKuen, Erikson, and Stimson (2002) argue that citizens don't live in the world of "bankers", and rarely

draw conclusions about politicians based on strictly objective measures and rely more on things they pick up from media and the news. They can and do get swayed by election year rhetoric. The sharp spikes in confidence around the elections could well be indicative of the phenomenon that the US Chairman of the Federal Reserve, Alan Greenspan, called "irrational exuberance" (the optimism in the public that is unwarranted by economic conditions). The plummeting indices less than a year after the elections gives credibility to the conclusion forwarded by De Boef & Kellstedt (2004), where in the long run, consumers are more discerning about the sources of information on the media that provide assessment of the economy. In Khan's case, the celebration was over soon when inflation went into double digits and FY 2019 budget deficit spiked to a record 8.9 percent of the GDP. Furthermore, in late 2019, the opposition launched a protest march against his government demanding his ouster. The precipitous drop in all three confidence indices from March through May 2019, and then relative decline from September 2019 through January 2020 may be indicative that consumers may be paying attention to both an objective assessments of the economy as well as vocal criticism of his performance by the opposition. His unusually candid pronouncements reminding the public to *ghabrana nahin hai* (don't be worried) combined with his relatively clean public record are what may have contributed to the widening gap between the EEC and the CEC, indicating that consumers are more hopeful about the future than they are about the present.

In addition to events strictly of political nature, the indexes also appear to be influenced by sudden, unforeseen events (natural disasters, terrorist attacks, pandemics) whose impact on the economy may be uncertain and not visible in the short term. Almost all adverse events in the eight year series lead to a corresponding decline in confidence. The impact of Corona virus in

Pakistan on consumer confidence remains yet to be seen, as the last survey in the series was conducted in early March 2020, barely two weeks after the first Corona virus case was found in Pakistan.

The eight year series in Figure 4.4 also appears to be following a seasonal pattern. The indexes dip around the middle of every year, coinciding with the presentation of next year fiscal budget by the government. Every year the budget announcement in a session of the National Assembly is an eagerly awaited and watched event in the country. Although the entire budget-making process is a highly technical affair, not comprehendible by a vast majority of the people, some of the implications are felt readily by most citizens. Elements like income tax, sales tax and custom duties impact people directly, whereas, other aspects like current account deficits and government borrowing have a tacit, more perceptual impact. Although most people would not be aware of the relationship between increased government borrowings and rising interest rates, they understand that to manage even household finances, you should have a balanced budget. A government that is perceived to be spending more than its income is likely perceived to be inept. And notwithstanding the fact that most governments in the world do quite well despite running large deficits, it is considered bad optics for the incumbent Prime Minister if the budget deficit grows larger than the previous year. In the case of a country like Pakistan, which is bound by several expensive loan agreements with the International Monetary Fund and the World Bank, it may not be wholly accurate to hold the sitting Prime Minister responsible for a large deficit. But confidence in the ability of a government to manage the economy also influence optimism or pessimism about the future path of the economy and therefore is likely to impact the movement of the index.

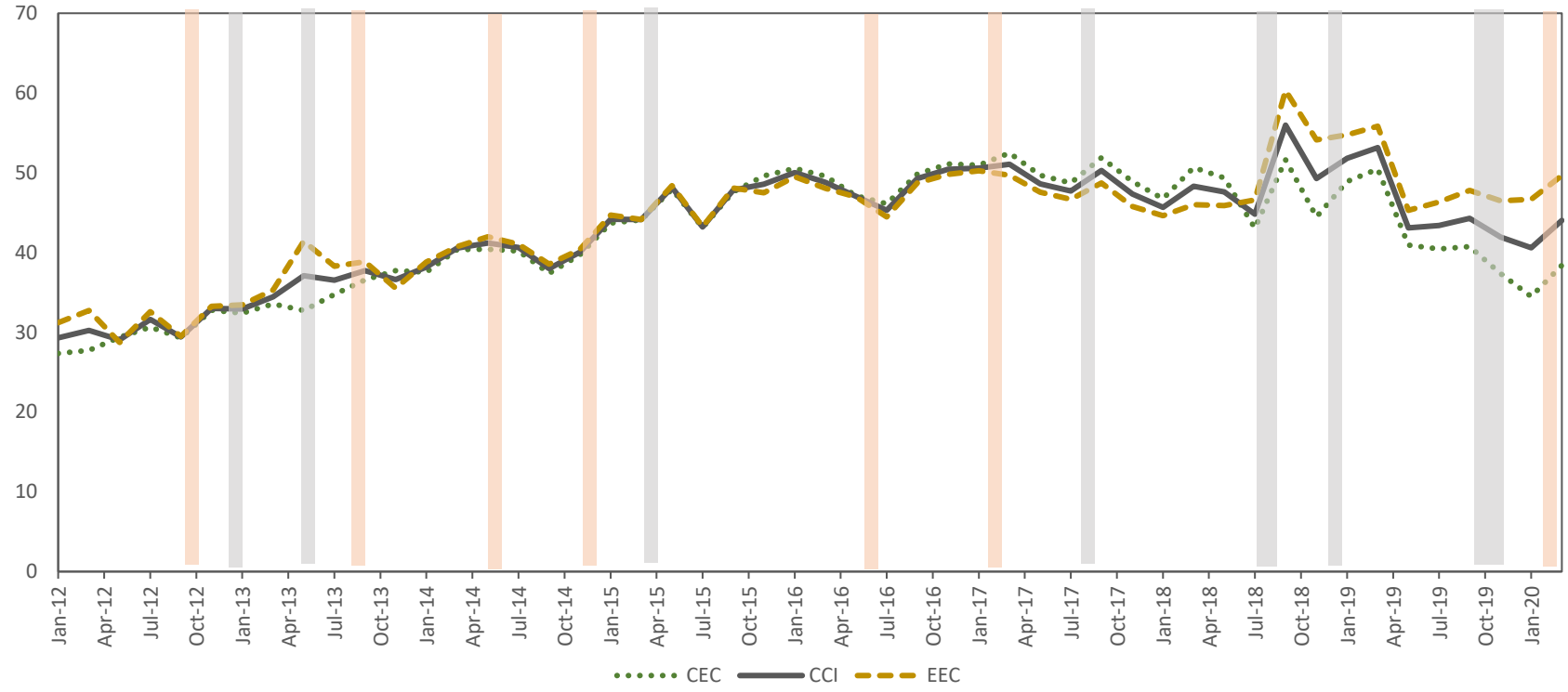

Figure 4.4. Eight Year History of the Index with its Component Indices

October 9, 2012: Pakistani Taliban shot 14-year-old Malala Yousafzai

January 2013: Religious figure Dr. Tahir-ul-Qadri led a long march from Lahore to Islamabad calling for electoral reforms and dissolution of the National Assembly

June 5, 2013: Pakistan Muslim League (N)'s gains victory in the general elections and Nawaz Sharif is elected Prime Minister of Pakistan for the 3rd time.

September 24, 2013: A massive earthquake hits Balochistan province, killing at least 825 people and injuring hundreds.

June, 2014: Uzbek militants carry out an attack on Karachi's international airport killing several people. This led to a collapse of talks with the Taliban and launch of an army offensive against their hideouts.

December 16, 2014: Taliban terrorists attack the Army Public School in Peshawar, massacring at least 141 children, staff and teachers.

April, 2015: China and Pakistan sign agreements worth billions of dollars to end Pakistan's energy crisis.

June 22, 2016: Musician Amjad Sabri is killed in a targeted attack in Karachi.

February 16, 2107: A bombing at a shrine in Sehwan, Pakistan resulted in the deaths of over 90 people.

August, 2017 - Prime Minister Nawaz Sharif resigns after being disqualified by the Supreme Court over the Panama Papers controversy. He is convicted and disqualified for life.

August 17, 2018: Ex-cricketer and PTI leader Imran Khan takes oath as the 22nd Prime Minister of Pakistan.

December, 2018: Former Prime Minister Nawaz Sharif is sentenced in the corruption case.

October-December 2019: Protest march known as the Azadi March, led by opposition leader, Maulana Fazl-ur-Rehman begins in Islamabad, Pakistan demanding the resignation of Prime Minister Imran Khan.

February 26, 2020: First case of COVID-19 virus found in Karachi, Pakistan.

Figure 4.5. Important Events in Pakistan in the Eight Year History of the Index

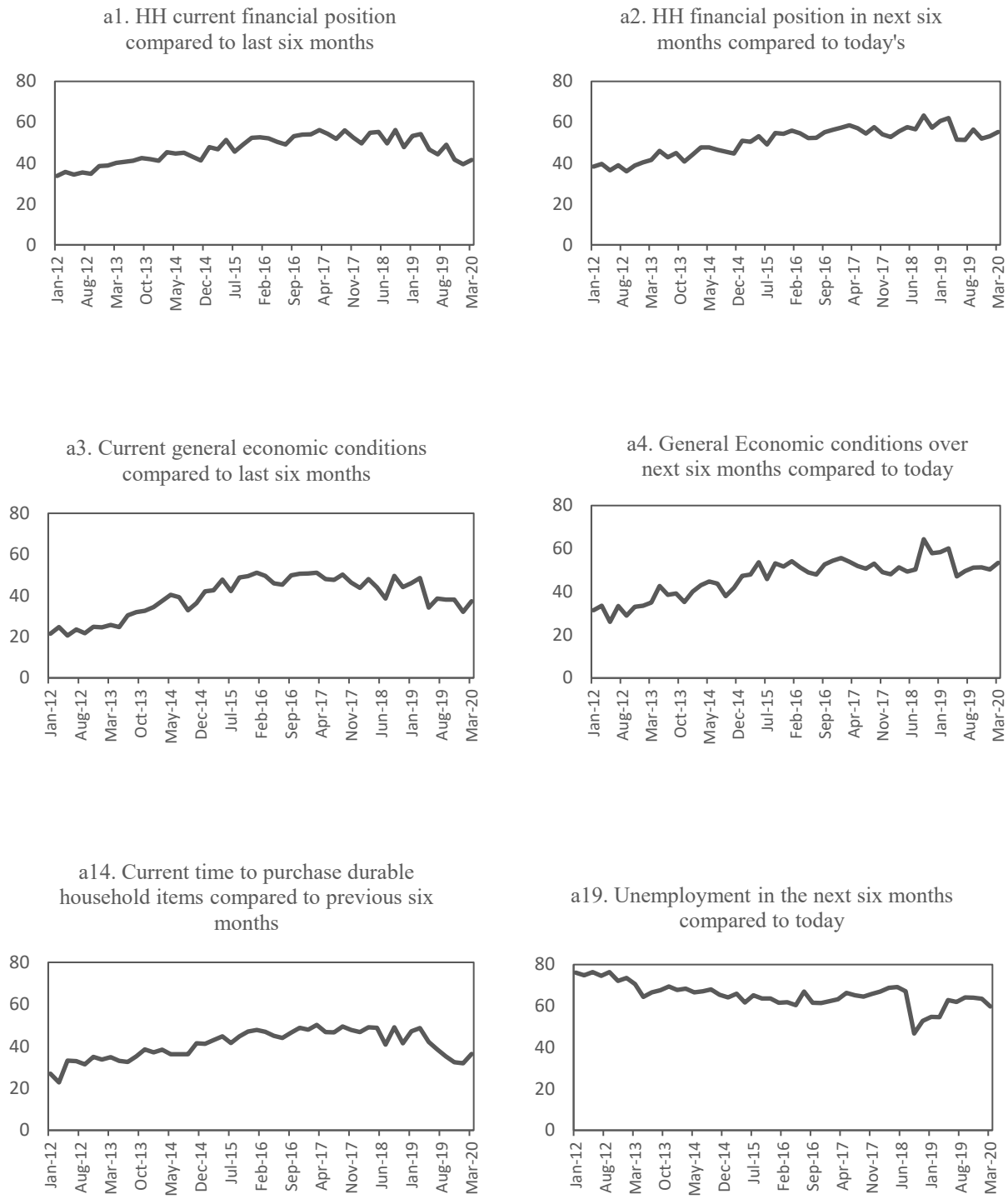

Figure 4.6. Key Questions within the Component Indices

Figure 4.6 shows a panel of charts reflecting the key questions that contribute to the development of the component indexes. Questions on current financial position compared to the last six months (a1), current general economic conditions compared to last six months (a3), and current time to purchase durable household items compared to previous six months (a14) form the CEC, whereas, household financial position in next six months compared to today's (a2), general Economic conditions over next six months compared to today (a4) and unemployment in the next six months compared to today (a19) construct the EEC. In the CEC, a1 series depicts greater upward movements among the three question with an average of 46.63 (standard deviation of 6.52), whereas a14 remains flatter, only reaching the neutral point of 50 once in the entire 8 year period. The averages of both a3 and a14 remain lower at 39.36 (standard deviation of 9.42) and 40.68 (standard deviation of 6.71) respectively. The question-wise series indicate that Pakistani consumers are relatively more pessimistic about time to purchase durable household items, whereas, they are relatively more hopeful about their current financial position.

The three EEC series are above the neutral point of 50 in most waves. The series indicate that consumers are relatively optimistic about their household's financial position and general economic conditions in the future. The last chart on the panel presents the series on expected unemployment. The chart is to be read in reverse compared to the other charts because the higher points refer to higher expected unemployment and lower points refer to lower expected unemployment rates. In computing EEC (and CCI), a19 is reverse coded, consequently aligning it with the rest of the questions in the index. However, in the chart above, a19 is presented in the same direction as unemployment rates would be presented. Therefore, reading the chart indicates that expected unemployment was higher in the earlier part of the series, which appears to have

lowered in the latter part, indicating that consumers appear to be getting more optimistic about dropping unemployment rate.

CHAPTER 5

DISCUSSION AND CONCLUSION

The goal of the first section of the analysis was to explore the 19 items in the survey and uncover any underlying patterns via a factor analytic procedure. The aim was to be able to evaluate if the items used in the CCI are the best items to measure the construct. In order to validate the items included in the index and ensure that the composite index represents what it is slated to represent, item level responses were initially scrutinized for underlying patterns via exploratory factor analysis. The EFA findings pose several questions for index design. In most of the waves, the items that constitute the current situation index and the items that are in the expected conditions index do not load onto separate factors. The implicit essential premise behind item placement in these components was that these items would capture the time dimensionality and would be distinct from each other. The results of the exploratory factor analysis contradict this premise as current and expected items all appear to load on the same factor, indicating that the set of items are unidimensional. Even when the current and future items were forced to load on two factors, the items in question split based on question content instead of time dimensionality. This is striking, it places a question mark on whether the two component indexes are serving the purpose envisaged for them. If consumers are responding to only question content and not to time dimensionality then the premise behind this distinction is uncertain. This raises questions on the construct of consumer confidence, as operationally defined by the Pakistani CCI. If the questions included in the current and expected components are not capturing that distinction than should they be part of the indexes? Should the theoretical construct consumer confidence be based on these two dimensions? As we discussed in this

document earlier, Pakistani CCI is broadly based on the Michigan index, which is the first index of its kind. It is remarkable that despite the fact that the Michigan index has been in use for nearly 60 years, very few studies have explored the structural makeup of the survey and index components. Since the Michigan index was the first of its kind, and the novel idea appeared fairly exciting to economists, much of the research that followed focused on the predictive ability of the index. The indexes that followed took its validity and structural soundness as a given and proceeded to apply similar structures in subsequent surveys. The question of validating the survey and questions on whether this is the best way to measure the construct were rarely asked. The findings of this study poses similar questions about the Michigan index and opens avenues of starting a more robust discussion on the definition of consumer confidence and its operationalization.

