Abstract

Purpose

The purpose of this paper is to explore the macro-economic factors that may moderate the psychological contract breach and outcome relationship.

Design/methodology/ approach

This study conducted a meta-analysis of the based-on data from 95 studies. Economic indicators are drawn from the Euromonitor, 2018.

Findings

The study revealed two main results. First, the inflation rate of a country moderated the association between employee breach and job performance and turnover. Second, the unemployment rate of a country moderated the association between employee breach and job performance and turnover.

Research limitations/ implications

The availability of more detailed macro-economic data against the PCB and outcome relationship for other countries and studies examining the impact of micro-economic data for PCB and outcome relationship would allow more understanding of the context.

Social implications

Employment policies to capture the impact of macro-economic circumstances as discussed.

Originality/value

The paper contributes to enrich the understanding of the impact of macro-economic indicators influencing the breach related job performance and turnover.

Keywords: Psychological contract breach, job performance, turnover, inflation rate, unemployment rate, meta-analysis.

Introduction

The Psychological Contract Breach (PCB) has been identified as a strong driver of employee work outcomes such as job performance and turnover (Bal *et al.,* 2008; Zhao *et al*., 2007). PCB refers to employees' perception of their organizations not fulfilling the obligations towards them. Although it has been long acknowledged that perceptions of PCB may depend on context (Metz *et al*., 2012; Pate, 2006), the context provided by the national economy has largely been overlooked in PCB research. Recently a few studies hinted that the national economy can have an impact on the association between the breach and work outcomes (Bal and Dóci, 2018; Sirola and Pitesa, 2018) but a systematic assessment if this is so – and to what extend – has not yet been conducted. Little do we know how the national economic context might or might not influence individual-level work outcomes following a breach. This study attempts to bridge the gap.

The last meta-analyses of research on the relationship between the PCB and work outcomes (such as job performance and turnover) was conducted more than 10 years ago and these revealed that the effects which PCB's have important variables such as job performance and turnover can indeed be moderated (Bal *et al*., 2008; Zhao *et al*., 2007). Yet, perhaps not surprisingly, those prior meta-analyses focused on individual-level variables moderating the breach outcome relationship (Bal *et al*., 2008; Zhao *et al*., 2007). In this study, we will argue that it is important to understand the multilevel perspective and examine how the national economy (at the society level) impact individual employee in their work outcomes related to breach.

Previous scholars have suggested that the economy at the macro-level influence work outcomes of individuals through a top-down process (Roth and Wohlfart, 2019). One of the challenges we faced with this, is that there are not enough PCB studies that directly measured economic indicators in the surveys they used to assess how individual perceptions about the

macroeconomic context affect their responses to PCB. Yet, there is some evidence suggesting that despite individual economic circumstances or their perceptions, the national economy can still impact individual work outcomes (Czaika, 2015; Roth and Wohlfart, 2019). We develop a multilevel framework to understand the impact of the national economy on the association between breach and job performance and turnover. A multilevel approach is important for understanding the breach related responses that emerged due to social interactions. In multilevel measures, it is acceptable to have date across two levels as it allows testing variable constructs at different levels. We will, therefore, engage in a two-step procedure by first conducting a meta-analysis at the study level (i.e individual level) as is commonly done and then adding new macro-economic indicators at the country level to our dataset to assess possible moderating effects. We investigate the moderating effects of the macroeconomic context at the country level on the relationships between PCB and job performance and turnover at the individual level.

To investigate the effects of the macro-economic environment on PCB-related responses, we will use two key – and widely used – economic parameters, namely: inflation rate and unemployment rate (Angrave *et al*., 2015; Gandelman and Hernadez-Murillo, 2009). Macroeconomic indicators are commonly used to understand how the macro environment impact individuals living in that society (Roth and Wohlfart, 2019). Evidence suggests that economic parameters such as inflation and unemployment rate seem to impact individual work outcomes such as job performance and turnover (Park and Shaw, 2013; Roth and Wohlfart, 2019, Nyberg, 2010). Yet if these indicators do – or do not - affect PCB's relationship to such individual work outcomes is not clear, yet if there is an effect of the macro-economic situation scholars, practitioners, and individuals might want to take that into consideration in their respective future endeavors.

We will use prospect theory to theorize why the inflation rate and unemployment could moderate the association between PCB and job performance and turnover (see Figure 1). We deem prospect theory useful for this, as scholars have used it previously to understand the social context (at the macro-level) on various outcomes at an individual level (William, 2004; Czaika, 2015). By using prospect theory as a lens, we link national economic determinants at the macro-level to understand individual work outcomes related to breach. This is because the prospect theory starts with the decision making of an individual level but explores contextual determinants of risk in depth (William, 2004).

Literature review and hypothesis

Psychological contracts and job behaviors

To understand how the economic factors could moderate breach-related outcomes, we need to first build evidence requiring understanding breach-related outcomes at the individual level. Findings of the previous meta-analysis have revealed that there is a negative relationship between PCB and job performance and a positive relationship between PCB and turnover (Zhao *et al*., 2007). However, this meta-analysis has been conducted more than 10 years ago and therefore does not capture the current accumulative knowledge regarding the breach and performance and breach and turnover relationship.

