

**The Interplay between Economic Healthiness, Consumer Confidence,  
and General Trust in Financial Institutions**

By

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## Abstract

Consumer confidence (CC) is of particular interest to economic policy makers and societies at large since CC is often regarded as an indicator of near-term economic growth. While individuals' economic healthiness (EH) is known as an important predictor of CC, this study adds to previous research by (a) suggesting that this relationship may differ across levels of individuals' general trust in financial institutions (GTF) and (b) integrating EH, CC, socio-economic variables, and economic knowledge in one study to grasp their potential complex relationships. Based on a survey of 3,185 individuals, we found that GTF has a positive direct influence on CC and that GTF negatively moderates the relationship between EH and CC. Among other results, we also found that both economic knowledge and educational level negatively moderates the relationship between GTF and CC. The study results may be of high interest for policymakers, financial managers, academics and others seeking further insights into consumer confidence (CC).

*Keywords:* Consumer confidence; economic healthiness; general trust; financial institutions

## Introduction

Consumer confidence (CC) measures individuals' perceptions about their current and future financial situation and economic climate (Ou et al., 2014; Van Dalen et al., 2016). CC is of particular interest to business managers, economic policy makers and societies at large since higher CC usually leads to higher spending, whereas lower CC usually leads to higher savings (Xiao, 2015). Indeed, CC is often regarded as an indicator of near-term economic growth (Demirel & Artan, 2017). An important predictor of CC is the individual's economic healthiness (EH), which can be defined as the extent to which the individual in the past have exhibited positive economic behaviors, such as avoiding financial troubles caused by not having enough money and paying credit card bills in full each month (Joo and Grable, 2004; Perry & Morris, 2005; Xiao, 2015; Vuchelen, 2004). Economic policy makers and government authorities have in many years stressed the importance of the EH – CC link (e.g., Xiao, 2015), which most likely develops because individuals who previously have experienced positive behavioral outcomes and that 'everything is under control' are more likely than other people to develop confidence in their current and future economic situation (Siegrist et al., 2005).

While CC is affected by EH it may also be affected by external shocks such as changes in the economic environment (Ou et al., 2014). One prominent example of this was the financial crisis. While there is general agreement that the financial crisis has affected many dimensions of the economic and financial landscape (Bologna, 2015), the financial crisis has in particular elevated the focus on individuals' general trust in financial institutions (GTF) (e.g., Jansen et al., 2014). GTF can be defined as the expectation held by the individual that financial institutions are generally dependable and can be relied on to deliver on their promises (Hansen, 2012).

While the positive link between EH and CC is empirically well supported, it remains unclear whether the effects of EH on CC will differ for different levels of GTF, which is particularly relevant during recessions when CC (and perhaps also GTF) is relatively low. Hence, the first aim of this study is to examine the possible direct effect of GTF on CC and

whether and how GTF moderates the EH-CC link. The second aim is to examine whether the moderating role of GTF varies across individual characteristics such as gender, age, income, educational level, and economic knowledge, which past research has taken into account in analyses of individuals' economic behavior, expectations, and/or trust (e.g., Jacobsen et al., 2014; Dominitz & Manski, 2004). This study is based on an online survey of 3,185 Danish individuals. The study results may be of high interest for policymakers, financial managers, academics and others seeking further insights into consumer confidence (CC).

### **General Trust in Financial Institutions (GTF)**

Past research suggests that GTF may be applied as a heuristics (Siegrist et al. 2005; Sjöberg 2001), which can be regarded as 'inferential rules of thumb' (Allison et al., 1990). This is because individuals may rely on GTF to reduce the complexity they are faced with when making decisions and when evaluating their behavioral outcome (Siegrist & Cvetkovich, 2000). In that respect, cognitive consistency theory (Festinger, 1957; Heider, 1979) suggests that individuals will seek to establish mental justification in relation to their future decision-making in order to avoid a state of cognitive dissonance (Todd & Gigerenzer, 2003). Individuals may easily gain mental justification when GTF is high, but may experience a mental imbalance when GTF is low since the outcome of their economic choices are associated with higher uncertainty. When facing circumstances with high uncertainty, cue utilization theory (Collins-Dodd & Lindley, 2003) predicts that individuals will be especially keen to use available choice heuristics in order to reduce their choice uncertainty and feelings of mental imbalances. This reasoning is supported by institutional theory (Scott, 2004), which suggests that GTF may act as a guiding norm, which can be applied by individuals when making assessments about their current and future economic situation. Hence, we hypothesize as follows.