Another important finding in this section was that discernable differences in between current and future expectations were evident in the initial waves, but as the waves progressed, the current/future distinction dissipated in the results. As the survey matured, the diversity in the responses lessened and more predictable pattern emerged. This could very well be due to the changing response patterns. However, one implication behind this finding could be the possibility of measurement bias caused by inefficient interviewing methodology and lack of enumerator training. Based on these findings we would encourage a comprehensive review of the interviewing SOPs and improved training of the enumerators.

Reviewing the means and standard deviation of items across nearly all waves showed that in every wave, the question about "*household income in the next year compared to previous year*", produced the highest mean and in most cases, the highest standard deviation too. However, this

question produced the lowest factor loadings resulting in its removal from the final measurement model. The lowest means were noted in question "*current energy prices compared to last six months*", "*current food prices compared to last six months*" and "*prices of daily use items in the next six months*". These results indicate that Pakistani consumers are consistently optimistic about their household income rising compared to the last six months. However, they are also consistent in expressing concern about rising prices, especially for food, energy and daily use item prices. These findings are consistent with factor mean scores during the CFA performed later in the study.

The CFA performed resulted in a measurement model that provided adequate fit statistics. The model went through iterative item reduction to improve fit and eventually resulted in a parsimonious model that excluded some questions that were initially perceived important. One of the items that had to be removed at the initial stage was the question on expected unemployment rate in the next six months. This question had to be repeatedly tested because it is one of the six important questions in the CCI and one of three in the EEC. Also, conceptually, a question pertaining to expected unemployment should likely be an important question in evaluating consumer confidence in the economy. This is further corroborated in the literature review. However, this question repeatedly failed to load onto any factor and produced the lowest communalities. Therefore it had to be dropped. This however, does not mean that it is not an important question, instead it demonstrates the complexity of constructing a confidence index that constitutes such varied topics. The unemployment question may very well have great explanatory power in predicting consumption, however, it is too dissimilar to the other 18 questions in the construct. Again, this finding also raises questions on the construct of the

Michigan index, because that too includes a question on expected unemployment as one of five important index questions. The results of this study may play some role in commencing essential discussions about the construct of consumer confidence and seeing existing composite indices in a fresh light.

Another item that had to be dropped from the measurement model was the one that queried respondents on expected interest rates in the next six months. Although, this question is not a part of the composite index, it is important to acknowledge that an average consumer in almost every part of the world is likely neither aware of how interest rates are determined, nor how government decision-making impacts interest rates. Moreover, Pakistan is a Muslim majority country. The concept of interest is neither perceived in a positive light (interest or usury is not permissible in Islam) nor understood very well by its citizens. This, as well as the inability of the item to load on any factor, poses several questions pertaining to this item. Is the concept in question understood by the respondent? Is the question measuring what it is perceived to measure? Even if the question is not part of the composite index, should it be posed to a respondent group who does not understand it? The survey uses a non-forced scale, which means that it allows a respondent the answer choice of "don't know". The results confirm our misgivings as this item consistently produced the highest "don't know" or missing responses.

Keeping in view the discussion above, we would recommend a review of the survey questionnaire and an evaluation of the necessity of including this question. Although the item is not part of the composite index, it is taking space in a questionnaire which constitutes some complex, obscure economic concepts. Dropping this item from the survey may result in reduction in respondent fatigue and measurement bias.

The proposed three-factor measurement model is based on twelve items and offers adequate validity and reliability scores. In the absence of any other parallel studies of this nature it is difficult to provide any conclusive comparative analysis. We propose that additional structural analysis be done to find possible second order factors and multi-group comparisons based on specific waves. Following the method suggested by Bialowolski (2014) we propose performing multi-group confirmatory factor analysis to analyze between periods consistency of the measurement model.

In light of the findings of the structural analysis we propose the development of an alternative index measure based on these items and evaluate its performance in terms of predicting consumer demand. The study has not touched upon the concept of the measuring the index's ability to accurately predict demand for the reason that the goal was limited to first conducting a structural study and then assessing the performance of the index in terms of forecasting demand. As a next step in this discussion, we propose analyzing index performance as proposed by Carroll, Fuhrer and Wilcox (1994), Bram and Ludvigson ((1998) and Ludvigson (2004) to gauge the efficacy of the indicator to predict spending.

The comparative analysis of the three indexes reveals that the way the concept of consumer confidence is operationalized lacks consistency. However, there are greater similarities between the Pakistani and Michigan index, than the Michigan and Conference Board indexes. The Pakistani index's focus on a six month comparison is unique and the review of literature does not throw any light on whether there is an incremental benefit to anchoring the respondent on any time horizon that is less than a year. Instead there is some evidence that indicates that even if they are asked to compare present to past 12 months, respondents are likely to anchor their

responses to the past calendar year. Therefore, the additional complication of the time dimension is unlikely to provide additional nuance in the answer. Insofar as the six month comparison is used to anchor past from present and present to future, the wording may be adequate but there is not much incremental nuance than if it was anchored to a year. This finding is further complemented by the results of factor analysis in the earlier section which finds that the survey is unable to capture any distinctions between present conditions and future expectations. What this reveals is that respondents are likely answering the content of the question and not focusing much on whether the question is asking them about present or future.

The Conference Board index has more questions focused on business conditions and jobs whereas the Michigan and Pakistani Index contain questions that inquire about household financial position. The Pakistani index is far more balanced between current and expected components than the other two indexes. There are three questions in each component with equal number of question on household financial position and general economic in both components. The current component has one question on current time to buy durable goods (a14) and the expected component has a question on expected unemployment (a19). The results of the factor analysis indicated that household financial position and economic conditions are perceived very similarly, whereas unemployment is a unique concept distinct from all other questions. In addition, the existing indexes have no questions about prices of various categories of items. The factor analytic procedure uncovered *prices* as an important new dimension that is not part of any other indexes. The study shows that Pakistani consumers view prices as a relatively distinct dimension which must be evaluated for inclusion in the consumer confidence construct. The finding that Pakistani consumers are least positive about prices (of all category of items) signifies

their deep concern over rising inflation, which may correspondingly be an inhibiting factor in their purchasing decision. Insofar as consumer confidence pertains to the "*willingness to buy*" side of the purchase decision, concern over goods becoming more expensive is likely to restrain consumer purchasing.

The calculation of the Pakistani index is different from the Michigan and Conference Board indexes. The Pakistani index follows the methodology employed by the European Economics and Sentiments indicator (ESI) in computing only the diffusion measure. This allows for using each months indicator as a comprehensive and independent measure of sentiments, unanchored from a base period. Based on its methodology, the EU calls it an "*indicator*" instead of an "*index*" as the reading is not representative of change from a base period or specific time. We propose that the SBP may adopt the same verbiage to remove any inconsistencies in definitions.

In terms of sampling methodology, the Pakistani survey faces some challenges. The existing sampling frame is based on PTCL data of fixed telephone lines. Compared to the US, Pakistani society is still not as inundated with traditional surveys and consequently not as averse to responding to them. Nevertheless, the Pakistani survey faces similar challenges in terms of population coverage. The Michigan survey shifted to a cell only design in 2015 to account for changes in the population in terms of phone usage. Considering the fact that the number of mobile users in Pakistan crossed 165 million and teledensity crossed 78 percent in December 2019, Pakistan may also consider testing the cellular mode for improving coverage of its survey.

APPENDIX A

EXPLORATORY FACTOR ANALYSIS OF PAKISTAN'S CONSUMER CONFIDENCE INDEX; A PILOT STUDY ON 15TH WAVE OF THE SURVEY

This pilot study was conducted on 1742 responses that were collected during the 15th wave of data the survey completed in the first week of May, 2014. Overall, 2,522 telephone calls were made to a representative sample of households from all districts of Pakistan. Of 2,522 households, 1,742 responded; thus success rate for this survey was 69%. Out of 1742 respondents 63% were male and 35% were female.

The purpose of the study was to explore the underlying patterns via a factor analytic procedure. (All procedures utilized SPSS). The factors identified here correspond to the latent variables to which items appear to be corresponding. The data coding for the selected variables ranged from -1 to 1. All question selected for this study had similar coding except the gender variable which was dichotomous with 0 representing women and 1 representing men. The data was recoded so as to remove inconsistencies and align it with a 5-point, category scale. In addition, missing values were also removed in order to correct any potential biases. Table A.1 presents descriptive statistics of the 19 variables. The means ranged from a highest of 3.37 – for item a13, which referred to "household income in the next year compared to previous year" – to the lowest of 2.09, for item a9, which reflected "current energy prices compared to last six months".

Table A. 1. Descriptive statistics

Items	N	Mean	Std. Deviation
a1	1724	2.79	.899
a2	1553	2.91	.933
a3	1695	2.63	.953
a4	1547	2.80	.988
a5	1661	2.17	.697
a7	1714	2.11	.647
a8	1642	2.18	.646
a9	1702	2.09	.653
a10	1615	2.16	.651
a11	1692	2.13	.571
a12	1625	2.18	.612
a13	1542	3.37	.765
a14	1537	2.46	.891
a15	1438	2.44	.908
a16	1451	2.39	.910
a17	1536	2.36	1.038
a18	1676	2.53	1.040
a19	1608	2.35	.816
a20	910	2.39	.754

Item level responses were scrutinized for underlying patterns via exploratory factor analysis. The factors identified in this indicate the primary topics or latent variables to which each group of items appear to be corresponding. Principal Axis Factoring with orthogonal rotation was conducted on all 19 items. Table A.2 presents rotated factor loading for the 19 items. Four factors could be extracted onto which 17 of the 19 items loaded. An examination of Kaiser-Meyer Olkin measure of sampling adequacy suggests that the sample of size 594 (with list-wise deletions) was factorable (KMO=0.887). All four factors explained 45.4 percent of total variance in the 19 items.

Table A. 2. Results of Exploratory Factor Analysis

	Component			
	1	2	3	4
a1. HH current financial position compared to last six months	.106	.215	**.654**	.079
a2. HH financial position in next six months compared to today's	.148	.220	**.722**	.161
a3. Current general economic conditions compared to last six months	.189	.128	.465	**.554**
a4. General economic conditions over next six months compared to today	.182	.171	.446	**.605**
a5. Prices of daily use items in next six months	**.566**	.090	.083	.255
a7. Current food prices compared to last six months	**.627**	.079	.102	.151
a8. Food prices in next six months compared to today	**.681**	.129	.044	.154
a9. Current energy prices compared to last six months	**.597**	.098	.064	-.010
a10. Energy prices in next six months compared to today	**.680**	.138	.139	.050
a11. Current Non-Food and non-energy prices compared to last six months	**.659**	.184	.117	.041
a12. Non-food and non-energy prices in next six months compared to today	**.710**	.148	.107	.127
a13. HH income in the next year compared to previous year	.004	.199	.005	.249
a14. Current time to purchase durable household items compared to previous six months	.075	**.700**	.161	.180
a15. Next six months for purchasing durable household items	.208	**.686**	.203	.224
a16. Next six months for purchasing automobile (car/motorcycle)	.284	**.605**	.154	.175
a17. Current times for purchase or construction of new house	.198	**.482**	.154	.078
a18. Satisfaction with government's current economic steps	.334	.334	.097	**.489**
a19. Unemployment in the next six months compared to today	.343	.209	.076	**.404**
a20. Interest rates in the next six months compared to today	.383	.148	.037	.196
Percentage of total variance	18.9	10.7	8.2	7.7
Number of items	7	4	2	4

Extraction Method: Principal Axis Factoring.

Note. Loadings => .40 are presented in bold.

Table A.2 indicates that seven items loaded onto the first latent factor "*prices of daily household consumption items*"; four loaded on the second one, *"purchase of durable items";* two loaded on the third one, "*household financial conditions";* and four loaded on the fourth latent factor "*general economic conditions"*. It is interesting to note the resultant factors correspond more to the nature of items under discussion than the temporal aspects. For instance the first factor

uniformly encompassed all questions related to prices of regular household goods that daily affect a household, regardless of whether they referred to current or expected prices. All seven question that loaded onto this factor scored consistently low average scores (ranging from 2.09 to 2.18) with relative cohesion in responses (indicated by relatively low standard deviations) (see Table A.2). This indicates that respondents considered the prices of daily household consumption items to be higher and they expected them to be higher in the future too. The second factor included purchases of durable items, both in current or future terms. The items in this factor (a14 – a17) received comparatively high average scores (albeit with less uniformity reflected in higher standard deviations), which indicates that Pakistani consumers view the prices of durable goods more favorably than prices of regular daily household items, both in the near and long term. The third and fourth factors reflect two distinct paradigms; personal household financial conditions and general overall economic conditions. These two factors are more in tune with the construct of the survey as adopted from the Michigan Index. The survey, besides categorizing components on current and expected paradigms, also distinguish between "household" and "general economic" distinctions. The mean scores of either of the two last factors are higher than the first two, indicating comparatively positive opinions for household and overall general economic conditions. This of course can only be interpreted in relative terms, as according to the adapted scale, anything below a score of 3.0 indicated "bad", "very bad" or "neither good nor bad". Interestingly the highest average of 3.37 is observed for item a13, *"Household income in the next year compared to previous year".*

These findings are remarkable as they indicated that survey data only partially corresponds with the survey structure envisaged before its launch. The survey questionnaire was clearly designed

around “current” and “expected” paradigms. These structure of the CCS is not reflected in the factor analysis findings as items appear to converge under the nature of question groups instead of “current” or “expected” classifications. This generates several structure related questions about the survey that a confirmatory factor analytic model can provide greater insights upon. In addition structural modeling may shed some light on the relationship between the latent factors and survey variables.