In PC literature, the relationships between PCB and work outcomes have traditionally been explained based on the Social Exchange Theory (SET; Blau, 1964). SET suggests that people engage in exchange relationships to receive inducements for what they provide to another party (Blau, 1964; Gouldner, 1960). Each party expects that the other party will reciprocate such actions, and this process leads to mutual obligations over time (Cropanzano *et al*., 2017). In case an employee experiences that the employer does not fulfill its obligations (i.e., PCB), he/she is likely

to consequently change their job outcomes to restore a balance in their relationship with their employer. However, to determine this balance, we will argue below that employees might consider the economic context. For now, we want to highlight that if economic conditions would influence an employee's job outcomes. In terms of job outcomes related to PCB, job performance and turnover are the most important ones (Park and Shaw, 2013). This is because job performance and turnover are the key outcomes that have direct organizational consequences (Park and Shaw, 2013). In this study, we will focus on two primary work outcomes related to PCB: job performance and turnover. To understand job performance, previous researchers have commonly adapted a two-dimensional approach to job performance by examining in-role performance and contextual performance (Zhao *et al*., 2007). Given that job performance is inherently multi-dimensional (Johnson and Meade, 2010), we follow the commonly used two-dimensional approach to understanding job performance (Bal et al., 2008; Zhao *et al*., 2007). We focus on the effectiveness of an individual employee to perform formal job tasks (in-role performance) and the ability of an individual to perform tasks beyond the formal requirements (organizational citizenship behaviors) (see Borman and Motowidlo, 1993). To understand turnover, we focus on turnover intention (refers to as an individual's intention to leave the job) and actual turnover.

Our first goal is to test the association between PCB and job performance and turnover by accumulating the contemporary research findings to extend the previous meta-analysis (Zhao *et al*., 2007). Drawing on SET, we expect psychological contract breach to be negatively related to in-role performance and organizational citizenship behavior (OCB), while being positively related to turnover intention and actual turnover (Bal *et al*., 2008; Conway and Briner, 2005; Zhao *et al*., 2007), therefore we expect:

Hypothesis 1: Psychological contract breach is negatively related to in-role performance (H1a) and organizational citizenship behavior (H1b).

Hypothesis 2: Psychological contract breach is positively related to turnover intention (H2a) and actual turnover (H2b).

The role of economic factors in psychological contract breach

Research outside of the field of PCB has shown that macroeconomic factors can have a direct impact on employee behaviors (Fenwick and Tausig, 1994, Sarnecki, 2017) and we, therefore, theorize that it could possibly have similar effects on PCB and work outcomes. To understand the impact of the macro-economy on employee PCB related responses, we apply prospect theory (Kahneman and Tversky, 1979; Tversky and Kahneman, 1992) which suggests that people put more effort into preventing the loss of a position than achieving a potential gain based on contextual factors (Kahneman, 2011).

To assess the status quo and possible gains/losses, individuals tend to use a reference frame – which is a psychological point that can be altered due to various situational factors (Stokvik *et al*., 2016; Kahneman and Tversky, 1979). We argue that how people come to understand what they gain and lose can be shaped by the national economic context (Czaika, 2015) as this might alter the perceived status quo and/or the value function of people. Besides, the macro-economy limits the actual resources of an individual and therefore has not only a direct impact on an individual's assessment of the status quo and possible future gains and losses but actual gains and losses (Carr and Chung, 2014; Calvo *et al*., 2015). For example, studies have shown that inflation rates impact an individual's ability to purchase goods (Roth and Wohlfart, 2019) and quality of

life regardless of personal income, status or skill levels (Yam, 2016). Similarly, aggregated unemployment shapes individual behaviors regardless of a person's labor force status or income (Henry, 2008) because the national unemployment impacts an individual's ability to find employment regardless of the person's circumstances such as age (Acemoglu, 2001). High unemployment rates encourage people to underestimate self-worth in the job market (Worach-Kardas and Kostrzewski, 2013) and even when they are employed, they might still feel that their well-being in the future is at a risk (Di Tella *et al*., 2003). Often, anticipatory purchasing ability and anticipatory job loss are interrelated to actual inflation rates and unemployment rates of a country (Roth and Wohlfart, 2019).

Inflation is understood as the increase in the price level and the decline in the value of money (Kuchler and Zafar, 2019). Inflation is a key economic indicator and understanding how inflation impacts behavior is important because it is a major part of people's thinking (Kuchler and Zafar, 2019). Besides, many households are concerned about the expenses that incur to buy the goods and services that are important to maintaining an appropriate living standard (Armantier *et al*., 2015). Previous studies have shown that inflation of the economy is linked to lower employee job performance and turnover at the individual level (Gentry *et al*., 2007).

Unemployment rates are important because unemployment rates have been found to be a unique determinant of an individual's work-life perceptions (Kassenboehmer and Haisken-DeNew, 2009). Much of unemployment at the national level implies the risk of losing employment at a personal level (Starova *et al*., 2011). For instance, national-level unemployment provokes concerns about findings a new job and alternative source of income (Sun *et al*., 2007), subsequently strengthening the link between the desire to retain existing jobs by preforming better or not quitting (Carr and Chung, 2014). National economic unemployment has been found to have

an impact on employee job performance (Iverson and Deery, 2000; Sun *et al*., 2007; Nyberg, 2010) and turnover (Carsten and Spector, 1987; Gentry *et al*., 2007).