H1: General trust in financial institutions (GTF) will positively influence consumer confidence (CC).

Using attribution theory (Weiner, 2000) as a theoretical platform, we suggest that the anticipated positive influence of EH on CC will be higher when GTF is on a low level than when GTF is on a high level. When GTF is regarded as low, individuals should be expected to be more likely to attribute negative economic expectations to external causes and less likely to attribute negative expectations to internal causes (i.e., poor economic behavior) than when GTF is regarded as high. In a similar vein, when GTF is regarded as low individuals should be expected to be less likely to attribute positive outcomes to external causes and more likely to attribute positive experiences to internal causes (i.e., economic healthiness) compared with when GTF is high. Also, when GTF is low it points to the existence of financial system failures, which means that the consumer risks that her/his interests are not being properly served. Hence, when faced with such circumstances, individuals could be expected to pay more attention to their previous behavior when determining the cause for their expectations, thereby reducing the reliance on trust (Dixon & Wilkinson, 1989). Based on our reasoning and past research, as outlined above, we expect that GTF will negatively moderate the relationship between EH and CC. We hypothesize as follows.

H2: General trust in financial institutions (GTF) will negatively moderate the relationship between economic healthiness (EH) and consumer confidence (CC) such that the positive influence of EH on CC is higher when GTF is low compared to high.

### **Individual Characteristics and EH, GTF, and CC**

In order for the understanding of the interplay between EH, GTF, and CC to be useful in applied contexts, it is necessary to identify individual characteristics that potentially may

determine these relationships. Based on previous research we include in our study economic knowledge, gender, age, income, and educational level. The potential influences of these characteristics on GTF and CC are discussed below.

*Individual economic knowledge* refers to the body of facts and principles (i.e., information and understanding) accumulated by a consumer (i.e., stored in memory) about an economic domain (Page & Uncles, 2004). In this study, we focus on objective knowledge in order to avoid the bias stemming from individuals' tendency to overestimate their level of knowledge when asked to report it subjectively (Pillai & Hofacker, 2007). Economic knowledge is likely to make individuals more aware of what behavior is possible and more able to make reliable predictions about future outcomes (Pučėtaitė & Lāmsā, 2008). Also, knowledgeable consumers may feel more comfortable and more in control, which may reduce their need for GTF as a predictor of CC (Siegrist et al., 2005).

*Gender and age.* Past research suggests that trust tends to be more important to women than to men (Ndubisi, 2006), largely because women are more eager to reduce risk and interested in finding secure, safe behavioral solutions (Schwartz & Rubel-Lifschitz, 2009). Research has produced mixed results regarding the influence of age on GTF and CC. For instance, while Dominitz and Manski, 2004 found that younger people show higher confidence than older ones, other studies have found that age is positively correlated with financial literacy and financial wellbeing, which in turn may lead to less future financial concerns (Taft et al., 2013). On the other hand, research also suggests that older individuals generally grow more conservative and risk adverse (Dellande & Saporoschenko, 2004), which in turn may negatively influence their propensity to show confidence in the future (Das & Teng, 2004).

*Income and educational level.* While high income does not necessarily leads to economic healthiness (i.e., even high income individuals may fail to show economic responsibility and healthiness), previous research suggests that income may positively influence GTF and CC (Moin et al., 2017). Also, education is likely to be positively correlated with both economic wellbeing and trust (Taft et al., 2013). We explore as follows.

RQ1: How will economic knowledge, gender, age, income, and educational level affect CC?

RQ2: How will economic knowledge, gender, age, income, and educational level affect the relationships between EH and CC and between GTF and CC, respectively?