APPENDIX B

RESULTS OF PRELIMINARY EXPLORATORY FACTOR ANALYSIS ON INDIVIDUAL WAVES

Table B.1. Wave 1

	Factor					
	1	2	3	4	5	6
a1. HH current financial position compared to last six months	0.055	0.096	0.037	0.053	0.106	**0.753**
a2. HH financial position in next six months compared to today's	-0.031	0.100	0.091	0.087	**0.603**	0.327
a3. Current general economic conditions compared to last six months	0.108	0.048	**0.531**	0.085	0.291	0.048
a4. General economic conditions over next six months compared to today	0.122	0.140	0.275	-0.013	**0.734**	-0.023
a5. Prices of daily use items in next six months	**0.601**	0.247	0.037	0.008	0.209	0.282
a7. Current food prices compared to last six months	-0.747	-0.075	0.011	-0.079	-0.081	0.059
a8. Food prices in next six months compared to today	0.324	**0.608**	0.059	0.277	0.071	-0.023
a9. Current energy prices compared to last six months	**0.500**	0.290	0.160	-0.020	0.089	0.119
a10. Energy prices in next six months compared to today	0.230	**0.580**	0.029	-0.015	0.156	0.063
a11. Current Non-Food and non-energy prices compared to last six months	**0.611**	0.170	0.158	0.196	-0.168	0.077
a12. Non-food and non-energy prices in next six months compared to today	0.338	**0.532**	0.297	0.078	0.127	0.160
a13. HH income in the next year compared to previous year	0.076	0.013	0.201	-0.084	0.071	0.260
a14. Current time to purchase durable household items compared to previous six months	-0.211	0.209	-0.015	**0.457**	-0.073	0.013
a15. Next six months for purchasing durable household items	0.250	-0.047	0.154	**0.722**	0.214	-0.071
a16. Next six months for purchasing automobile (car/motorcycle)	0.250	0.157	0.008	**0.616**	-0.016	0.051
a17. Current times for purchase or construction of new house	-0.045	0.324	0.132	0.216	0.017	0.058
a18. Satisfaction with government's current economic steps	0.054	0.164	**0.775**	0.103	0.113	0.147
a19. Unemployment in the next six months compared to today	0.285	0.289	0.342	0.089	-0.027	0.345
a20. Interest rates in the next six months compared to today	0.168	0.208	-0.170	0.065	-0.014	0.116

Table B.2. Wave 2

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.049	0.076	-0.043	**0.583**	**0.673**
a2. HH financial position in next six months compared to today's	0.223	**0.408**	0.049	0.162	**0.672**
a3. Current general economic conditions compared to last six months	0.221	0.271	0.063	**0.505**	0.106
a4. General economic conditions over next six months compared to today	0.369	**0.500**	0.031	0.226	0.128
a5. Prices of daily use items in next six months	**0.594**	-0.031	0.238	0.210	0.193
a7. Current food prices compared to last six months	**0.513**	-0.093	0.333	0.140	0.198
a8. Food prices in next six months compared to today	**0.556**	0.120	0.358	-0.002	0.171
a9. Current energy prices compared to last six months	0.329	0.058	0.370	-0.024	0.181
a10. Energy prices in next six months compared to today	**0.424**	0.133	**0.610**	0.115	-0.012
a11. Current Non-Food and non-energy prices compared to last six months	0.194	-0.046	**0.587**	0.165	-0.120
a12. Non-food and non-energy prices in next six months compared to today	0.050	0.267	**0.782**	0.019	0.063
a13. HH income in the next year compared to previous year	0.171	0.199	0.112	**0.626**	0.101
a14. Current time to purchase durable household items compared to previous six months	-0.080	**0.434**	0.061	0.153	0.166
a15. Next six months for purchasing durable household items	0.089	**0.679**	0.146	0.193	0.047
a16. Next six months for purchasing automobile (car/motorcycle)	0.171	**0.577**	0.050	0.124	0.006
a17. Current times for purchase or construction of new house	0.074	0.201	0.073	**0.437**	0.058
a18. Satisfaction with government's current economic steps	**0.440**	0.365	0.031	0.235	0.040
a19. Unemployment in the next six months compared to today	**0.611**	0.194	0.050	0.203	0.029
a20. Interest rates in the next six months compared to today	**0.413**	0.117	0.111	0.041	-0.108

Table B.3. Wave 4

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.048	0.024	0.088	**0.671**
a2. HH financial position in next six months compared to today's	0.151	0.292	0.097	**0.625**
a3. Current general economic conditions compared to last six months	0.159	0.342	0.164	0.265
a4. General economic conditions over next six months compared to today	0.148	**0.634**	0.105	0.248
a5. Prices of daily use items in next six months	0.393	**0.407**	0.037	-0.021
a7. Current food prices compared to last six months	**0.463**	0.022	0.170	0.160
a8. Food prices in next six months compared to today	**0.558**	0.319	0.103	0.034
a9. Current energy prices compared to last six months	0.392	-0.013	0.103	0.085
a10. Energy prices in next six months compared to today	**0.507**	0.277	0.033	0.097
a11. Current Non-Food and non-energy prices compared to last six months	**0.530**	0.053	0.140	0.064
a12. Non-food and non-energy prices in next six months compared to today	**0.597**	0.219	0.102	0.071
a13. HH income in the next year compared to previous year	0.096	0.082	0.224	0.297
a14. Current time to purchase durable household items compared to previous six months	0.074	0.103	**0.671**	0.072
a15. Next six months for purchasing durable household items	0.191	**0.436**	**0.532**	0.064
a16. Next six months for purchasing automobile (car/motorcycle)	0.278	0.196	0.386	0.127
a17. Current times for purchase or construction of new house	0.142	-0.031	0.377	0.156
a18. Satisfaction with government's current economic steps	0.271	0.212	0.225	0.248
a19. Unemployment in the next six months compared to today	0.376	0.322	0.162	0.152
a20. Interest rates in the next six months compared to today	0.314	0.113	0.078	0.044

Table B.4. Wave 5

	Factor					
	1	2	3	4	5	6
a1. HH current financial position compared to last six months	0.235	-0.037	**0.650**	0.089	-0.025	0.033
a2. HH financial position in next six months compared to today's	0.175	0.054	**0.774**	0.243	0.095	-0.021
a3. Current general economic conditions compared to last six months	0.130	0.149	0.197	**0.458**	0.013	0.133
a4. General economic conditions over next six months compared to today	0.090	0.125	0.205	**0.583**	0.149	-0.005
a5. Prices of daily use items in next six months	0.034	**0.401**	0.099	0.135	0.118	0.243
a7. Current food prices compared to last six months	0.112	0.369	0.039	0.117	0.109	0.394
a8. Food prices in next six months compared to today	0.114	**0.841**	-0.011	0.083	0.075	0.076
a9. Current energy prices compared to last six months	-0.025	0.119	0.025	0.113	0.090	**0.675**
a10. Energy prices in next six months compared to today	0.087	0.299	-0.044	0.185	0.231	0.343
a11. Current Non-Food and non-energy prices compared to last six months	0.106	0.031	0.068	0.098	**0.539**	0.230
a12. Non-food and non-energy prices in next six months compared to today	0.101	0.266	0.028	0.117	**0.828**	0.013
a13. HH income in the next year compared to previous year	0.186	0.018	0.246	0.182	0.181	0.142
a14. Current time to purchase durable household items compared to previous six months	**0.783**	0.027	0.132	0.072	0.004	-0.019
a15. Next six months for purchasing durable household items	**0.608**	0.145	0.184	0.146	0.094	-0.018
a16. Next six months for purchasing automobile (car/motorcycle)	**0.488**	0.115	0.147	0.216	0.124	0.009
a17. Current times for purchase or construction of new house	**0.402**	0.053	0.080	0.145	0.074	0.138
a18. Satisfaction with government's current economic steps	0.245	0.016	0.088	**0.542**	0.042	0.160
a19. Unemployment in the next six months compared to today	0.149	0.169	0.036	0.301	0.132	0.169
a20. Interest rates in the next six months compared to today	0.077	0.123	-0.040	0.113	0.048	0.026

Table B.5. Wave 6

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.068	0.197	0.350	**0.637**	0.156
a2. HH financial position in next six months compared to today's	0.139	0.182	0.231	**0.606**	0.060
a3. Current general economic conditions compared to last six months	0.144	0.142	**0.844**	0.159	0.085
a4. General economic conditions over next six months compared to today	0.349	0.104	**0.557**	0.366	0.065
a5. Prices of daily use items in next six months	**0.595**	0.139	0.127	0.290	0.180
a7. Current food prices compared to last six months	0.361	0.039	0.357	-0.213	**0.542**
a8. Food prices in next six months compared to today	**0.756**	0.055	0.191	0.098	0.292
a9. Current energy prices compared to last six months	**0.513**	0.195	-0.018	0.100	0.165
a10. Energy prices in next six months compared to today	**0.598**	0.322	0.110	0.074	0.181
a11. Current Non-Food and non-energy prices compared to last six months	**0.467**	0.168	0.204	0.092	0.133
a12. Non-food and non-energy prices in next six months compared to today	**0.799**	0.188	0.206	-0.007	-0.141
a13. HH income in the next year compared to previous year	0.072	0.105	0.008	**0.440**	-0.034
a14. Current time to purchase durable household items compared to previous six months	0.086	**0.786**	0.089	0.169	0.060
a15. Next six months for purchasing durable household items	0.294	**0.683**	0.166	0.138	-0.008
a16. Next six months for purchasing automobile (car/motorcycle)	0.332	**0.665**	0.019	0.116	0.004
a17. Current times for purchase or construction of new house	0.041	0.384	0.072	0.169	0.208
a18. Satisfaction with government's current economic steps	0.309	0.096	**0.445**	0.257	-0.047
a19. Unemployment in the next six months compared to today	**0.479**	0.047	0.307	0.110	0.184
a20. Interest rates in the next six months compared to today	0.171	0.083	-0.019	0.084	0.391

Table B.6. Wave 7

	Factor					
	1	2	3	4	5	6
a1. HH current financial position compared to last six months	0.185	0.041	**0.516**	0.088	0.113	0.030
a2. HH financial position in next six months compared to today's	0.154	0.028	**0.853**	0.053	0.097	0.034
a3. Current general economic conditions compared to last six months	0.162	0.128	0.135	0.004	**0.719**	0.037
a4. General economic conditions over next six months compared to today	0.137	0.112	0.326	0.138	**0.422**	0.100
a5. Prices of daily use items in next six months	0.101	0.395	0.143	0.260	0.110	0.089
a7. Current food prices compared to last six months	0.101	**0.675**	0.014	-0.032	0.086	0.055
a8. Food prices in next six months compared to today	0.077	**0.580**	0.124	0.256	0.066	0.166
a9. Current energy prices compared to last six months	0.064	**0.544**	-0.002	0.110	0.079	0.012
a10. Energy prices in next six months compared to today	0.096	**0.455**	0.123	0.359	0.039	0.170
a11. Current Non-Food and non-energy prices compared to last six months	0.123	0.258	0.046	**0.401**	0.087	0.054
a12. Non-food and non-energy prices in next six months compared to today	0.090	0.183	0.139	**0.856**	0.001	0.109
a13. HH income in the next year compared to previous year	0.091	0.099	0.225	0.053	0.103	0.091
a14. Current time to purchase durable household items compared to previous six months	**0.705**	0.063	0.133	0.021	0.070	0.024
a15. Next six months for purchasing durable household items	**0.666**	0.107	0.108	0.111	0.105	0.077
a16. Next six months for purchasing automobile (car/motorcycle)	**0.607**	0.121	0.092	0.134	0.100	0.055
a17. Current times for purchase or construction of new house	**0.482**	0.054	0.149	0.019	0.112	0.022
a18. Satisfaction with government's current economic steps	0.220	0.105	0.103	0.031	0.286	0.134
a19. Unemployment in the next six months compared to today	0.054	0.125	0.049	0.122	0.196	**0.678**
a20. Interest rates in the next six months compared to today	0.046	0.066	0.055	0.037	-0.007	**0.434**

Table B.7. Wave 8

	Factor					
	1	2	3	4	5	6
a1. HH current financial position compared to last six months	0.135	-0.012	**0.651**	0.154	0.053	0.037
a2. HH financial position in next six months compared to today's	0.161	0.056	**0.754**	0.156	0.143	-0.082
a3. Current general economic conditions compared to last six months	0.165	0.019	0.241	**0.668**	-0.003	0.041
a4. General economic conditions over next six months compared to today	0.102	0.125	0.250	**0.505**	0.212	-0.050
a5. Prices of daily use items in next six months	0.001	0.278	0.033	0.193	0.310	0.091
a7. Current food prices compared to last six months	0.016	0.203	-0.001	0.032	0.115	**0.769**
a8. Food prices in next six months compared to today	0.063	**0.419**	-0.004	0.051	0.270	0.299
a9. Current energy prices compared to last six months	0.023	0.315	-0.073	0.325	0.080	0.273
a10. Energy prices in next six months compared to today	0.053	**0.563**	-0.083	0.187	0.228	0.103
a11. Current Non-Food and non-energy prices compared to last six months	0.043	**0.583**	0.027	0.007	-0.022	0.146
a12. Non-food and non-energy prices in next six months compared to today	-0.005	**0.716**	0.055	-0.044	0.083	-0.065
a13. HH income in the next year compared to previous year	0.248	-0.067	0.240	0.135	0.086	0.031
a14. Current time to purchase durable household items compared to previous six months	**0.788**	0.030	0.119	0.078	-0.055	0.096
a15. Next six months for purchasing durable household items	**0.678**	0.114	0.090	0.148	-0.009	0.000
a16. Next six months for purchasing automobile (car/motorcycle)	**0.600**	0.057	0.042	0.083	0.183	-0.072
a17. Current times for purchase or construction of new house	**0.513**	-0.029	0.128	-0.015	0.201	0.029
a18. Satisfaction with government's current economic steps	0.156	-0.004	0.116	0.257	0.279	0.079
a19. Unemployment in the next six months compared to today	0.069	0.083	0.052	0.153	**0.537**	0.026
a20. Interest rates in the next six months compared to today	0.072	0.080	0.062	-0.041	0.277	0.038

Table B. 8. Wave 9

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	-0.047	0.122	0.120	**0.663**	0.102
a2. HH financial position in next six months compared to today's	0.334	0.127	-0.091	**0.692**	0.076
a3. Current general economic conditions compared to last six months	0.010	0.153	0.270	0.113	**0.506**
a4. General economic conditions over next six months compared to today	**0.451**	0.225	-0.146	0.179	**0.436**
a5. Prices of daily use items in next six months	**0.504**	0.100	0.198	-0.056	0.141
a7. Current food prices compared to last six months	0.171	0.032	**0.454**	-0.045	0.169
a8. Food prices in next six months compared to today	**0.704**	0.101	0.278	0.040	0.038
a9. Current energy prices compared to last six months	0.135	-0.011	**0.488**	0.003	0.128
a10. Energy prices in next six months compared to today	**0.699**	0.066	0.247	0.067	-0.028
a11. Current Non-Food and non-energy prices compared to last six months	0.178	0.075	**0.495**	0.091	-0.013
a12. Non-food and non-energy prices in next six months compared to today	**0.684**	0.034	0.284	0.063	-0.070
a13. HH income in the next year compared to previous year	0.171	0.173	-0.007	0.088	0.176
a14. Current time to purchase durable household items compared to previous six months	-0.008	**0.621**	-0.020	0.042	0.175
a15. Next six months for purchasing durable household items	0.242	**0.732**	-0.015	-0.040	0.138
a16. Next six months for purchasing automobile (car/motorcycle)	0.153	**0.713**	0.096	0.111	-0.008
a17. Current times for purchase or construction of new house	-0.052	**0.504**	0.112	0.192	0.157
a18. Satisfaction with government's current economic steps	0.048	0.231	0.204	0.030	**0.414**
a19. Unemployment in the next six months compared to today	0.386	0.031	0.076	-0.008	0.200
a20. Interest rates in the next six months compared to today	0.272	0.018	-0.012	0.058	0.010