Based on prospect theory, we reason that the perceived potential losses of reacting behaviourally to PCB will be higher under adverse economic conditions. For example, potential losses are accentuated under conditions of high inflation and high unemployment, as people will be concerned with the decreasing value of their salary (i.e., high inflation), and the increasing difficulties of obtaining a new job (i.e., due to high unemployment). Contemporary knowledge in the PCB field is that in the event of a breach, the employee tends to underperform or quit their jobs (Zhao *et al*., 2007). However, we think this would be much less so when there is a bad economic context in a country as indicated by high inflation or high unemployment. Under such adverse economic conditions, decisions to underperform and quit their jobs will have more risk and this will change people's value function by making increasing the risk of potential losses. Moreover, it might even change their perception of the status quo as uncertainty regarding inflation and unemployment imposes a liability to the people to appreciate their existing jobs (Jacobs *et al*., 2014) and make them more devoted to jobs (Augner, 2015). Therefore, based on prospect theory, we expect that when faced with high unemployment and high inflation, relationships of PCB with job behaviors will be attenuated. Therefore, we expect:

Hypothesis 3: The inflation rate moderates the relationship between psychological contract breach and in-role performance (H3a), organizational citizenship behavior (H3b), turnover intention (H3c) and actual turnover (H3d). Relationships will be weaker under conditions of high inflation.

Hypothesis 4: The unemployment rate moderates the relationship between psychological contract breach and in-role performance (H4a), organizational citizenship behavior (H4b),

turnover intention (H4c) and actual turnover (H4d). Relationships will be weaker under conditions of high unemployment.

Method

Search Strategy

Multiple search strategies were adopted to identify relevant studies measuring psychological contract breach that was conducted from the 1980s until (mid) 2018. We used the key terms "psychological contract", "psychological contract breach", "psychological contract fulfillment" and "psychological contract violation" to search for relevant studies. In PC literature, some of the early scholars have used breach and violation simultaneously to reflect breach (Coyle-Shapiro and Parzefall, 2008), and the work of Morrison and Robinson (1997) shed more light on the differences between breach and violation. They emphasized that breach and violation are two different terms conceptually. While psychological contract breach is known as a cognitive perception, psychological contract violation is defined as the affective reaction to breach. Therefore, to ensure that we include all the articles measuring breach, we gathered studies around all of these keywords. At a later stage, we screened all of the articles reporting breach, fulfillment, and violation looking for the articles that are specifically measuring psychological contract breach. A few studies reporting violation measured breach and these studies were included in our meta-analysis. Moreover, studies reporting psychological contract fulfillment were reverse coded to derive beach in line with Zhao et al. (2007).

We searched through key databases, namely Psycinfo, EBSCO, ABI-INFORM, and Google Scholar. Moreover, we searched through the reference lists of previous meta-analyses (Bal *et al*., 2008, 2010; Zhao *et al*., 2007; Vantilborgh *et al*., 2015). We also manually searched through the reference lists of published articles on PCB. As a final check, we also looked for

unpublished papers. In doing so, we contacted the members of both the OB division and HRM division of the Academy of Management requesting unpublished studies. Besides, we contacted the authors who have published the abstract papers at the Academy of Management and the Society of Industrial and Organizational Psychology meetings requesting for unpublished papers. We contacted some researchers who are known as psychological contract scholars and requested their published or unpublished works and/or leads to other studies. We also searched for Ph.D. theses available at various library catalogs.

To be included a study must meet various inclusion criteria. The first inclusion criterion was that a study must focus on psychological contract, breach or fulfillment. Going through the databases and hand-searched journals and studies, 2,897 studies were initially identified. Second, only those studies which are empirical were included. This initial search resulted in 2,436 studies. Third, only those following quantitative methods were selected, resulting in 2,088 studies. Fourth, only those studies that investigated PCB or fulfillment were included (i.e., excluding studies on for instance PC content, state, or type). This resulted in 1,791 studies. Fifth, only the published studies were included and after removing unpublished studies, duplicates, and studies that measured psychological contract violation (Morrison and Robinson, 1997), we retained 838 articles. Sixth, only studies measuring the relations between PCB and fulfillment and the relevant work outcomes (in-role performance, OCB, turnover intention, and turnover) were included, excluding a further 633 studies on relationships with job attitudes and other outcomes. Seventh, only the studies reporting in English, French, or Dutch languages were included, and this resulted in 172 studies. Eighth, only employee perspectives of PCB and fulfillment were included. This resulted in a set of 160 published articles reporting the relationship between PCB and fulfillment and the relevant outcomes. Finally, only published

research, which reported the statistical information needed to calculate the correlations among the selected variables of this study were included. This is because there were no relevant studies[1] that we could find reporting breach with the outcomes that we focused on for this study (i.e. breach and in-role performance, OCB, turnover intention and actual turnover). This resulted in a final database of 90 articles, which contained 95 independent samples. Appendix A shows the full list of papers included in the meta-analysis.

Measures

The main independent variable PCB was coded only when breach or fulfillment was measured. In line with the method suggested by Zhao *et al*. (2007), we reversed the signs of the correlations between fulfillment and job behaviors to indicate a psychological contract breach. When multiple dimensions of breach or fulfillment were measured, then a composite score was calculated using formulas of Hunter and Schmidt (2004). For longitudinal studies, correlations between PCB and outcomes and the most distal points of time were taken into account (*cf.* Zhao *et al*., 2007).

The in-role performance was coded for any performance outcome measure that reflected an assessment of an employee's performance in one's core task description. OCBs were coded as any extra-role performance that is not part of the core task description. The turnover intention was measured as the self-reported intention of employees to leave their organization, and actual turnover was assessed only if the study reported correlations between PCB and actual leave from

[1] Concerning unpublished studies, we initially found 52 conference papers and 8 PhD theses for which we could not find any subsequent official publication. Out of those 60 unpublished studies, 57 studies did not meet our inclusion criteria. With regard to other 3 studies, although we contacted the authors requesting for full papers, it was not possible to collect the full papers because we did not receive any response from the authors. Thus, we were unable to find any unpublished studies.

the organization. Composite correlations were calculated if an outcome was measured via multi-dimensional scales (Hunter and Schmidt, 2004).