## **Methodology**

The data collection was carried out by the market research agency Capacent Epinion using its online consumer panel consisting of approx. 30,000 Danish consumers. 6,220 respondents were drawn to be representative of individuals aged 18+. 3,468 questionnaires were received from the respondents, corresponding to 55.8% of the 6,220 mailed out. After elimination of questionnaires due to incomplete responses, the final sample consisted of 3,185 respondents. Of the final sample respondents, 50.7% were women and the average age was 46.8 years and ranged between 18-88 years.  $\chi^2$ -tests of differences between sample and population frequencies on each of these criteria produced  $p$ -values  $<0.05$  for age, income level, and educational level. Hence, in order to avoid possible bias of our estimates post-stratification survey weights were utilized (Lance & Hattori, 2016). Survey weights control for some groups being over- or underrepresented in the sample. A comparison of the results with and without the weights revealed no substantial differences; all model relationships that were significant/non-significant with the weights remained significant/non-significant without the weights. The results section reports the weighted data results.

*Measurements.* Multiple items measures were applied for three latent constructs applied in this study (Table 1). Economic healthiness was measured using six items adapted from Joo

and Grable (2004) while five items based on Tax et al. (1998) and Grayson et al. (2008) measured general trust in financial institutions (GTF). Four items based on (Ou et al., 2014) measured consumer confidence (CC). In accordance with the recommendations put forward by Lundmark et al. (2016), 7-point scales were used for measuring the latent constructs in this study (see Table 3 for the specific scales used). Economic knowledge (control variable) was measured by exposing respondents to a series of ‘true/false’ questions concerning economic and financial issues and counting the numbers of correct responses.

## **Analyses and Results**

*Validation of measurements.* Confirmatory factor analysis (CFA) was conducted on the three latent variables (i.e., EH, GTF, and CC), with each indicator specified to load on its hypothesized latent factor. The measurement models yields a chi-square value of 1732.70 (d.f.=87,  $p<0.01$ ). However, since the chi-square test is highly sensitive to sample size other fit measures are given greater prominence in evaluating model fit (e.g., Ye et al. 2007). The comparative fit index (CFI=0.92), the general fit index (GFI=0.92), the normed fit index (NFI=0.91), and the root mean square error of approximation (RMSEA=0.077) all suggest an acceptable degree of fit of the measurement model (Bagozzi & Yi, 1988). In addition, all composite reliabilities exceed 0.80, indicating good reliability of measured constructs (Bagozzi & Yi 1988). Finally, extracted variance is greater than, or close to, 0.50 for all latent constructs, which satisfies the threshold value recommended by Fornell and Larcker (1981).

A CFA approach to Harmon’s one-factor test was used as a diagnostic technique for assessing the extent to which common method bias may pose a serious threat to the analysis and interpretation of the data. The single latent factor accounting for all the indicator variables yielded a chi-square value of 11108.01 (d.f.=90,  $p<0.01$ ). A chi-square difference test suggested that the fit of the one-factor model was significantly worse than the fit of the three-factor measurement model ( $\Delta\chi^2=9375.31$ ;  $\Delta$ d.f.=3,  $p<0.01$ ) indicating that the measurement model was robust to common method variance.

*Results pertaining to hypotheses 1 and 2.* A series of multivariate ordinary least squares regression models were estimated with CC as the dependent variable. Table 1 provides results from the conducted multiple regression analyses. Consistent with our expectations, general trust in financial institutions (GTF) positively influenced consumer confidence (CC). This result was stable across all four regression models ( $\beta$ -coefficients ranging from 0.23 to 0.48,  $p$ -values  $<0.01$  in all incidents). Hence, H1 was supported in the study. Providing support to H2, GTF negatively moderated the EH-CC relationship in all four estimated models ( $\beta$ -coefficients=-0.03,  $p$ -values  $<0.01$ ; in all incidents).