Table B. 9. Wave 10

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.048	**0.564**	0.267	-0.019
a2. HH financial position in next six months compared to today's	0.118	**0.635**	0.198	0.054
a3. Current general economic conditions compared to last six months	0.083	**0.547**	0.052	0.206
a4. General economic conditions over next six months compared to today	0.111	**0.625**	0.091	0.294
a5. Prices of daily use items in next six months	0.292	0.084	0.054	**0.466**
a7. Current food prices compared to last six months	**0.403**	0.061	-0.062	0.198
a8. Food prices in next six months compared to today	**0.490**	0.073	0.101	**0.529**
a9. Current energy prices compared to last six months	**0.430**	0.033	-0.001	0.096
a10. Energy prices in next six months compared to today	**0.589**	0.033	0.021	**0.438**
a11. Current Non-Food and non-energy prices compared to last six months	**0.679**	0.118	-0.003	-0.027
a12. Non-food and non-energy prices in next six months compared to today	**0.574**	0.130	0.034	0.339
a13. HH income in the next year compared to previous year	0.021	0.224	0.231	0.085
a14. Current time to purchase durable household items compared to previous six months	-0.049	0.106	**0.701**	0.053
a15. Next six months for purchasing durable household items	0.093	0.199	**0.641**	0.117
a16. Next six months for purchasing automobile (car/motorcycle)	0.015	0.135	**0.603**	0.086
a17. Current times for purchase or construction of new house	-0.056	0.078	**0.537**	0.011
a18. Satisfaction with government's current economic steps	0.085	0.394	0.156	**0.419**
a19. Unemployment in the next six months compared to today	0.115	0.205	0.113	**0.526**
a20. Interest rates in the next six months compared to today	0.135	0.093	0.046	0.359

Table B.10. Wave 11

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.193	0.045	**0.660**	0.132	0.015
a2. HH financial position in next six months compared to today's	0.154	0.055	**0.739**	0.139	-0.005
a3. Current general economic conditions compared to last six months	0.186	-0.045	0.338	**0.573**	0.158
a4. General economic conditions over next six months compared to today	0.193	0.075	0.330	**0.518**	0.047
a5. Prices of daily use items in next six months	0.036	0.372	0.177	0.100	0.305
a7. Current food prices compared to last six months	0.062	0.203	0.025	0.092	**0.520**
a8. Food prices in next six months compared to today	-0.012	**0.538**	0.020	0.082	0.252
a9. Current energy prices compared to last six months	0.070	0.281	-0.007	0.033	**0.580**
a10. Energy prices in next six months compared to today	0.054	**0.631**	0.005	0.087	0.269
a11. Current Non-Food and non-energy prices compared to last six months	0.060	**0.597**	0.027	0.146	0.134
a12. Non-food and non-energy prices in next six months compared to today	0.072	**0.668**	0.017	0.119	0.004
a13. HH income in the next year compared to previous year	0.261	-0.010	0.276	0.107	0.069
a14. Current time to purchase durable household items compared to previous six months	**0.746**	-0.009	0.058	0.019	0.103
a15. Next six months for purchasing durable household items	**0.758**	0.103	0.095	0.089	0.045
a16. Next six months for purchasing automobile (car/motorcycle)	**0.605**	0.133	0.208	0.097	0.028
a17. Current times for purchase or construction of new house	**0.467**	-0.014	0.182	0.222	-0.021
a18. Satisfaction with government's current economic steps	0.181	0.110	0.140	**0.510**	-0.009
a19. Unemployment in the next six months compared to today	0.063	0.240	-0.063	0.358	0.043
a20. Interest rates in the next six months compared to today	-0.029	0.122	0.018	0.200	0.040

Table B. 11. Wave 12

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.193	0.045	**0.660**	0.132	0.015
a2. HH financial position in next six months compared to today's	0.154	0.055	**0.739**	0.139	-0.005
a3. Current general economic conditions compared to last six months	0.186	-0.045	0.338	**0.573**	0.158
a4. General economic conditions over next six months compared to today	0.193	0.075	0.330	**0.518**	0.047
a5. Prices of daily use items in next six months	0.036	0.372	0.177	0.100	0.305
a7. Current food prices compared to last six months	0.062	0.203	0.025	0.092	**0.520**
a8. Food prices in next six months compared to today	-0.012	**0.538**	0.020	0.082	0.252
a9. Current energy prices compared to last six months	0.070	0.281	-0.007	0.033	**0.580**
a10. Energy prices in next six months compared to today	0.054	**0.631**	0.005	0.087	0.269
a11. Current Non-Food and non-energy prices compared to last six months	0.060	**0.597**	0.027	0.146	0.134
a12. Non-food and non-energy prices in next six months compared to today	0.072	**0.668**	0.017	0.119	0.004
a13. HH income in the next year compared to previous year	0.261	-0.010	0.276	0.107	0.069
a14. Current time to purchase durable household items compared to previous six months	**0.746**	-0.009	0.058	0.019	0.103
a15. Next six months for purchasing durable household items	**0.758**	0.103	0.095	0.089	0.045
a16. Next six months for purchasing automobile (car/motorcycle)	**0.605**	0.133	0.208	0.097	0.028
a17. Current times for purchase or construction of new house	**0.467**	-0.014	0.182	0.222	-0.021
a18. Satisfaction with government's current economic steps	0.181	0.110	0.140	**0.510**	-0.009
a19. Unemployment in the next six months compared to today	0.063	0.240	-0.063	0.358	0.043
a20. Interest rates in the next six months compared to today	-0.029	0.122	0.018	0.200	0.040

Table B.12. Wave 13

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.175	**0.666**	0.042	0.100	0.116
a2. HH financial position in next six months compared to today's	0.146	**0.674**	0.082	0.058	0.081
a3. Current general economic conditions compared to last six months	0.289	**0.523**	0.208	0.039	0.103
a4. General economic conditions over next six months compared to today	0.240	**0.614**	0.225	0.061	0.121
a5. Prices of daily use items in next six months	0.018	0.093	0.228	**0.408**	-0.033
a7. Current food prices compared to last six months	0.104	0.021	0.174	**0.622**	0.082
a8. Food prices in next six months compared to today	0.072	0.089	0.371	**0.580**	0.116
a9. Current energy prices compared to last six months	0.108	0.120	**0.418**	0.192	0.094
a10. Energy prices in next six months compared to today	0.043	0.093	**0.586**	0.194	0.095
a11. Current Non-Food and non-energy prices compared to last six months	0.098	0.086	**0.540**	0.177	0.043
a12. Non-food and non-energy prices in next six months compared to today	0.099	0.119	**0.593**	0.129	0.125
a13. HH income in the next year compared to previous year	0.272	0.261	0.039	0.015	-0.114
a14. Current time to purchase durable household items compared to previous six months	**0.726**	0.155	0.044	0.092	0.080
a15. Next six months for purchasing durable household items	**0.716**	0.184	0.197	0.004	0.147
a16. Next six months for purchasing automobile (car/motorcycle)	**0.700**	0.195	0.096	0.037	0.099
a17. Current times for purchase or construction of new house	**0.519**	0.210	0.061	0.127	0.016
a18. Satisfaction with government's current economic steps	0.249	0.309	0.212	0.183	0.231
a19. Unemployment in the next six months compared to today	0.158	0.218	0.150	0.200	0.365
a20. Interest rates in the next six months compared to today	0.047	0.083	0.130	0.005	**0.562**

Table B. 13. Wave 14

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.016	0.170	**0.648**	0.174	0.032
a2. HH financial position in next six months compared to today's	0.082	0.135	**0.745**	0.131	0.157
a3. Current general economic conditions compared to last six months	0.025	0.102	0.209	**0.801**	0.084
a4. General economic conditions over next six months compared to today	0.107	0.171	0.214	**0.528**	0.255
a5. Prices of daily use items in next six months	0.242	0.113	0.105	0.221	0.208
a7. Current food prices compared to last six months	**0.557**	0.081	0.068	0.158	0.073
a8. Food prices in next six months compared to today	**0.661**	0.104	0.060	0.078	0.237
a9. Current energy prices compared to last six months	**0.600**	0.122	0.002	0.022	0.047
a10. Energy prices in next six months compared to today	**0.703**	0.053	0.086	-0.033	0.288
a11. Current Non-Food and non-energy prices compared to last six months	**0.570**	0.140	-0.019	0.044	0.023
a12. Non-food and non-energy prices in next six months compared to today	**0.576**	0.136	0.073	-0.024	0.192
a13. HH income in the next year compared to previous year	0.064	0.277	0.298	0.134	-0.041
a14. Current time to purchase durable household items compared to previous six months	0.084	**0.635**	0.095	0.105	0.096
a15. Next six months for purchasing durable household items	0.233	**0.664**	0.123	0.126	0.072
a16. Next six months for purchasing automobile (car/motorcycle)	0.113	**0.663**	0.113	0.041	0.164
a17. Current times for purchase or construction of new house	0.127	**0.596**	0.117	0.030	0.139
a18. Satisfaction with government's current economic steps	0.231	0.332	0.121	0.158	**0.477**
a19. Unemployment in the next six months compared to today	0.159	0.130	0.100	0.137	**0.581**
a20. Interest rates in the next six months compared to today	0.182	0.055	-0.023	0.038	0.280

Table B.14. Wave 15

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.106	0.215	**0.654**	0.079
a2. HH financial position in next six months compared to today's	0.148	0.220	**0.722**	0.161
a3. Current general economic conditions compared to last six months	0.189	0.128	**0.465**	**0.554**
a4. General economic conditions over next six months compared to today	0.182	0.171	**0.446**	**0.605**
a5. Prices of daily use items in next six months	**0.566**	0.090	0.083	0.255
a7. Current food prices compared to last six months	**0.627**	0.079	0.102	0.151
a8. Food prices in next six months compared to today	**0.681**	0.129	0.044	0.154
a9. Current energy prices compared to last six months	**0.597**	0.098	0.064	-0.010
a10. Energy prices in next six months compared to today	**0.680**	0.138	0.139	0.050
a11. Current Non-Food and non-energy prices compared to last six months	**0.659**	0.184	0.117	0.041
a12. Non-food and non-energy prices in next six months compared to today	**0.710**	0.148	0.107	0.127
a13. HH income in the next year compared to previous year	0.004	0.199	0.005	0.249
a14. Current time to purchase durable household items compared to previous six months	0.075	**0.700**	0.161	0.180
a15. Next six months for purchasing durable household items	0.208	**0.686**	0.203	0.224
a16. Next six months for purchasing automobile (car/motorcycle)	0.284	**0.605**	0.154	0.175
a17. Current times for purchase or construction of new house	0.198	**0.482**	0.154	0.078
a18. Satisfaction with government's current economic steps	0.334	0.334	0.097	**0.489**
a19. Unemployment in the next six months compared to today	0.343	0.209	0.076	**0.404**
a20. Interest rates in the next six months compared to today	0.383	0.148	0.037	0.196

Table B.15. Wave 16

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	**0.720**	0.163	-0.017	-0.080	0.147
a2. HH financial position in next six months compared to today's	**0.793**	0.147	0.029	-0.005	0.062
a3. Current general economic conditions compared to last six months	**0.657**	0.113	0.144	0.340	-0.044
a4. General economic conditions over next six months compared to today	**0.729**	0.015	0.112	0.348	-0.164
a5. Prices of daily use items in next six months	0.109	0.049	0.239	0.386	0.211
a7. Current food prices compared to last six months	0.043	0.105	0.201	0.249	**0.542**
a8. Food prices in next six months compared to today	0.095	0.026	**0.419**	0.346	0.161
a9. Current energy prices compared to last six months	0.015	0.017	0.271	0.116	**0.544**
a10. Energy prices in next six months compared to today	0.072	0.025	**0.512**	0.138	0.267
a11. Current Non-Food and non-energy prices compared to last six months	0.037	0.155	**0.678**	0.071	0.114
a12. Non-food and non-energy prices in next six months compared to today	0.057	0.180	**0.757**	0.074	0.090
a13. HH income in the next year compared to previous year	0.239	0.185	0.075	0.095	0.173
a14. Current time to purchase durable household items compared to previous six months	0.138	**0.757**	0.024	0.042	0.064
a15. Next six months for purchasing durable household items	0.218	**0.703**	0.105	0.190	-0.076
a16. Next six months for purchasing automobile (car/motorcycle)	0.161	**0.650**	0.131	0.209	0.006
a17. Current times for purchase or construction of new house	0.003	**0.550**	0.131	0.082	0.160
a18. Satisfaction with government's current economic steps	0.308	0.163	0.109	**0.444**	0.190
a19. Unemployment in the next six months compared to today	0.021	0.263	0.058	**0.459**	0.227
a20. Interest rates in the next six months compared to today	0.041	0.085	0.049	0.326	0.022

Table B.16. Wave 17

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.169	0.013	0.267	-0.112	**0.595**
a2. HH financial position in next six months compared to today's	0.223	0.073	0.287	0.123	**0.725**
a3. Current general economic conditions compared to last six months	0.133	0.095	**0.439**	-0.136	0.234
a4. General economic conditions over next six months compared to today	0.160	0.075	**0.561**	0.040	0.240
a5. Prices of daily use items in next six months	-0.029	0.350	0.277	0.005	-0.002
a7. Current food prices compared to last six months	0.092	0.320	0.143	**0.423**	0.015
a8. Food prices in next six months compared to today	0.137	**0.691**	0.030	0.192	0.077
a9. Current energy prices compared to last six months	0.118	0.127	0.052	**0.552**	-0.022
a10. Energy prices in next six months compared to today	0.057	**0.693**	0.112	0.199	0.039
a11. Current Non-Food and non-energy prices compared to last six months	0.208	0.148	0.039	**0.565**	-0.009
a12. Non-food and non-energy prices in next six months compared to today	0.170	**0.475**	0.103	0.353	0.002
a13. HH income in the next year compared to previous year	0.134	-0.035	0.116	-0.216	0.006
a14. Current time to purchase durable household items compared to previous six months	**0.633**	0.032	0.223	0.024	0.056
a15. Next six months for purchasing durable household items	**0.691**	0.139	0.175	0.087	0.046
a16. Next six months for purchasing automobile (car/motorcycle)	**0.694**	0.085	0.057	0.069	0.193
a17. Current times for purchase or construction of new house	**0.525**	0.082	0.095	0.236	0.221
a18. Satisfaction with government's current economic steps	0.286	0.037	**0.539**	0.057	0.194
a19. Unemployment in the next six months compared to today	0.115	0.193	**0.424**	0.174	0.048
a20. Interest rates in the next six months compared to today	0.014	0.112	0.215	0.214	0.061