Inflation and unemployment rate were taken from Euromonitor (2018). To provide comparable statistics for each study, we inspected per study when the study's data were collected (for longitudinal studies we used the year of assessment of PCB), and we contacted authors when the year of data collection was not reported in the study. If authors were not available to provide the requested information, we used the mean time lag of 4 years (as estimated by the available information in our data) between data collection and publication of the paper in a journal. For each study, we then searched in Euromonitor for the macroeconomic factors of the specific country and the specific year in which the study's data were collected.

Statistical Procedure

The hypotheses regarding the main effects of a breach on the job behaviors were tested with the formulas of Hunter and Schmidt (2004). To test the hypotheses concerning the macroeconomic factors, the correlations between the breach and the outcomes were regressed on the macroeconomic factors using a Weighted Least Squares estimation. Weighted Least Squares (WLS) estimation allows us to correct for differences between sample sizes, as well as unreliability in the variables measured (Hunter and Schmidt, 2004). The weights were set at (n_j - 3) to correct for sample size (Hunter and Schmidt, 2004). We applied the Fisher Z-transformation to all correlations, to investigate the moderating effect of the macroeconomic factors.

Results

First, we assessed the main effects of PCB on the outcomes. Table 1 shows the results of the main-effects meta-analysis. In that table, our study's true-score correlations are reported and

compared to those reported in the Zhao *et al*. (2007) meta-analysis. As expected by H1a and H1b, PCB significantly and positively related to in-role performance (true score correlation ρ = -.22) and citizenship behavior (ρ = -.24). Additionally, in line with H2a and H2b, PCB related significantly and negatively to turnover intention (ρ = .34) and actual turnover (ρ =.18). As can be seen in Table 1, none of the 95% confidence intervals contained zero indicating that all of these correlations were significant. It is notable how the correlations between PCB and job performance and turnover intentions are quite similar to the Zhao *et al*. (2007) meta-analysis, while the correlations between PCB and OCB and actual turnover are considerably larger in the current meta-analysis. Lastly, while none of our confidence intervals contained zero, actual turnover did contain zero in Zhao *et al*. (2007). In sum, H1a, H1b, H2a, and H2b are supported.

Insert Table 1 about here

The homogeneity statistics in Table 1 (i.e., Q and the 90% credibility intervals) show that the true score correlations between the breach and the outcomes contain sizeable variation which supports our idea that there might be moderating variables in these relationships (Hunter & Schmidt, 2004). More specifically, Hypotheses 3 and 4 stated that macroeconomic factors of a country moderate the relationships between PCB and job behaviors.

Table 2 shows the results for the macroeconomic factors. Inflation rate moderated the relationship between contract breach and in-role performance (β = .54, $p < .001$). Since the correlation between the breach and in-role performance is negative (see Table 1), the positive beta indicates an attenuating effect; the negative correlation becomes smaller when there is a higher inflation rate. The explained variance (R^2) was .29, indicating that 29% of the variance in

the correlations between the breach and in-role performance can be attributed to the effects of economic inflation. H3a is therefore supported. Inflation did not moderate the relation between contract breach and citizenship behavior (β = .04, *ns*), and H3b was thus not supported. Inflation rate did moderate the relation between PCB and turnover intention (β = -.32, p < .001). Since the correlation between PCB and turnover intention is positive (see Table 1), the negative beta indicates that this positive correlation becomes smaller when the inflation rate becomes higher, thereby supporting H3c (i.e., an attenuating effect of inflation rate). Finally, inflation rate moderated the relation between PCB and actual turnover (β = .02, p < .001). Since the correlation between PCB and actual turnover is positive (see Table 1), the positive beta indicates that this positive correlation becomes larger when the inflation rate becomes higher. This is in the opposite direction as we expected in H3d and we will discuss this in more detail in the discussion. In sum, the main premise underlying hypothesis 3 was that the inflation rate could moderate the relationships between PCB and job behaviors and our findings support that general idea, yet interestingly our findings also revealed that this is for some relationships more complex than we anticipated.

Table 2 also shows that unemployment rate moderated the relationship between PCB and in-role performance (β = .48, p < .001). Since the correlation between PCB and in-role performance is negative (see Table 1), the positive beta indicates that this positive correlation becomes larger when the unemployment rate becomes higher, supporting H4a. The unemployment rate did not moderate the relation between PCB and citizenship behavior (β = -.18, *ns*), and thus H4b was not supported. Unemployment rate did moderate the relation between PCB and turnover intention (β = .30, p < .001). Since the correlation between breach and turnover intention is positive (see Table 1), the positive beta indicates that this positive

correlation becomes larger when the unemployment rate becomes higher, which was opposite as expected by H4c. The unemployment rate did not moderate the relation between PCB and actual turnover (β = .74, *ns*), thereby rejecting H4d. In sum, the general expectation of hypothesis 4 received support, yet – as was the case for our findings concerning hypothesis 3 – our findings also unearthed a more complex reality than we initially expected.

Insert Table 2 about here

Discussion

The findings of this meta-analysis show that psychological contract breach is strongly linked to work behaviors (i.e., in-role performance, OCBs, turnover intentions, and actual turnover). These results are in line with social exchange theory (SET; Blau, 1986) and the findings of previous studies (e.g., Vantilborgh *et al*., 2015) and meta-analyses (Zhao *et al*., 2007). For in-role performance and turnover intentions, there were some variations in the results of the current and Zhao *et al*'s (2007) meta-analysis, and both their and our meta-analyses indicate that PCB is an important predictor of these work behaviors. However, what our study revealed differently was stronger relationships for OCB and actual turnover than Zhao *et al.*'s (2007) study (up from -.14 to -.24 for OCB and .06 to .18 for actual turnover). Our explanations are twofold. On the one hand, it might be that since 2007, employees may have responded more strongly to PCBs in relation to OCBs and turnover, potentially as a result of changing economic circumstances, such as layoffs and austerity (Bohle *et al*., 2017).