*Results pertaining to research questions 1 and 2.* According to model 2 (i.e., the baseline model with economic knowledge added), economic knowledge positively affects CC ( $\beta=0.35$ ,  $p$ -value $<0.01$ ) and negatively moderates the relationships between EH and CC ( $\beta=0.03$ ,  $p$ -value $<0.01$ ) and GTF and CC ( $\beta=-0.04$ ,  $p$ -value $<0.01$ ). Model 3 further adds socio-economic variables (i.e., gender, age, income, and educational level) to the analysis. In this model, gender and income both achieve statistical significance with gender negatively affecting CC ( $\beta=-0.12$ ,  $p$ -value $<0.01$ ; suggesting that females are likely to show a lower CC than males) and with income positively affecting CC ( $\beta=0.07$ ,  $p$ -value $<0.01$ ). While the interaction between GTF and economic knowledge remains significant in model 3 ( $\beta=-0.04$ ,  $p$ -value $<0.01$ ), the interaction between EH and economic knowledge no longer achieves significance with the socio-economic variables taken into account. In addition to model 3, model 4 includes interaction terms between EH and age, gender, income, and educational level and between GTF and age, gender, income, and educational level, respectively. Similar to the result found in model 3, income positively influences CC ( $\beta=0.17$ ,  $p$ -value $<0.01$ ).

**Table 1** Estimated Standardized Coefficients

Variables	Model 1 b(S.E.)	Model 2 b(S.E.)	Model 3 b(S.E.)	Model 4 b(S.E.)
Economic healthiness (EH)	0.31**(0.04)	0.42**(0.06)	0.39**(0.07)	0.67**(0.09)
General trust in financial institutions (GTF)	0.26**(0.05)	0.42**(0.07)	0.48**(0.07)	0.23**(0.10)
EH * GTF	-0.03**(0.01)	-0.03**(0.01)	-0.03**(0.01)	-0.03**(0.01)
Economic knowledge		0.35**(0.07)	0.27**(0.07)	0.24**(0.07)
Gender			-0.12**(0.04)	0.01(0.18)
Age			-0.01(0.01)	-0.01(0.01)
Income			0.07**(0.01)	0.17**(0.04)
Educational level			-0.01(0.01)	0.08(0.05)
EH * Economic knowledge		-0.03**(0.01)	-0.02(0.01)	-0.02(0.11)
EH * Gender				-0.06**(0.03)
EH * Age				-0.01(0.01)
EH * Income				-0.01(0.01)
EH * Educational level				-0.02*(0.01)
GTF * Economic knowledge		-0.04**(0.01)	-0.04**(0.01)	-0.03**(0.01)
GTF * Gender				0.04(0.03)
GTF * Age				0.01(0.01)
GTF * Income				-0.01(0.01)
GTF * Educational level				0.01(0.01)
Constant	2.34	0.83	1.01	0.58
R <sup>2</sup>	0.11**	0.11**	0.14**	0.15**

Notes. \*\*=significant on the 0.01 level; \*=significant on the 0.05 level.

#### Measurements.

*Economic healthiness.* EH1. I set money aside for savings. EH2. I reached the maximum limit on a credit card.\* EH3. I spent more money than I had.\* EH4. I had to cut living expenses.\* EH5. I had to buy on credit.\* EH6. I had financial troubles because I did not have enough money.\*

*General trust in financial institutions.* GTF1. In general, I believe that financial institutions cannot be relied on to keep their promises.\* GTF2. In general, I believe that financial institutions are trustworthy. GTF3. I'm confident with leaving economic affairs to the financial sector. GTF4. The financial sector has my best interests in focus. GTF5. Overall, I believe financial institutions are honest.

*Consumer confidence.* CC1. Financial situation compared with one year ago. CC2. Financial situation compared with the situation among Danish citizens in general. CC3. Expected financial situation in one year from now. CC4. Expected financial situation in one year from now compared with the expected situation for Danish citizens in general.