Table B.17. Wave 18

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	**0.642**	0.066	0.081	-0.010	0.060
a2. HH financial position in next six months compared to today's	**0.643**	0.139	0.183	0.218	-0.076
a3. Current general economic conditions compared to last six months	**0.628**	0.148	0.111	0.006	0.082
a4. General economic conditions over next six months compared to today	**0.689**	0.136	0.155	0.169	-0.049
a5. Prices of daily use items in next six months	0.126	**0.482**	-0.011	-0.024	0.035
a7. Current food prices compared to last six months	0.085	0.303	0.110	**0.576**	-0.090
a8. Food prices in next six months compared to today	0.168	**0.607**	0.089	0.158	0.098
a9. Current energy prices compared to last six months	0.044	0.175	0.033	**0.687**	-0.142
a10. Energy prices in next six months compared to today	0.047	**0.640**	0.152	0.199	-0.030
a11. Current Non-Food and non-energy prices compared to last six months	0.162	0.159	0.188	**0.643**	-0.038
a12. Non-food and non-energy prices in next six months compared to today	0.069	**0.680**	0.095	0.223	0.046
a13. HH income in the next year compared to previous year	0.017	0.019	0.001	-0.162	**0.415**
a14. Current time to purchase durable household items compared to previous six months	0.193	0.050	**0.743**	-0.017	-0.245
a15. Next six months for purchasing durable household items	0.201	0.229	**0.551**	0.252	0.255
a16. Next six months for purchasing automobile (car/motorcycle)	0.174	0.143	**0.641**	0.092	-0.017
a17. Current times for purchase or construction of new house	0.213	0.123	**0.565**	0.244	0.299
a18. Satisfaction with government's current economic steps	**0.461**	0.214	0.270	0.057	0.025
a19. Unemployment in the next six months compared to today	0.225	0.338	0.170	0.143	-0.037
a20. Interest rates in the next six months compared to today	0.117	0.316	0.130	0.171	-0.068

Table B.18. Wave 19

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.145	**0.641**	0.224	0.087
a2. HH financial position in next six months compared to today's	0.192	**0.705**	0.236	0.045
a3. Current general economic conditions compared to last six months	0.218	**0.641**	0.184	0.124
a4. General economic conditions over next six months compared to today	0.233	**0.691**	0.202	0.130
a5. Prices of daily use items in next six months	**0.639**	0.236	0.039	0.013
a7. Current food prices compared to last six months	**0.763**	0.126	0.147	-0.026
a8. Food prices in next six months compared to today	**0.725**	0.260	0.089	0.161
a9. Current energy prices compared to last six months	**0.428**	0.134	0.157	**0.543**
a10. Energy prices in next six months compared to today	**0.506**	0.121	0.212	**0.675**
a11. Current Non-Food and non-energy prices compared to last six months	**0.645**	0.153	0.091	0.343
a12. Non-food and non-energy prices in next six months compared to today	**0.685**	0.265	0.103	0.356
a13. HH income in the next year compared to previous year	-0.004	-0.031	0.037	-0.139
a14. Current time to purchase durable household items compared to previous six months	0.096	0.212	**0.756**	0.023
a15. Next six months for purchasing durable household items	0.120	0.221	**0.756**	0.106
a16. Next six months for purchasing automobile (car/motorcycle)	0.166	0.208	**0.681**	-0.068
a17. Current times for purchase or construction of new house	0.059	0.180	**0.644**	-0.022
a18. Satisfaction with government's current economic steps	0.291	0.390	0.309	0.180
a19. Unemployment in the next six months compared to today	0.289	0.368	0.157	0.139
a20. Interest rates in the next six months compared to today	0.344	0.199	0.204	0.108

Table B.19. Wave 20

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.241	0.265	0.086	**0.626**
a2. HH financial position in next six months compared to today's	0.223	0.218	0.211	**0.729**
a3. Current general economic conditions compared to last six months	0.280	0.234	**0.642**	0.174
a4. General economic conditions over next six months compared to today	0.227	0.255	**0.621**	0.259
a5. Prices of daily use items in next six months	**0.519**	0.049	0.203	0.102
a7. Current food prices compared to last six months	**0.611**	0.241	0.155	0.089
a8. Food prices in next six months compared to today	**0.614**	0.144	0.191	0.051
a9. Current energy prices compared to last six months	**0.630**	0.166	-0.073	0.070
a10. Energy prices in next six months compared to today	**0.683**	0.101	0.100	0.013
a11. Current Non-Food and non-energy prices compared to last six months	**0.657**	0.173	-0.008	0.027
a12. Non-food and non-energy prices in next six months compared to today	**0.623**	0.097	0.133	-0.002
a13. HH income in the next year compared to previous year	-0.103	-0.063	0.120	0.181
a14. Current time to purchase durable household items compared to previous six months	0.100	**0.690**	0.120	0.092
a15. Next six months for purchasing durable household items	0.129	**0.668**	0.117	0.092
a16. Next six months for purchasing automobile (car/motorcycle)	0.154	**0.732**	0.093	0.023
a17. Current times for purchase or construction of new house	0.206	**0.628**	0.111	0.131
a18. Satisfaction with government's current economic steps	0.297	0.274	0.343	0.155
a19. Unemployment in the next six months compared to today	0.327	0.035	0.176	0.075
a20. Interest rates in the next six months compared to today	**0.401**	0.091	0.085	0.116

Table B.20. Wave 21

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	**0.612**	0.075	0.099	0.136	0.156
a2. HH financial position in next six months compared to today's	**0.662**	0.184	0.048	0.097	0.143
a3. Current general economic conditions compared to last six months	**0.503**	0.086	0.366	0.165	0.065
a4. General economic conditions over next six months compared to today	**0.532**	0.153	0.283	0.267	0.007
a5. Prices of daily use items in next six months	0.129	0.303	0.282	0.087	0.112
a7. Current food prices compared to last six months	0.127	0.330	**0.454**	0.044	-0.076
a8. Food prices in next six months compared to today	0.175	**0.733**	0.132	0.017	-0.056
a9. Current energy prices compared to last six months	0.053	0.093	**0.698**	0.102	0.125
a10. Energy prices in next six months compared to today	0.178	**0.532**	0.210	0.099	0.238
a11. Current Non-Food and non-energy prices compared to last six months	0.068	0.204	**0.493**	0.090	0.088
a12. Non-food and non-energy prices in next six months compared to today	0.121	**0.487**	0.202	0.165	0.136
a13. HH income in the next year compared to previous year	0.257	0.130	-0.090	0.129	-0.033
a14. Current time to purchase durable household items compared to previous six months	0.218	0.013	0.109	**0.442**	0.318
a15. Next six months for purchasing durable household items	0.201	0.210	0.114	**0.511**	-0.013
a16. Next six months for purchasing automobile (car/motorcycle)	0.061	0.037	0.246	**0.556**	0.397
a17. Current times for purchase or construction of new house	0.169	0.052	0.028	**0.589**	-0.072
a18. Satisfaction with government's current economic steps	**0.468**	0.223	0.194	0.215	0.271
a19. Unemployment in the next six months compared to today	0.303	0.223	0.077	-0.037	**0.403**
a20. Interest rates in the next six months compared to today	0.126	0.191	0.179	0.085	0.158

Table B.21. Wave 22

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.097	0.135	0.163	**0.656**
a2. HH financial position in next six months compared to today's	0.088	0.159	0.260	**0.798**
a3. Current general economic conditions compared to last six months	0.151	0.203	**0.672**	0.207
a4. General economic conditions over next six months compared to today	0.091	0.207	**0.718**	0.296
a5. Prices of daily use items in next six months	**0.415**	0.079	0.296	0.066
a7. Current food prices compared to last six months	**0.570**	0.038	0.181	0.000
a8. Food prices in next six months compared to today	**0.479**	0.095	0.319	0.082
a9. Current energy prices compared to last six months	**0.570**	0.008	-0.003	0.005
a10. Energy prices in next six months compared to today	**0.579**	0.074	0.142	0.071
a11. Current Non-Food and non-energy prices compared to last six months	**0.675**	0.163	0.037	0.041
a12. Non-food and non-energy prices in next six months compared to today	**0.701**	0.227	0.028	0.109
a13. HH income in the next year compared to previous year	0.015	0.206	0.251	0.272
a14. Current time to purchase durable household items compared to previous six months	0.091	**0.698**	0.189	0.096
a15. Next six months for purchasing durable household items	0.077	**0.709**	0.184	0.114
a16. Next six months for purchasing automobile (car/motorcycle)	0.203	**0.649**	0.110	0.063
a17. Current times for purchase or construction of new house	0.141	**0.569**	0.148	0.193
a18. Satisfaction with government's current economic steps	0.267	0.266	**0.489**	0.167
a19. Unemployment in the next six months compared to today	0.266	0.113	0.328	0.070
a20. Interest rates in the next six months compared to today	0.277	0.159	0.193	0.081

Table B.22. Wave 23

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	**0.515**	0.121	0.226	0.033
a2. HH financial position in next six months compared to today's	**0.595**	0.076	0.160	0.046
a3. Current general economic conditions compared to last six months	**0.705**	0.002	0.121	0.177
a4. General economic conditions over next six months compared to today	**0.716**	-0.025	0.089	0.128
a5. Prices of daily use items in next six months	0.193	0.215	0.088	**0.507**
a7. Current food prices compared to last six months	0.117	0.286	0.015	**0.613**
a8. Food prices in next six months compared to today	0.067	0.301	0.058	**0.787**
a9. Current energy prices compared to last six months	0.053	**0.613**	0.132	0.188
a10. Energy prices in next six months compared to today	0.063	**0.704**	0.143	0.195
a11. Current Non-Food and non-energy prices compared to last six months	0.081	**0.574**	0.102	0.316
a12. Non-food and non-energy prices in next six months compared to today	0.129	**0.589**	0.079	**0.407**
a13. HH income in the next year compared to previous year	0.287	0.084	0.272	0.045
a14. Current time to purchase durable household items compared to previous six months	0.231	0.133	**0.627**	0.024
a15. Next six months for purchasing durable household items	0.239	0.165	**0.613**	0.001
a16. Next six months for purchasing automobile (car/motorcycle)	0.128	0.040	**0.650**	0.192
a17. Current times for purchase or construction of new house	0.104	0.056	**0.530**	0.051
a18. Satisfaction with government's current economic steps	**0.460**	0.143	0.293	0.213
a19. Unemployment in the next six months compared to today	0.316	0.215	0.180	0.206
a20. Interest rates in the next six months compared to today	0.137	0.120	0.166	0.254

Table B.23. Wave 24

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	**0.611**	0.205	0.162	0.026
a2. HH financial position in next six months compared to today's	**0.612**	0.172	0.188	0.133
a3. Current general economic conditions compared to last six months	**0.582**	0.021	0.173	0.294
a4. General economic conditions over next six months compared to today	**0.592**	0.081	0.223	0.307
a5. Prices of daily use items in next six months	0.067	0.087	0.130	**0.586**
a7. Current food prices compared to last six months	0.078	0.362	0.029	**0.453**
a8. Food prices in next six months compared to today	0.115	**0.431**	0.064	**0.567**
a9. Current energy prices compared to last six months	0.175	**0.620**	0.064	0.131
a10. Energy prices in next six months compared to today	0.185	**0.641**	0.114	0.154
a11. Current Non-Food and non-energy prices compared to last six months	0.071	**0.558**	0.129	0.234
a12. Non-food and non-energy prices in next six months compared to today	0.103	**0.570**	0.077	0.370
a13. HH income in the next year compared to previous year	0.365	0.107	0.277	-0.046
a14. Current time to purchase durable household items compared to previous six months	0.246	0.046	**0.578**	0.019
a15. Next six months for purchasing durable household items	0.246	0.075	**0.635**	0.014
a16. Next six months for purchasing automobile (car/motorcycle)	0.112	0.087	**0.674**	0.096
a17. Current times for purchase or construction of new house	0.147	0.084	**0.569**	0.139
a18. Satisfaction with government's current economic steps	**0.427**	0.170	0.313	0.178
a19. Unemployment in the next six months compared to today	0.206	0.161	0.061	0.360
a20. Interest rates in the next six months compared to today	0.118	0.202	-0.008	0.390

Table B.24. Wave 25

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.030	0.258	**0.559**	0.074
a2. HH financial position in next six months compared to today's	0.039	0.267	**0.637**	0.048
a3. Current general economic conditions compared to last six months	0.107	0.213	**0.724**	-0.032
a4. General economic conditions over next six months compared to today	0.161	0.185	**0.704**	-0.020
a5. Prices of daily use items in next six months	**0.432**	0.020	0.206	0.123
a7. Current food prices compared to last six months	**0.648**	0.108	0.091	-0.065
a8. Food prices in next six months compared to today	**0.712**	0.046	0.092	0.103
a9. Current energy prices compared to last six months	**0.668**	0.085	0.006	0.135
a10. Energy prices in next six months compared to today	**0.751**	0.052	0.019	0.161
a11. Current Non-Food and non-energy prices compared to last six months	**0.708**	0.052	0.043	0.152
a12. Non-food and non-energy prices in next six months compared to today	**0.712**	0.070	0.039	0.195
a13. HH income in the next year compared to previous year	-0.066	0.353	0.303	0.066
a14. Current time to purchase durable household items compared to previous six months	0.051	**0.638**	0.232	-0.002
a15. Next six months for purchasing durable household items	0.136	**0.729**	0.145	-0.059
a16. Next six months for purchasing automobile (car/motorcycle)	0.128	**0.705**	0.222	-0.012
a17. Current times for purchase or construction of new house	0.054	**0.616**	0.250	0.057
a18. Satisfaction with government's current economic steps	0.268	0.359	**0.425**	0.196
a19. Unemployment in the next six months compared to today	0.329	0.064	0.184	**0.522**
a20. Interest rates in the next six months compared to today	0.260	-0.035	-0.044	**0.555**

Table B.25. Wave 26

	Factor		
	1	2	3
a1. HH current financial position compared to last six months	0.132	0.330	**0.478**
a2. HH financial position in next six months compared to today's	0.009	0.338	**0.557**
a3. Current general economic conditions compared to last six months	0.143	0.136	**0.691**
a4. General economic conditions over next six months compared to today	0.116	0.158	**0.703**
a5. Prices of daily use items in next six months	**0.639**	0.056	0.102
a7. Current food prices compared to last six months	**0.730**	-0.029	0.094
a8. Food prices in next six months compared to today	**0.773**	0.044	0.104
a9. Current energy prices compared to last six months	**0.623**	0.004	0.025
a10. Energy prices in next six months compared to today	**0.684**	0.022	0.028
a11. Current Non-Food and non-energy prices compared to last six months	**0.690**	0.099	-0.030
a12. Non-food and non-energy prices in next six months compared to today	**0.719**	0.131	-0.019
a13. HH income in the next year compared to previous year	-0.118	0.365	0.310
a14. Current time to purchase durable household items compared to previous six months	0.001	**0.688**	0.083
a15. Next six months for purchasing durable household items	0.057	**0.625**	0.198
a16. Next six months for purchasing automobile (car/motorcycle)	0.031	**0.696**	0.176
a17. Current times for purchase or construction of new house	0.043	**0.619**	0.137
a18. Satisfaction with government's current economic steps	0.297	**0.413**	0.301
a19. Unemployment in the next six months compared to today	**0.448**	0.037	0.178
a20. Interest rates in the next six months compared to today	**0.441**	-0.050	0.060