The changing reality of workplaces was part of our focus by investigating how macroeconomic factors of a country can moderate the relation between PCB and work outcomes.

Based on prospect theory (Kahneman and Tversky, 1979), we expected that job behavior following a breach is partly influenced by people's assessment of potential losses and gains, which are dependent upon the economic situation of a country (Mohnen and Pokorny, 2005). We expected people to be less affected by a breach when there are higher inflation and higher unemployment. Overall, our results support the notion that economic factors can shape the relationships between PCB and work behaviors and these findings will be put central in the rest of the discussion.

PCB Effect on Work Behaviors: Macroeconomic Moderators

Our meta-analysis showed that the inflation rate moderated the relation between contract breach and in-role performance and turnover intention in the expected direction. Hence, in a macroeconomic context of high inflation, people are less likely to decrease their performance or increase their turnover intention when they experience PCB. Inflation rate also moderated the relationship between contract breach and actual turnover, yet did so in the opposite direction (i.e., when there is higher inflation, the positive relationship between the breach and actual turnover becomes larger suggesting that the degree of actual turnover among people is higher when there is higher inflation). This unexpected effect of inflation can be due to various reasons. One explanation may be that under conditions of inflation, people do change jobs more frequently, to overcome the negative effects of the devaluation of their income, as changing jobs may be a relatively straightforward way to negotiate higher salaries to cope with the negative implications of inflation (Myant *et al*., 2016). Inflation may thus play a complex role (Vogel *et al*., 2009). On the one hand, inflation is an indicator of an economic downturn and may thus signal that people need to secure their income in order to prevent any further losses of their salaries (Lucy and Broughton, 2011) becoming worthless with rising prices due to inflation.

This may lead them to perform well in their jobs even when their organization is not upholding their side of the deal (i.e., when PCB occurs). However, on the other hand, employees are also leaving such ‘’PC breaching’’ organizations, and search for a new employer, to secure or increase their income and purchasing power.

The unemployment rate moderated the relation between contract breach and in-role performance in the expected direction, with higher unemployment predicting attenuated responses to breaches. Yet, the unemployment rate moderated the relation between contract breach turnover intention in the opposite direction (i.e., when there is higher unemployment, the positive relation between breach and turnover intention becomes larger suggesting that the degree of turnover intention among people is higher when there is higher unemployment). This unexpected effect of unemployment can be due to similar reasons as discussed above. In times of high unemployment in a country, people may still retain their performance at work (Calvo *et al.*, 2015) but at the same time, they also start looking increasingly for other job opportunities (Luechinger *et al*., 2010). Hence, what might be observed is a dual-process through which people, despite having experienced breach, may continue to perform well in one’s job and therefore not risking losing one’s job, and at the same time, start looking more intensely for other jobs to offset the risks and losses that co-align with experiencing breaches. This is a new insight above the prior conclusions of Zhao *et al*. (2007) that PCB normally elicits negative responses.

Overall, our findings show that it is important to consider the macroeconomic environment in managing employee behavior and dealing with psychological contract breach as economic factors can moderate these relationships. PCB had a less negative effect on in-role performance in harsh economic times, yet our results showed that extra-role performance (i.e., OCB) was not

moderated by the economic situation. This means that even in a difficult economy setting, employees still react negatively to PCB by reducing their OCB (cf. Zhao *et al*., 2007). For the long-term viability of organizations, OCB is crucial (Rousseau, 1989) and reducing PCB is thus still important in challenging economic settings. Our findings could also be interpreted that employees engaging in a form of impression management, as PCB still negatively relates to their OCB, but many effects less so employee in-role performance. Our findings that economic factors might increase turnover add to that by showing that even when it seems likes employees are still performing after PCB, they are actually already thinking of a life beyond the ‘’breaching’’ organization.

Theoretical implications

This study has several theoretical implications. First, the psychological contract literature has thus far assumed that psychological contract evaluations are shaped by individuals through using cues from their immediate environment (e.g., Morrison and Robinson, 1997). Our study is among the first in the PCB literature to show that macroeconomic content can influence people’s behavior. While individuals may be unlikely to be aware of the *precise* unemployment figures in a particular period, these statistics serve as important proxies for how people assess the macroeconomic context (Dunlap *et al*., 2010; Di Tella *et al*., 2003; Sevak and Schmidt, 2011). Future research may shed more light upon the precise mediating mechanisms that explain how such proxies influence decision making processes following PCB.

Moreover, as we have shown, these cues are not merely uniform in how they signal to individuals when they have to cope with psychological contract breaches but may depend on both the type of economic indicator and the specific behavior in the workplace. In all, psychological contract theory would benefit from taking a wider perspective on the coping

processes of people following a breach and incorporate their decision based on the wider economic environment. Prospect theory (Adriaenssen and Johannessen, 2016; Kahneman, 2011; Kahneman and Tversky, 1979) offers a useful theoretical angle to study not only how psychological contracts are processed emotionally, but also how the resulting behavior of employees is also influenced by assessments of risk, and therefore subject to wider contextual macroeconomic factors. In other words, while social exchange theory perspectives (Blau, 1964) predict that employees actively restore a balance when PCB occurs, prospect theory would predict that this balance may be absent when employees perceive the potential losses of withholding their efforts to be too great. The notion of structural imbalance between employee and organization has been somewhat absent from the psychological contract literature (Bal & Dóci, 2018), but prospect theory may explain why individuals do not *always* reciprocate breach, and will they might still (appear to be) performing well after PCB.