*Economic knowledge:* K1. Annual Percentage Rate (APR) is an overall indication of how much you pay on a loan only from the perspective of the establishment costs and commission fees. K2. A mortgage payment is a regularly scheduled payment, which includes principal and interest paid by borrower to lender of home loan. K3. If you buy one mutual fund certificate out of, for instance, one hundred certificates issued by a mutual fund it means that you own one per cent of that mutual fund's fortune. K4. Everyone who advertises prices on loans must disclose the APR in their publicly available materials. K5. There is usually no fee to set up a bank credit, and no ongoing management fees. K6. Stocks are bought and sold predominantly on stock exchanges.K7. A credit limit is the amount spent each month on your credit card.

\*Item reverse coded.

Interestingly, while the direct effect of gender on CC is not significant in model 4, there is a significant interaction ( $\beta=-0.06$ ,  $p$ -value<0.01) between EH and gender. Hence, the relationship between EH and CC is negatively moderated by gender such that this relationship is higher for males than for females. Similar to the results found in models 2 and 3 economic knowledge negatively moderates the relationship between GTF and CC ( $\beta=-0.03$ ,  $p$ -

value<0.01). In addition, model 4 also shows a negative interaction between EH and educational level ( $\beta=-0.02$ ,  $p$ -value=0.04) indicating that the effect of EH on CC diminishes with increasing educational level.

## **Discussion and Conclusion**

Drawing on cue utilization theory, institutional theory, and attribution theory, this research sought to increase our understanding of the relationship between economic healthiness (EH) and consumer confidence (CC). Though studying this relationship is not new we add to previous research by (a) integrating EH, socio-economic variables, economic knowledge, and CC in one study to grasp their potential complex relationships and (b) taking into account that these relationships may differ across levels of GTF. These additions are in particular relevant in a financial and economic policy context since CC is widely acknowledged as an important indicator of short-term economic growth. The results of the current research shed light on the development of CC in a number of ways.

*Implications for theory.* To our knowledge, this study is the first to investigate how GTF may moderate relationships between EH, and other consumer variables, and CC. To facilitate our study, we draw on cue utilization theory and institutional theory as backgrounds for hypothesizing and showing that GTF has a positive direct influence on CC. This effect was positive and significant irrespective of the number of other independent variables included in the regression models suggesting the viability of the theoretical backgrounds. Our finding is also consistent with previous theorizing and empirical research suggesting that consumer trust in the marketplace is likely to be positively correlated with economic growth (Zak & Knack, 2001). We also hypothesized and showed that GTF negatively moderates the relationship between EH and CC. This result supports attribution theory, which predicts that consumers will take into account contextual effects when determining the likelihood of future outcomes. In addition, it is demonstrated that our understanding of the interplay between EH, GTF, and CC may substantially benefit from taking into account personal characteristics. For instance, it was found that economic knowledge may negatively moderate the relationship between GTF and CC. This result supports previous theorizing and research suggesting that knowledgeable consumers may feel more comfortable and more in control (Siegrist et al., 2005), which may reduce their need for trust as a predictor of CC.

*Implications for practice.* By showing that GTF positively influences CC, this study stresses that it is in the interest of societies that consumers have trust in financial institutions. Hence, it also underlines the importance of developing well-functioning financial regulations, which facilitates the development of GTF. Interestingly, when GTF is low, financial authorities and policy makers will gain a higher CC from focusing on increasing consumers' economic healthiness than when GTF is high. We also found that economic knowledge negatively moderates the relationship between GTF and CC. Hence, improving the public's economic knowledge and healthiness may make a society less vulnerable to situations with decreasing GTF. However, this is not without challenges. It is well-known that some individuals face particular difficulties and are often categorized as vulnerable (Brennan & Coppack, 2008). Vulnerable individuals are disadvantaged due to factors that are largely beyond their direct control, such as lack of knowledge, the young, and members of ethnic minorities. Our results suggest that when GTF is low consumers rely more on the evaluation of their economic healthiness in assessing CC. Hence, when GTF is low even higher burdens are put on cognitive and economic skills, which in turn may reduce the ability of vulnerable consumers to confidently determine CC. However, while EH and economic healthiness can hardly be strongly improved in the short-term vulnerable individuals may be even more difficult to educate by financial programs or other initiatives.

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