Table B.26. Wave 27

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.033	**0.659**	0.187	0.009
a2. HH financial position in next six months compared to today's	0.029	**0.724**	0.128	0.012
a3. Current general economic conditions compared to last six months	0.079	**0.657**	0.175	0.040
a4. General economic conditions over next six months compared to today	0.010	**0.660**	0.219	0.001
a5. Prices of daily use items in next six months	**0.493**	0.098	0.005	0.018
a7. Current food prices compared to last six months	**0.645**	0.054	-0.059	0.096
a8. Food prices in next six months compared to today	**0.708**	0.052	0.030	0.100
a9. Current energy prices compared to last six months	**0.666**	-0.016	0.069	0.071
a10. Energy prices in next six months compared to today	**0.721**	0.012	0.060	0.147
a11. Current Non-Food and non-energy prices compared to last six months	**0.670**	0.016	0.009	0.225
a12. Non-food and non-energy prices in next six months compared to today	**0.704**	0.019	0.041	0.180
a13. HH income in the next year compared to previous year	-0.230	0.274	0.298	0.046
a14. Current time to purchase durable household items compared to previous six months	0.102	0.210	**0.719**	0.011
a15. Next six months for purchasing durable household items	0.029	0.242	**0.684**	-0.042
a16. Next six months for purchasing automobile (car/motorcycle)	0.041	0.197	**0.672**	-0.028
a17. Current times for purchase or construction of new house	-0.003	0.146	**0.583**	0.093
a18. Satisfaction with government's current economic steps	0.137	**0.415**	0.234	0.152
a19. Unemployment in the next six months compared to today	0.349	0.143	-0.021	**0.657**
a20. Interest rates in the next six months compared to today	0.307	0.006	0.064	**0.500**

Table B. 27. Wave 28

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.217	0.099	0.307	**0.628**	-0.017
a2. HH financial position in next six months compared to today's	0.187	0.113	0.204	**0.816**	-0.033
a3. Current general economic conditions compared to last six months	0.105	0.137	**0.750**	0.211	0.038
a4. General economic conditions over next six months compared to today	0.181	0.084	**0.708**	0.238	0.048
a5. Prices of daily use items in next six months	0.108	0.364	0.079	0.064	0.300
a7. Current food prices compared to last six months	0.105	**0.534**	0.028	0.091	-0.004
a8. Food prices in next six months compared to today	0.108	**0.523**	0.013	0.150	0.326
a9. Current energy prices compared to last six months	0.037	**0.579**	0.059	-0.109	-0.026
a10. Energy prices in next six months compared to today	0.043	**0.594**	0.042	-0.022	0.119
a11. Current Non-Food and non-energy prices compared to last six months	-0.003	**0.580**	0.111	0.033	0.021
a12. Non-food and non-energy prices in next six months compared to today	-0.012	**0.522**	0.081	0.119	0.247
a13. HH income in the next year compared to previous year	0.317	-0.095	0.105	0.270	0.090
a14. Current time to purchase durable household items compared to previous six months	**0.745**	0.122	0.077	0.075	0.000
a15. Next six months for purchasing durable household items	**0.762**	0.062	0.088	0.119	-0.028
a16. Next six months for purchasing automobile (car/motorcycle)	**0.677**	0.033	0.082	0.107	0.048
a17. Current times for purchase or construction of new house	**0.613**	0.086	0.093	0.075	0.063
a18. Satisfaction with government's current economic steps	0.343	0.171	0.374	0.057	0.203
a19. Unemployment in the next six months compared to today	0.077	0.254	0.213	0.079	**0.496**
a20. Interest rates in the next six months compared to today	0.002	0.042	-0.023	-0.062	**0.422**

Table B.28. Wave 29

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.151	0.277	**0.611**	-0.191
a2. HH financial position in next six months compared to today's	0.090	0.151	**0.644**	0.020
a3. Current general economic conditions compared to last six months	0.138	0.291	**0.517**	0.162
a4. General economic conditions over next six months compared to today	0.087	0.247	**0.624**	0.196
a5. Prices of daily use items in next six months	0.308	-0.006	0.125	**0.423**
a7. Current food prices compared to last six months	**0.475**	0.064	0.060	0.390
a8. Food prices in next six months compared to today	**0.577**	0.129	0.142	0.239
a9. Current energy prices compared to last six months	**0.559**	0.037	0.113	0.066
a10. Energy prices in next six months compared to today	**0.683**	0.091	0.080	0.020
a11. Current Non-Food and non-energy prices compared to last six months	**0.611**	0.168	0.062	0.063
a12. Non-food and non-energy prices in next six months compared to today	**0.597**	0.130	0.072	0.109
a13. HH income in the next year compared to previous year	-0.037	**0.440**	0.233	-0.018
a14. Current time to purchase durable household items compared to previous six months	0.092	**0.659**	0.175	0.034
a15. Next six months for purchasing durable household items	0.125	**0.638**	0.123	0.050
a16. Next six months for purchasing automobile (car/motorcycle)	0.105	**0.586**	0.153	0.028
a17. Current times for purchase or construction of new house	0.127	**0.590**	0.103	-0.036
a18. Satisfaction with government's current economic steps	0.239	**0.462**	0.342	0.061
a19. Unemployment in the next six months compared to today	0.307	0.126	0.159	0.203
a20. Interest rates in the next six months compared to today	0.237	-0.027	-0.043	0.239

Table B.29. Wave 30

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.284	0.121	**0.565**	-0.003	0.323
a2. HH financial position in next six months compared to today's	0.143	0.082	**0.518**	0.057	0.086
a3. Current general economic conditions compared to last six months	0.224	0.043	**0.602**	0.015	-0.027
a4. General economic conditions over next six months compared to today	0.129	0.021	**0.727**	0.023	-0.229
a5. Prices of daily use items in next six months	-0.020	**0.407**	0.015	0.103	-0.258
a7. Current food prices compared to last six months	-0.006	**0.517**	0.043	0.096	-0.138
a8. Food prices in next six months compared to today	0.069	**0.589**	0.079	-0.041	-0.092
a9. Current energy prices compared to last six months	0.081	**0.476**	0.035	0.164	0.268
a10. Energy prices in next six months compared to today	0.053	**0.544**	0.095	0.034	0.066
a11. Current Non-Food and non-energy prices compared to last six months	0.067	**0.546**	0.060	0.061	0.194
a12. Non-food and non-energy prices in next six months compared to today	0.035	**0.580**	0.034	0.063	0.029
a13. HH income in the next year compared to previous year	**0.398**	-0.137	0.162	0.147	0.099
a14. Current time to purchase durable household items compared to previous six months	**0.650**	0.097	0.132	-0.034	0.089
a15. Next six months for purchasing durable household items	**0.644**	0.039	0.194	0.056	-0.022
a16. Next six months for purchasing automobile (car/motorcycle)	**0.679**	0.061	0.181	-0.034	-0.084
a17. Current times for purchase or construction of new house	**0.676**	0.057	0.113	-0.026	0.020
a18. Satisfaction with government's current economic steps	0.353	0.273	**0.414**	0.188	0.133
a19. Unemployment in the next six months compared to today	0.070	0.278	0.097	**0.617**	-0.009
a20. Interest rates in the next six months compared to today	-0.041	0.214	0.005	0.160	0.002

Table B.30. Wave 31

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.209	**0.686**	-0.053	0.041
a2. HH financial position in next six months compared to today's	0.176	**0.612**	-0.017	-0.040
a3. Current general economic conditions compared to last six months	0.254	**0.691**	0.028	0.044
a4. General economic conditions over next six months compared to today	0.185	**0.724**	-0.013	0.009
a5. Prices of daily use items in next six months	-0.192	0.013	0.306	0.338
a7. Current food prices compared to last six months	-0.080	0.118	**0.403**	**0.403**
a8. Food prices in next six months compared to today	-0.031	-0.073	**0.618**	0.148
a9. Current energy prices compared to last six months	-0.058	0.040	**0.520**	**0.413**
a10. Energy prices in next six months compared to today	-0.020	-0.070	**0.661**	0.209
a11. Current Non-Food and non-energy prices compared to last six months	0.051	0.018	**0.653**	0.132
a12. Non-food and non-energy prices in next six months compared to today	0.022	-0.062	**0.679**	0.104
a13. HH income in the next year compared to previous year	0.314	0.315	-0.202	-0.049
a14. Current time to purchase durable household items compared to previous six months	**0.717**	0.297	-0.032	-0.053
a15. Next six months for purchasing durable household items	**0.714**	0.213	0.005	-0.034
a16. Next six months for purchasing automobile (car/motorcycle)	**0.773**	0.217	0.028	-0.065
a17. Current times for purchase or construction of new house	**0.732**	0.209	-0.022	-0.053
a18. Satisfaction with government's current economic steps	**0.473**	**0.475**	0.001	0.198
a19. Unemployment in the next six months compared to today	0.057	0.030	0.202	**0.622**
a20. Interest rates in the next six months compared to today	-0.044	-0.032	0.214	**0.522**

Table B.31. Wave 32

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.251	0.094	**0.678**	-0.019
a2. HH financial position in next six months compared to today's	0.160	0.048	**0.653**	-0.087
a3. Current general economic conditions compared to last six months	0.269	0.136	**0.612**	0.050
a4. General economic conditions over next six months compared to today	0.266	0.067	**0.637**	0.074
a5. Prices of daily use items in next six months	-0.041	**0.403**	-0.046	**0.437**
a7. Current food prices compared to last six months	0.088	**0.523**	-0.019	0.295
a8. Food prices in next six months compared to today	0.077	**0.532**	0.020	0.309
a9. Current energy prices compared to last six months	0.105	**0.607**	0.114	0.109
a10. Energy prices in next six months compared to today	0.046	**0.597**	0.152	0.169
a11. Current Non-Food and non-energy prices compared to last six months	0.087	**0.667**	0.077	0.077
a12. Non-food and non-energy prices in next six months compared to today	0.001	**0.685**	0.045	0.058
a13. HH income in the next year compared to previous year	0.294	-0.061	0.342	-0.146
a14. Current time to purchase durable household items compared to previous six months	**0.643**	0.105	0.299	-0.093
a15. Next six months for purchasing durable household items	**0.740**	0.033	0.269	0.031
a16. Next six months for purchasing automobile (car/motorcycle)	**0.750**	0.103	0.167	0.043
a17. Current times for purchase or construction of new house	**0.690**	0.075	0.294	0.045
a18. Satisfaction with government's current economic steps	**0.531**	0.136	**0.478**	0.129
a19. Unemployment in the next six months compared to today	0.050	0.217	0.077	**0.614**
a20. Interest rates in the next six months compared to today	-0.025	0.246	-0.091	**0.412**

Table B.32. Wave 33

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.149	0.005	**0.724**	-0.112
a2. HH financial position in next six months compared to today's	0.147	0.042	**0.787**	-0.091
a3. Current general economic conditions compared to last six months	0.184	0.134	**0.677**	0.142
a4. General economic conditions over next six months compared to today	0.266	0.106	**0.637**	0.099
a5. Prices of daily use items in next six months	-0.027	0.370	0.042	0.117
a7. Current food prices compared to last six months	-0.023	**0.588**	0.103	0.062
a8. Food prices in next six months compared to today	0.024	**0.610**	0.076	0.077
a9. Current energy prices compared to last six months	0.017	**0.552**	0.033	0.073
a10. Energy prices in next six months compared to today	0.046	**0.631**	0.015	0.072
a11. Current Non-Food and non-energy prices compared to last six months	0.020	**0.687**	-0.028	0.047
a12. Non-food and non-energy prices in next six months compared to today	0.017	**0.640**	0.033	0.125
a13. HH income in the next year compared to previous year	0.327	-0.113	0.219	-0.174
a14. Current time to purchase durable household items compared to previous six months	**0.691**	0.038	0.232	0.013
a15. Next six months for purchasing durable household items	**0.790**	0.010	0.107	-0.028
a16. Next six months for purchasing automobile (car/motorcycle)	**0.807**	0.015	0.132	-0.025
a17. Current times for purchase or construction of new house	**0.787**	-0.032	0.094	0.057
a18. Satisfaction with government's current economic steps	**0.434**	0.151	0.306	0.031
a19. Unemployment in the next six months compared to today	-0.012	0.206	0.063	**0.610**
a20. Interest rates in the next six months compared to today	-0.006	0.179	-0.055	**0.610**

Table B.33. Wave 34

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.097	0.173	**0.645**	0.101
a2. HH financial position in next six months compared to today's	0.121	0.211	**0.656**	0.060
a3. Current general economic conditions compared to last six months	0.166	0.128	**0.707**	0.048
a4. General economic conditions over next six months compared to today	0.196	0.156	**0.694**	0.032
a5. Prices of daily use items in next six months	**0.421**	0.043	0.153	0.136
a7. Current food prices compared to last six months	**0.608**	0.168	0.131	0.145
a8. Food prices in next six months compared to today	**0.607**	0.059	0.157	0.101
a9. Current energy prices compared to last six months	**0.612**	0.113	0.119	0.063
a10. Energy prices in next six months compared to today	**0.674**	0.101	0.090	0.074
a11. Current Non-Food and non-energy prices compared to last six months	**0.641**	0.100	0.127	0.170
a12. Non-food and non-energy prices in next six months compared to today	**0.672**	0.095	0.051	0.223
a13. HH income in the next year compared to previous year	-0.111	0.172	0.091	0.026
a14. Current time to purchase durable household items compared to previous six months	0.192	**0.653**	0.172	0.142
a15. Next six months for purchasing durable household items	0.117	**0.711**	0.181	0.053
a16. Next six months for purchasing automobile (car/motorcycle)	0.178	**0.716**	0.138	0.012
a17. Current times for purchase or construction of new house	0.177	**0.756**	0.139	-0.015
a18. Satisfaction with government's current economic steps	0.318	0.363	**0.415**	0.222
a19. Unemployment in the next six months compared to today	0.298	0.126	0.123	**0.562**
a20. Interest rates in the next six months compared to today	0.255	0.019	0.067	**0.538**