Moreover, the study also has implications for the wider OB and HRM literature. While in OB the focus has traditionally been on individuals in the workplace, there is now increasing evidence that individual decision making does not just occur in isolation, but is increasingly dependent on the context (Blomme *et al*., 2010; Johns, 2018). Beyond a rich tradition on the impact of national culture on individual behavior and work climates, it has been less well understood that economic factors do have an impact on attitudes, behaviors, and decision making (Gelade *et al*., 2006). Our study contributes to this by not only theoretically integrating the psychological contract literature with prospect theory to explain the impact of macroeconomic factors but also by empirically testing our hypotheses using a large number of studies that have been conducted across the world across the last 25 years. In sum, we argue that research areas which traditionally focus on the explanation of individual behavior in the workplace should also

take into account theoretically and empirically the notion of the wider socio-economic, political, and cultural context, which may profoundly influence how people feel, behave and make decisions in the workplace (Bal and Dóci, 2018).

Strengths, Limitations, and Suggestions for Further Research

The study also has some strengths and limitations. First, although we were able to collect a large dataset, most studies that we incorporated for this meta-analysis were cross-sectional. Therefore, it is not possible to draw causal conclusions on the impact of the relationships under study. For instance, previous research has shown that psychological contracts are reciprocally related to job attitudes (Bal *et al*., 2013), and thus it may be that employee behavior may also impact their assessment of PCB. However, it is nonetheless more likely that macroeconomic factors impact the relationships at the individual level than vice versa. Hence, this limitation of our meta-analysis is at the same time also a call for more primary research on longitudinal effects, as our research has revealed there is still a scarcity of such studies.

Moreover, the current study had a clear focus by zooming-in on psychological contract breach's relationships with work outcomes. However, other aspects of the psychological contract may also be influenced by economic factors, such as the content of the contract itself (Vantilborgh *et al*., 2014). For instance, in an economic downturn, employees may adapt their expectations of their employer, or in prospect theory, alter their perception of the status quo (Vogel *et al*., 2009),, and thus the basis on which evaluations of the contract arise may change as well as their evaluation function might also change regarding possible gains and losses. Additionally, in addition to work behaviors, there are also other outcomes, such as affective outcomes, which could be relevant for future studies. A deeper investigation of these processes

may further elucidate the impact of macroeconomic factors on psychological contract dynamics (Guest, 2004).

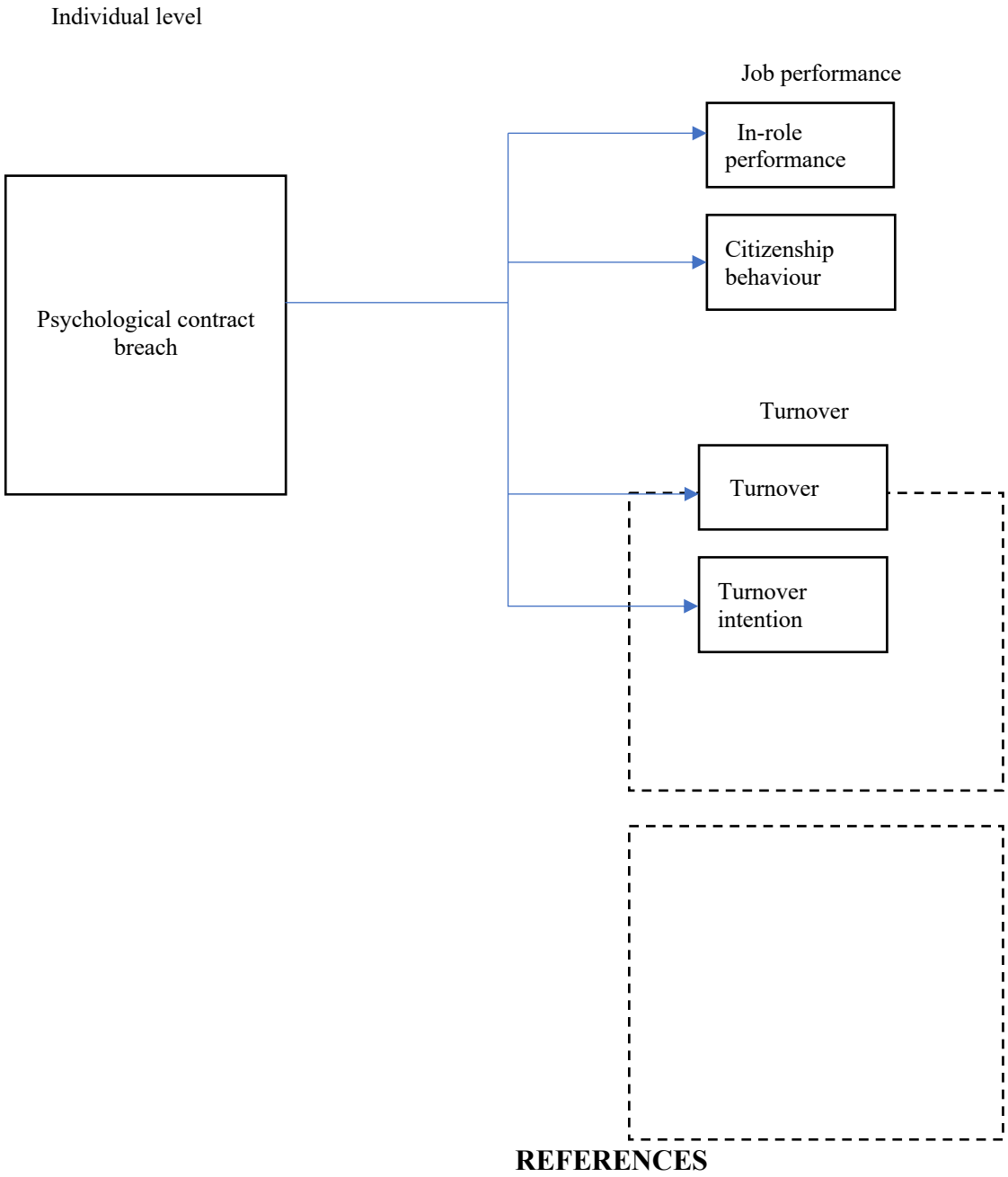
Finally, one of our six turnover studies include a sample of air force employees – it may not necessarily be appropriate to consider this sample as representative of a national population and therefore, we encourage future researchers to investigate the national economic context as a moderator influencing the breach and actual turnover relationship. Besides, we incorporated two of the most prominent macroeconomic factors in our study, including inflation and unemployment. However, there are also other factors that could be relevant, such as inequality, ideology, institutions, and culture, which may similarly – or differentially – impact psychological contract processes (Thomas *et al*., 2010; Vantilborgh *et al*., 2014). Further research may shed more light on how these factors impact psychological contracts at work and such studies could use our methodological and analytical strategies for doing so.

Practical implications and conclusions

The findings of our meta-analysis show that macroeconomic factors can alter the ways in which employees respond to psychological contract breaches. Our study supports the notion that psychological contract breaches are generally negatively related to performance-related outcomes, and positively related to turnover (intentions), yet also demonstrates that these general relationships are contingent upon the state of the economic environment. Therefore, organizations and managers should be aware that while employees may reduce their in-role performance less after a PCB in adverse economic circumstances, their intentions to leave the organizations might be increased at the same time, and the negative effect of PCB on extra-role performance (i.e., OCB) is not reduced. Thus, taking all our findings together, reducing PCB is

crucial also in economic dire times, because although employees would react with higher in-role performance to enhance their employability by performing well, they also deal with the PCB by reducing their extra effort for the company and looking for other jobs at the same time. In conclusion, both scholars and practitioners would thus gain from a deeper understanding of how macroeconomic factors affect employee reactions to PCB. While some effects are attenuated under conditions of losses due to an economic downturn (i.e., high inflation and unemployment), other effects might be enhanced (i.e., PCB's relationship with turnover).

Figure 1: Theoretical model



REFERENCES

Acemoglu, D. (2001), "Good jobs versus bad jobs". *Journal of Labor Economics*, Vol. 19 No. 1, pp. 1-21.

Adriaenssen, D.J., and Johannessen, J.A. (2016), "Prospect theory as an explanation for resistance to organizational change: some management implications", *Problems and Perspectives in Management*, Vol. 14 No. 2, pp. 84-92.

Angrave, D., Charlwood, A. and Greenwood, I. (2015), "Do economic conditions influence union activism behaviour?", *Economic and Industrial Democracy*, Vol. 38 No. 2, pp. 344-369.

Armantier, O., De Bruin, W.B., Topa, G., Der Klaauw, W. and Zafar, B. (2015), "Inflation expectations and behaviour: do survey respondents act on their beliefs?", *International Economic Review,* Vol. 56 No. 2*,* pp. 505-536.

Augner, C. (2015), "Job satisfaction in the European union: the role of macroeconomic, personal, and job-related factors". *Journal of Occupational Environment Medicine,* Vol. 57 No. 3, pp. 241-245.

Bal, P. M., De Cooman, R. and Mol, S.T. (2013), "Dynamics of psychological contracts with work engagement and turnover intention: the influence of organizational tenure", *The European Journal of Work and Organizational Psychology*, Vol. 22 No.1, pp. 107-122.

Bal, P.M., De Lange, A.H., Jansen, P.W.G. and Van Der Velde, M.E.G. (2008), "Psychological contract breach and job attitudes: a meta-analysis of age as a moderator", *Journal of Vocational Behavior*, Vol. 72 No.1, pp. 143-158.

Bal, P.M. and Dóci, E. (2018), "Neoliberal ideology in work and organizational psychology", *European Journal of Work and Organizational Psychology*, Vol. 27 No. 5, pp. 536-548.

Blau, P. (1964), *Exchange and Power in Social Life,* Routledge, London and New York.

Blomme, R.J., Rheede, A.V. and Tromp, D.M. (2010), "Work-family conflict as a cause for turnover intentions in the hospitality industry", *Tourism and Hospitality Research*, Vol. 10 No. 4, pp. 269-285.

Bohle, S.L., Bal, P.M., Jansen, P.G.*,* Leiva, P.I. and Alonso, A.M. (2017), "How mass layoffs are related to lower job performance and OCB among surviving employees in Chile: an investigation

of the essential role of psychological contract", *International Journal of Human Resource Management,* Vol. 28 No. 20, pp. 2837-2860.

Borman, W. C. and Motowidlo, S. J. (1993), "Expanding the criterion domain to include elements of contextual performance" in Schmitt, N., and & Borman, W. C., (Eds.), Personnel Selection in Organizations, San Francisco, Jossey-Bass, pp. 71-98.