Table B.34. Wave 35

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.064	0.145	**0.682**	0.039
a2. HH financial position in next six months compared to today's	0.035	0.096	**0.705**	0.077
a3. Current general economic conditions compared to last six months	0.135	0.176	**0.668**	-0.025
a4. General economic conditions over next six months compared to today	0.120	0.236	**0.636**	0.069
a5. Prices of daily use items in next six months	0.350	0.080	0.083	0.241
a7. Current food prices compared to last six months	**0.520**	0.132	0.052	0.144
a8. Food prices in next six months compared to today	**0.542**	0.042	0.078	0.209
a9. Current energy prices compared to last six months	**0.608**	0.077	0.125	0.022
a10. Energy prices in next six months compared to today	**0.637**	0.087	0.062	0.142
a11. Current Non-Food and non-energy prices compared to last six months	**0.693**	0.022	0.049	0.029
a12. Non-food and non-energy prices in next six months compared to today	**0.694**	0.024	0.000	0.143
a13. HH income in the next year compared to previous year	-0.028	0.325	0.156	-0.050
a14. Current time to purchase durable household items compared to previous six months	0.046	**0.657**	0.253	-0.033
a15. Next six months for purchasing durable household items	0.152	**0.702**	0.035	0.011
a16. Next six months for purchasing automobile (car/motorcycle)	0.105	**0.703**	0.039	0.133
a17. Current times for purchase or construction of new house	0.049	**0.672**	0.146	-0.006
a18. Satisfaction with government's current economic steps	0.255	**0.429**	0.251	0.203
a19. Unemployment in the next six months compared to today	0.254	0.010	0.054	**0.520**
a20. Interest rates in the next six months compared to today	0.173	0.006	0.022	**0.510**

Table B.35. Wave 36

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.031	0.274	**0.611**	-0.032
a2. HH financial position in next six months compared to today's	0.027	0.190	**0.634**	0.011
a3. Current general economic conditions compared to last six months	0.097	0.201	**0.688**	0.051
a4. General economic conditions over next six months compared to today	0.081	0.240	**0.692**	0.003
a5. Prices of daily use items in next six months	0.348	0.023	0.155	0.018
a7. Current food prices compared to last six months	**0.690**	0.006	0.027	0.133
a8. Food prices in next six months compared to today	**0.637**	0.090	0.046	0.177
a9. Current energy prices compared to last six months	**0.689**	0.073	0.026	0.035
a10. Energy prices in next six months compared to today	**0.635**	0.069	0.010	0.134
a11. Current Non-Food and non-energy prices compared to last six months	**0.706**	0.048	0.006	0.142
a12. Non-food and non-energy prices in next six months compared to today	**0.662**	0.032	0.024	0.117
a13. HH income in the next year compared to previous year	-0.237	0.349	0.271	0.037
a14. Current time to purchase durable household items compared to previous six months	0.088	**0.693**	0.206	0.031
a15. Next six months for purchasing durable household items	0.041	**0.741**	0.173	-0.007
a16. Next six months for purchasing automobile (car/motorcycle)	0.058	**0.740**	0.191	-0.032
a17. Current times for purchase or construction of new house	0.097	**0.734**	0.236	-0.076
a18. Satisfaction with government's current economic steps	0.175	**0.449**	0.340	0.010
a19. Unemployment in the next six months compared to today	0.316	0.013	0.011	**0.667**
a20. Interest rates in the next six months compared to today	0.315	-0.072	0.020	**0.457**

Table B.36. Wave 37

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.064	**0.744**	0.136	0.048
a2. HH financial position in next six months compared to today's	0.216	**0.710**	0.243	-0.042
a3. Current general economic conditions compared to last six months	0.052	**0.695**	0.056	0.148
a4. General economic conditions over next six months compared to today	0.131	**0.727**	0.163	0.099
a5. Prices of daily use items in next six months	**0.410**	0.100	-0.112	0.117
a7. Current food prices compared to last six months	**0.778**	0.068	0.133	-0.053
a8. Food prices in next six months compared to today	**0.644**	0.118	-0.061	0.215
a9. Current energy prices compared to last six months	**0.730**	-0.022	0.218	-0.244
a10. Energy prices in next six months compared to today	**0.721**	0.021	0.088	-0.082
a11. Current Non-Food and non-energy prices compared to last six months	**0.670**	0.060	-0.019	0.136
a12. Non-food and non-energy prices in next six months compared to today	**0.742**	0.012	0.145	-0.167
a13. HH income in the next year compared to previous year	-0.194	**0.407**	0.195	0.257
a14. Current time to purchase durable household items compared to previous six months	0.106	0.210	**0.769**	0.051
a15. Next six months for purchasing durable household items	0.006	0.275	**0.412**	**0.604**
a16. Next six months for purchasing automobile (car/motorcycle)	0.046	0.246	**0.529**	**0.506**
a17. Current times for purchase or construction of new house	0.024	0.211	**0.707**	0.110
a18. Satisfaction with government's current economic steps	0.291	0.237	0.262	0.159
a19. Unemployment in the next six months compared to today	**0.446**	0.082	-0.004	0.139
a20. Interest rates in the next six months compared to today	**0.424**	0.006	0.042	-0.113

Table B.37. Wave 38

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.044	0.262	**0.654**	-0.076
a2. HH financial position in next six months compared to today's	0.026	0.232	**0.734**	-0.035
a3. Current general economic conditions compared to last six months	0.078	0.138	**0.704**	0.057
a4. General economic conditions over next six months compared to today	0.117	0.165	**0.711**	0.029
a5. Prices of daily use items in next six months	0.358	0.144	0.026	0.236
a7. Current food prices compared to last six months	**0.603**	0.039	0.058	0.107
a8. Food prices in next six months compared to today	**0.701**	0.079	0.013	0.082
a9. Current energy prices compared to last six months	**0.655**	0.090	0.072	0.084
a10. Energy prices in next six months compared to today	**0.701**	0.073	0.063	0.174
a11. Current Non-Food and non-energy prices compared to last six months	**0.753**	0.078	0.060	0.085
a12. Non-food and non-energy prices in next six months compared to today	**0.690**	0.081	0.086	0.195
a13. HH income in the next year compared to previous year	-0.006	0.361	0.329	0.058
a14. Current time to purchase durable household items compared to previous six months	0.093	**0.752**	0.213	-0.006
a15. Next six months for purchasing durable household items	0.124	**0.775**	0.195	0.000
a16. Next six months for purchasing automobile (car/motorcycle)	0.128	**0.766**	0.154	0.045
a17. Current times for purchase or construction of new house	0.066	**0.758**	0.220	-0.050
a18. Satisfaction with government's current economic steps	0.220	0.346	0.246	0.267
a19. Unemployment in the next six months compared to today	0.396	-0.060	0.028	**0.579**
a20. Interest rates in the next six months compared to today	0.343	0.007	-0.072	**0.551**

Table B.38. Wave 39

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.057	**0.535**	**0.445**	-0.319
a2. HH financial position in next six months compared to today's	0.067	**0.500**	0.389	-0.278
a3. Current general economic conditions compared to last six months	0.138	0.196	**0.768**	0.048
a4. General economic conditions over next six months compared to today	0.236	0.117	**0.778**	0.141
a5. Prices of daily use items in next six months	0.338	0.133	0.128	0.058
a7. Current food prices compared to last six months	**0.593**	0.044	0.070	-0.004
a8. Food prices in next six months compared to today	**0.553**	0.062	0.087	0.176
a9. Current energy prices compared to last six months	**0.678**	0.004	0.103	-0.033
a10. Energy prices in next six months compared to today	**0.644**	0.042	0.075	0.041
a11. Current Non-Food and non-energy prices compared to last six months	**0.640**	0.092	0.048	0.090
a12. Non-food and non-energy prices in next six months compared to today	**0.692**	0.079	0.022	0.003
a13. HH income in the next year compared to previous year	-0.004	0.325	0.202	0.130
a14. Current time to purchase durable household items compared to previous six months	0.144	**0.615**	0.194	0.052
a15. Next six months for purchasing durable household items	0.018	**0.717**	0.035	-0.007
a16. Next six months for purchasing automobile (car/motorcycle)	0.113	**0.732**	-0.006	-0.025
a17. Current times for purchase or construction of new house	0.079	**0.737**	0.059	0.087
a18. Satisfaction with government's current economic steps	0.334	0.152	0.285	0.364
a19. Unemployment in the next six months compared to today	**0.468**	0.009	0.100	0.360
a20. Interest rates in the next six months compared to today	0.357	-0.003	0.037	0.309

Table B.39. Wave 40

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	0.055	-0.049	**0.559**	0.223	0.207
a2. HH financial position in next six months compared to today's	0.168	-0.042	**0.681**	0.080	0.199
a3. Current general economic conditions compared to last six months	0.074	0.305	0.122	0.318	**0.535**
a4. General economic conditions over next six months compared to today	0.215	0.191	0.303	0.127	**0.442**
a5. Prices of daily use items in next six months	**0.557**	0.003	0.100	0.161	0.082
a7. Current food prices compared to last six months	0.171	0.144	0.061	**0.525**	0.110
a8. Food prices in next six months compared to today	**0.562**	0.109	0.035	0.156	0.089
a9. Current energy prices compared to last six months	0.158	0.115	0.036	**0.567**	-0.006
a10. Energy prices in next six months compared to today	**0.623**	0.081	0.060	0.214	-0.028
a11. Current Non-Food and non-energy prices compared to last six months	0.298	0.090	-0.076	0.345	0.018
a12. Non-food and non-energy prices in next six months compared to today	**0.612**	0.077	-0.009	0.229	-0.061
a13. HH income in the next year compared to previous year	0.095	0.140	**0.464**	-0.157	0.054
a14. Current time to purchase durable household items compared to previous six months	-0.049	**0.575**	0.051	0.362	0.150
a15. Next six months for purchasing durable household items	0.230	**0.603**	0.041	0.082	0.235
a16. Next six months for purchasing automobile (car/motorcycle)	0.104	**0.733**	0.070	0.164	0.054
a17. Current times for purchase or construction of new house	-0.063	0.359	**0.511**	0.010	-0.188
a18. Satisfaction with government's current economic steps	0.069	0.282	0.184	-0.156	0.304
a19. Unemployment in the next six months compared to today	**0.502**	0.048	0.125	-0.144	0.278
a20. Interest rates in the next six months compared to today	0.332	0.004	0.197	-0.078	0.130

Table B.40. Wave 41

	Factor				
	1	2	3	4	5
a1. HH current financial position compared to last six months	-0.067	0.110	**0.498**	0.152	-0.007
a2. HH financial position in next six months compared to today's	0.190	-0.142	**0.500**	0.037	0.291
a3. Current general economic conditions compared to last six months	0.080	0.185	**0.451**	0.206	-0.008
a4. General economic conditions over next six months compared to today	0.319	0.004	**0.463**	0.140	0.183
a5. Prices of daily use items in next six months	**0.580**	0.027	0.020	0.143	0.185
a7. Current food prices compared to last six months	0.298	**0.489**	0.085	0.007	-0.119
a8. Food prices in next six months compared to today	**0.684**	0.093	0.119	0.073	0.017
a9. Current energy prices compared to last six months	0.031	**0.635**	0.042	0.026	-0.053
a10. Energy prices in next six months compared to today	**0.707**	0.126	0.056	0.064	-0.018
a11. Current Non-Food and non-energy prices compared to last six months	0.126	**0.582**	0.032	0.015	0.012
a12. Non-food and non-energy prices in next six months compared to today	**0.689**	0.126	0.073	0.047	0.074
a13. HH income in the next year compared to previous year	-0.004	-0.187	0.247	0.104	0.315
a14. Current time to purchase durable household items compared to previous six months	-0.155	0.096	0.145	**0.403**	-0.004
a15. Next six months for purchasing durable household items	0.260	-0.028	0.083	**0.534**	0.077
a16. Next six months for purchasing automobile (car/motorcycle)	0.194	-0.020	0.175	**0.536**	-0.007
a17. Current times for purchase or construction of new house	-0.049	-0.027	0.103	0.380	0.335
a18. Satisfaction with government's current economic steps	0.370	-0.051	0.079	0.011	**0.558**
a19. Unemployment in the next six months compared to today	**0.476**	0.014	0.027	0.023	**0.477**
a20. Interest rates in the next six months compared to today	**0.480**	0.160	0.034	-0.077	0.174

Table B.41. Wave 42

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.032	**0.493**	0.297	0.255
a2. HH financial position in next six months compared to today's	0.242	**0.645**	0.161	-0.016
a3. Current general economic conditions compared to last six months	0.142	**0.477**	0.183	0.274
a4. General economic conditions over next six months compared to today	0.354	**0.678**	0.123	0.026
a5. Prices of daily use items in next six months	**0.686**	0.070	0.054	-0.018
a7. Current food prices compared to last six months	0.146	0.110	0.100	**0.549**
a8. Food prices in next six months compared to today	**0.716**	0.147	0.147	0.208
a9. Current energy prices compared to last six months	0.074	0.048	0.169	**0.680**
a10. Energy prices in next six months compared to today	**0.648**	0.126	0.122	0.237
a11. Current Non-Food and non-energy prices compared to last six months	0.199	0.082	0.100	**0.571**
a12. Non-food and non-energy prices in next six months compared to today	**0.671**	0.141	0.006	0.285
a13. HH income in the next year compared to previous year	0.089	0.258	0.182	0.078
a14. Current time to purchase durable household items compared to previous six months	0.008	0.130	**0.555**	0.143
a15. Next six months for purchasing durable household items	0.271	0.311	**0.553**	0.083
a16. Next six months for purchasing automobile (car/motorcycle)	0.223	0.124	**0.582**	0.077
a17. Current times for purchase or construction of new house	-0.013	0.170	**0.581**	0.146
a18. Satisfaction with government's current economic steps	**0.428**	0.388	0.320	-0.029
a19. Unemployment in the next six months compared to today	**0.486**	0.236	0.083	0.064
a20. Interest rates in the next six months compared to today	**0.458**	0.172	0.073	0.083

Table B.42. Wave 43

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.050	**0.431**	**0.436**	0.194
a2. HH financial position in next six months compared to today's	0.251	0.348	0.314	-0.035
a3. Current general economic conditions compared to last six months	0.122	**0.559**	0.223	0.266
a4. General economic conditions over next six months compared to today	0.362	**0.541**	0.165	0.015
a5. Prices of daily use items in next six months	**0.591**	0.099	0.022	0.182
a7. Current food prices compared to last six months	0.272	0.036	-0.013	**0.493**
a8. Food prices in next six months compared to today	**0.720**	0.110	0.119	0.201
a9. Current energy prices compared to last six months	0.189	0.029	0.028	**0.566**
a10. Energy prices in next six months compared to today	**0.693**	0.109	0.130	0.184
a11. Current Non-Food and non-energy prices compared to last six months	0.159	0.088	0.113	**0.575**
a12. Non-food and non-energy prices in next six months compared to today	**0.699**	0.042	0.145	0.145
a13. HH income in the next year compared to previous year	-0.041	**0.400**	0.263	-0.172
a14. Current time to purchase durable household items compared to previous six months	-0.012	0.116	**0.589**	0.128
a15. Next six months for purchasing durable household items	0.256	0.283	**0.541**	-0.053
a16. Next six months for purchasing automobile (car/motorcycle)	0.232	0.233	**0.521**	0.002
a17. Current times for purchase or construction of new house	-0.010	0.034	**0.494**	0.030
a18. Satisfaction with government's current economic steps	**0.429**	**0.562**	0.143	0.233
a19. Unemployment in the next six months compared to today	**0.512**	0.375	-0.032	0.229
a20. Interest rates in the next six months compared to today	**0.427**	0.149	0.017	0.106

Table B.43. Wave 44

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.076	**0.548**	0.304	0.079
a2. HH financial position in next six months compared to today's	0.099	**0.563**	0.195	-0.045
a3. Current general economic conditions compared to last six months	0.111	**0.623**	0.145	0.190
a4. General economic conditions over next six months compared to today	0.131	**0.627**	0.210	0.065
a5. Prices of daily use items in next six months	**0.635**	0.136	0.011	0.178
a7. Current food prices compared to last six months	0.178	0.080	0.068	**0.572**
a8. Food prices in next six months compared to today	**0.839**	0.064	0.097	0.054
a9. Current energy prices compared to last six months	0.127	0.058	0.157	**0.567**
a10. Energy prices in next six months compared to today	**0.758**	0.060	0.158	0.210
a11. Current Non-Food and non-energy prices compared to last six months	0.133	0.107	0.091	**0.477**
a12. Non-food and non-energy prices in next six months compared to today	**0.787**	0.021	0.130	0.064
a13. HH income in the next year compared to previous year	-0.037	0.343	0.220	0.029
a14. Current time to purchase durable household items compared to previous six months	0.013	0.237	**0.539**	0.221
a15. Next six months for purchasing durable household items	0.208	0.245	**0.664**	0.126
a16. Next six months for purchasing automobile (car/motorcycle)	0.158	0.201	**0.713**	0.006
a17. Current times for purchase or construction of new house	0.006	0.208	**0.467**	0.132
a18. Satisfaction with government's current economic steps	0.230	**0.590**	0.098	0.223
a19. Unemployment in the next six months compared to today	**0.463**	0.352	0.017	0.251
a20. Interest rates in the next six months compared to today	**0.404**	0.254	0.007	0.202

Table B.44. Wave 45

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.047	**0.536**	0.226	0.306
a2. HH financial position in next six months compared to today's	0.193	**0.707**	0.167	0.055
a3. Current general economic conditions compared to last six months	0.156	**0.465**	0.236	0.303
a4. General economic conditions over next six months compared to today	0.299	**0.671**	0.185	0.087
a5. Prices of daily use items in next six months	**0.573**	0.256	0.143	0.118
a7. Current food prices compared to last six months	0.224	0.208	0.196	**0.614**
a8. Food prices in next six months compared to today	**0.711**	0.210	0.125	0.183
a9. Current energy prices compared to last six months	0.212	0.084	0.060	**0.578**
a10. Energy prices in next six months compared to today	**0.692**	0.132	0.136	0.260
a11. Current Non-Food and non-energy prices compared to last six months	0.212	0.164	0.147	**0.557**
a12. Non-food and non-energy prices in next six months compared to today	**0.602**	0.133	0.176	0.270
a13. HH income in the next year compared to previous year	0.149	0.215	0.104	0.064
a14. Current time to purchase durable household items compared to previous six months	0.086	0.194	**0.577**	0.147
a15. Next six months for purchasing durable household items	0.241	0.307	**0.618**	0.052
a16. Next six months for purchasing automobile (car/motorcycle)	0.240	0.252	**0.527**	0.128
a17. Current times for purchase or construction of new house	0.111	0.088	**0.546**	0.120
a18. Satisfaction with government's current economic steps	0.297	**0.474**	0.252	0.254
a19. Unemployment in the next six months compared to today	0.365	0.324	0.244	0.137
a20. Interest rates in the next six months compared to today	0.353	0.198	0.213	0.146

Table B.45. Wave 46

	Factor		
	1	2	3
a1. HH current financial position compared to last six months	**0.637**	-0.017	0.177
a2. HH financial position in next six months compared to today's	**0.686**	0.125	-0.008
a3. Current general economic conditions compared to last six months	**0.451**	0.173	0.229
a4. General economic conditions over next six months compared to today	**0.537**	0.392	0.005
a5. Prices of daily use items in next six months	0.170	**0.569**	0.203
a7. Current food prices compared to last six months	0.192	0.264	**0.629**
a8. Food prices in next six months compared to today	0.064	**0.804**	0.190
a9. Current energy prices compared to last six months	0.143	0.229	**0.692**
a10. Energy prices in next six months compared to today	0.057	**0.787**	0.197
a11. Current Non-Food and non-energy prices compared to last six months	0.156	0.298	**0.596**
a12. Non-food and non-energy prices in next six months compared to today	0.035	**0.795**	0.226
a13. HH income in the next year compared to previous year	0.392	0.028	0.042
a14. Current time to purchase durable household items compared to previous six months	**0.588**	0.047	0.237
a15. Next six months for purchasing durable household items	**0.685**	0.358	0.022
a16. Next six months for purchasing automobile (car/motorcycle)	**0.620**	0.300	0.145
a17. Current times for purchase or construction of new house	**0.581**	-0.002	0.216
a18. Satisfaction with government's current economic steps	**0.571**	0.355	0.050
a19. Unemployment in the next six months compared to today	0.274	**0.510**	0.131
a20. Interest rates in the next six months compared to today	0.201	0.377	0.112

Table B.46. Wave 47

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.103	0.153	**0.531**	0.240
a2. HH financial position in next six months compared to today's	0.231	0.005	**0.670**	0.118
a3. Current general economic conditions compared to last six months	0.107	0.322	**0.409**	0.271
a4. General economic conditions over next six months compared to today	0.313	0.219	**0.429**	0.169
a5. Prices of daily use items in next six months	**0.607**	0.061	0.190	0.145
a7. Current food prices compared to last six months	0.168	0.138	0.212	**0.577**
a8. Food prices in next six months compared to today	**0.781**	0.119	0.193	0.070
a9. Current energy prices compared to last six months	0.168	0.132	0.160	**0.594**
a10. Energy prices in next six months compared to today	**0.786**	0.151	0.137	0.115
a11. Current Non-Food and non-energy prices compared to last six months	0.133	0.088	0.209	**0.546**
a12. Non-food and non-energy prices in next six months compared to today	**0.792**	0.108	0.122	0.146
a13. HH income in the next year compared to previous year	0.084	0.136	0.360	0.132
a14. Current time to purchase durable household items compared to previous six months	0.025	**0.631**	0.154	0.162
a15. Next six months for purchasing durable household items	0.376	**0.547**	0.266	0.010
a16. Next six months for purchasing automobile (car/motorcycle)	0.347	**0.572**	0.196	0.008
a17. Current times for purchase or construction of new house	0.146	**0.529**	0.035	0.213
a18. Satisfaction with government's current economic steps	**0.463**	0.271	0.344	0.244
a19. Unemployment in the next six months compared to today	**0.553**	0.244	0.206	0.266
a20. Interest rates in the next six months compared to today	**0.530**	0.216	0.059	0.151

Table B.47. Wave 48

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	0.122	**0.554**	0.205	0.266
a2. HH financial position in next six months compared to today's	0.366	**0.683**	0.098	0.177
a3. Current general economic conditions compared to last six months	0.260	**0.618**	0.216	0.160
a4. General economic conditions over next six months compared to today	**0.421**	**0.626**	0.152	0.118
a5. Prices of daily use items in next six months	**0.673**	0.276	0.163	0.049
a7. Current food prices compared to last six months	0.265	0.174	**0.593**	0.164
a8. Food prices in next six months compared to today	**0.825**	0.141	0.197	0.143
a9. Current energy prices compared to last six months	0.181	0.163	**0.673**	0.206
a10. Energy prices in next six months compared to today	**0.834**	0.110	0.223	0.151
a11. Current Non-Food and non-energy prices compared to last six months	0.248	0.265	**0.597**	0.106
a12. Non-food and non-energy prices in next six months compared to today	**0.806**	0.169	0.225	0.102
a13. HH income in the next year compared to previous year	0.044	**0.469**	0.205	0.179
a14. Current time to purchase durable household items compared to previous six months	0.088	0.202	0.153	**0.683**
a15. Next six months for purchasing durable household items	**0.533**	0.373	0.057	0.379
a16. Next six months for purchasing automobile (car/motorcycle)	**0.459**	0.335	0.086	**0.433**
a17. Current times for purchase or construction of new house	0.114	0.187	0.210	**0.611**
a18. Satisfaction with government's current economic steps	**0.523**	**0.511**	0.138	0.175
a19. Unemployment in the next six months compared to today	**0.568**	0.396	0.212	0.092
a20. Interest rates in the next six months compared to today	**0.538**	0.324	0.275	0.056

Table B.48. Wave 49

	Factor			
	1	2	3	4
a1. HH current financial position compared to last six months	**0.554**	0.027	0.090	0.228
a2. HH financial position in next six months compared to today's	**0.670**	0.320	0.084	0.106
a3. Current general economic conditions compared to last six months	**0.528**	0.036	0.103	0.314
a4. General economic conditions over next six months compared to today	**0.685**	0.318	0.095	0.144
a5. Prices of daily use items in next six months	0.337	**0.478**	0.132	0.182
a7. Current food prices compared to last six months	0.220	0.092	0.137	**0.452**
a8. Food prices in next six months compared to today	0.223	**0.731**	0.182	0.161
a9. Current energy prices compared to last six months	0.098	0.163	0.129	**0.450**
a10. Energy prices in next six months compared to today	0.202	**0.761**	0.166	0.199
a11. Current Non-Food and non-energy prices compared to last six months	0.165	0.175	0.035	**0.588**
a12. Non-food and non-energy prices in next six months compared to today	0.246	**0.797**	0.132	0.205
a13. HH income in the next year compared to previous year	**0.502**	0.214	0.164	0.140
a14. Current time to purchase durable household items compared to previous six months	0.101	0.093	**0.602**	0.142
a15. Next six months for purchasing durable household items	**0.414**	0.269	**0.498**	0.004
a16. Next six months for purchasing automobile (car/motorcycle)	0.266	0.206	**0.574**	0.024
a17. Current times for purchase or construction of new house	0.050	0.050	**0.582**	0.178
a18. Satisfaction with government's current economic steps	**0.538**	0.251	0.262	0.277
a19. Unemployment in the next six months compared to today	**0.467**	0.265	0.204	0.140
a20. Interest rates in the next six months compared to today	0.386	0.224	0.260	-0.017

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BIOGRAPHICAL SKETCH

Salma Mirza was born and brought up in Pakistan. She completed her secondary schooling in Islamabad before moving to Karachi in 1992. She received her master's degree in Business Administration from the Institute of Business Administration (IBA), Karachi. She later joined her alma mater as an assistant professor and research projects manager, and remained affiliated with the Institute till 2011 when she moved to the United States. In 2013, she entered the Public Policy and Political Economy program at The University of Texas at Dallas (UTD) and received a master's degree in Public Policy in 2017. She successfully completed her PhD dissertation in 2020.

CURRICULUM VITAE

Salma Mirza

EDUCATION

PhD, Public Policy and Political Economics
School of Economics Political and Policy Sciences, University of Texas, Dallas

Master (MS) in Public Policy
School of Economics Political and Policy Sciences, University of Texas, Dallas

Master of Business Administration, MBA
Major: MIS and Marketing Analytics

Institute of Business Administration (IBA), Karachi

PROFESSIONAL EXPERIENCE

Southern Methodist University (SMU) **Dec 2018 to date**
Senior Data Visualization Specialist
Responsible for creating insightful data visualizations that allow for greater interactivity and more in-depth understanding for the end user. Created several interactive dashboards in Tableau that improved data literacy among users, consequently allowing for timely and improved decision-making.

Collin College **Feb 2015 – Dec 2018**
Research Analyst

- Proactively designed and administered new surveys using Qualtrics and Snap Surveys and completed reports based on analytical methods such as chi-square tests, ANOVA, correlations, factor analysis etc.
- Developed interactive Tableau Stories that included multiple dashboards with drilldown capabilities. The visualizations communicated actionable insights that allowed clients to make proactive decisions.
- Used Collin's Banner system to query large datasets using Argos and SQL Developer. Proficient in data extraction and analysis of large amounts of quantitative data and reporting compelling insights.
- Won a competitive graduate school scholarship opportunity in Collin's Innovation Challenge Grant Project where participants proposed innovative ideas that promoted the institution's core values. Project won accolades and approval of the leadership team and is now being implemented in the entire college.

University of Texas, Dallas **Jan 2014 – Jan 2015**
Research Assistant
Research Assistant at the School of Economic, Political and Policy Sciences at UT Dallas on a research project funded by a National Science Foundation (NSF) grant. Responsibilities included analyzing in-depth interviews on NVIVO Qualitative Analytics Software and MS Excel for a study on highly educated immigrants belonging to science and engineering sector and their reverse migration to India.

Institute of Business Administration (IBA) **Aug 2005 – July 2011**
Senior Research Projects Manager and Assistant Professor
Responsible for managing several concurrent research projects while meeting regularly with clients and updating them on their respective projects. Job entailed translating clients' business objectives into research questions, research planning, project management, data collection, data analytics, and managing financial and operational resources for clients. Key achievements include:

- Initiated and designed the Consumer Confidence Index survey based on the University of Michigan, Index of Consumer Sentiments (ICS), and managed its launch. Major responsibilities in this project included:
  - Project management, including working closely with project team, budgeting, securing key approvals, resource acquisition and team development.
  - Project implementation, including hiring and training of over 30 phone interviewers, survey questionnaire design, survey administration, data collection, data cleaning and quantitative data analysis for a bimonthly survey of over 1600 people (with 30 percent representation from a rotating panel).
  - Report design, including development of literature review, report structure and major content.
- Developed discussion guide for and moderated multiple focus groups of senior college professors and faculty members to devise a new performance evaluation questionnaire currently being used in the Institute.
- As an Assistant Professor at the Institute delivered lectures on Advanced and Applied Business Research, Methods in Business Research, Brand Management and Marketing.

CONFERENCE PRESENTATIONS

- *Using Data Scaffolding to Build a Classroom Utilization Dashboard in Tableau & Tableau Prep* – 2020 Texas Association of Institutional Researchers (TAIR) Conference in San Antonio.
- *Data Visualization Techniques* – Collin College IRO Professional Development Workshop.
- *Benchmarking Measures for Community College Noncredit Instruction* – 2018 Benchmarking Conference in Overland Park, Kansas.

- *What Have Graduates Learned? A Completer Survey of Community Colleges* – 11th Annual Outcomes & Assessment Conference in Fort Worth, and at the 2017 Texas Association of Institutional Researchers (TAIR) Conference in Houston.
- *Promoting Innovation & Continuous Improvement* – 2017 Texas Association of Institutional Researchers (TAIR) Conference in Houston.

TECHNICAL SKILLS

Exposure and training in a wide range of software provides the ability to quickly acclimatize to any data environment. Comfortable with following statistical, database and data visualization tools.

- Data visualization software: Tableau and Power BI
- Statistical/analytical tools: SPSS, Stata. Also familiar with R
- Qualitative research applications: NVIVO
- ERP and Databases: Ellucian Banner System, MS Access (Proficient in SQL)
- Data extraction tools: Oracle SQL Developer and Argos
- Proficient with MS Office Suite, including but not limited to Word, Excel, and PowerPoint