Calvo, E., Mair, C.A. and Sarkisian, N. (2015), Individual troubles, shared troubles: the multiplicative effect of individual and country-level unemployment on life satisfaction in 95 nations (1981-2009), *Social Forces,* Vol. 93 No. 4, pp. 1625-1653.

Carr, E. and Chung, H. (2014), "Employment insecurity and life satisfaction: the moderating influence of labour market policies across Europe", *Journal of European Social Policy,* Vol. 24 No. 4*,* pp. 383-399.

Carsten, J.M. and Spector, P.E. (1987), "Unemployment, job satisfaction, and employee turnover: a meta-analytic test of the Muchinsky model", *Journal of Applied Psychology,* Vol. 72 No. 3, pp. 374–381.

Clinton, M. and Guest, D. (2013), "Psychological contract breach and voluntary turnover: testing a multiple mediation model", *Journal of Occupational and Organizational Psychology*, Vol. 87 No.1*,* pp. 200-207.

Conway, N. and Briner, R.B. (2005), *Understanding Psychological Contracts at Work: A Critical Evaluation of Theory and Research*, Oxford University Press, Oxford.

Coyle-Shapiro, J. and Parzefall, M. (2008), "Psychological contracts" in Cooper, C. L. and Barling, J., (Ed.), *The Sage Handbook of Organizational Behaviour*, Sage Publications, London, pp. 17-34.

Cropanzano, R., Anthony, E., Daniels, S. and Hall, A. (2017), "Social exchange theory: a critical review with theoretical remedies", *Academy of Management Annals*, Vol. 11 No. 1, pp. 479-516.

Czaika, M. (2015), "Migration and economic prospects", *Journal of Ethnic and Migration Studies*, Vol. 41 No. 1, pp. 58-82.

Di Tella, R., MacCulloch, R. and Oswald, A. (2003), "The macroeconomics of happiness". *Review of Economics and Statistics*, Vol. 95 No. 1, pp. 809–828.

Dunlap, E., Johnson, B.D., Kotharba, J.A. and Fackler, J. (2010), "Macro-level social forces and micro-level consequences: poverty, alternate occupations, and drug dealing", *Journal of Ethnicity in Substance Abuse,* Vol. 9 No. 2, pp. 115-127.

Euromonitor (2018), available at: https://www.euromonitor.com (accessed 2 January 2020)

Fenwick, R. and Tausig, M. (1994), "The macroeconomic context of job stress", *Journal of Health and Social Behavior, Vol. 35* No. 3, pp. 266–282.

Fukui, S., Rollins, A., Salyers, M. (2019), "Characteristics and job stressors associated with turnover and turnover intention among community mental health providers", available at: https://doi.org/10.1176/appi.ps.201900246 (accessed 12 August 2019)

Gandelman, N. and Hernández-Murillo, R. (2009), "The impact of inflation and unemployment on subjective personal and country evaluations", *Federal Reserve Bank of St. Louis Review*, Vol. 91 No.3, pp. 107-126.

Gelade, G.A., Dobson, P. and Gilbert, P. (2006), "National differences in organizational commitment: effect of economy, product of personality, or consequence of culture?". *Journal of Cross-Cultural Psychology*, Vol. 37 No. 5, pp. 542-556.

Gentry, W., Kuhnert, K., Mondore, S. and Page, E. (2007), "The influence of supervisory-support climate and unemployment rate on part-time employee retention: a multilevel analysis", *Journal of Management Development*, Vol. 26 No. 10, pp.1005-1022.

Gouldner, A. (1960), The norm of reciprocity: a preliminary statement, *American Sociological Review*, Vol. 25, pp. 161-178.

Guest, D.E. (2004), "The psychology of the employment relationship: an analysis based on the psychological contract", *Applied Psychology*, Vol. 53 No. 4, pp. 541-555.

Henry, J. (2008), "The theory of the state: the position of marx and engels, forum for social economics". *Taylor & Francis Journals*, Vol. 37 No. 1, pp. 13-25.

Hunter, J.E. and Schmidt, F.L. (2004), *Methods of meta-analysis: correcting error and bias in research findings,* Sage, New York, NY.

Iverson, R. and Deery, S. (2000), "Job performance and voluntary turnover: an examination of linearity, curvilinearity, and the moderators of time, unemployment rate, and perceived ease of movement using event history analysis", *Academy of Management Proceedings*, available at: A1-A6. 10.5465/APBPP.2000.5535027.

Jacobs, D., Perera, D. and Williams, T. (2014), "Inflation and the cost of living", RBA bulletin, Reserve bank of Australia, 33-4, available at: https://ideas.repec.org/a/rba/rbabul/mar2014-04.html (accessed 15 January 2020).

Jain, A. and Sinha, A. (2006), "Self-management and job performance: in-role behavior and organizational citizenship behaviour", *Psychological Studies*, Vol. 51 No.1, pp. 19-29.

Johns, G. (2018), "Advances in the treatment of context in organizational research", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 5 No.1, pp. 21-46.

Johnson, E. C. and Meade, A. W. (2010), "A multi-level investigation of overall job performance ratings", available at: https://doi.org/10.1037/e518392013-404 (accessed 24 February 2020).

Kahneman, D. (2011), *Thinking, Fast and Slow*, Farrar, Straus & Giroux, New York, NY.

Kahneman, D. and Tversky, A. (1979), "Prospect theory: an analysis of decision under risk", *Econometrica*, Vol. 47 No. 2, pp. 263-291.

Kassenboehmer, S. and Haisken-DeNew, J. (2009), "You're fired! The causal negative effect of entry unemployment on life satisfaction", *Economic Journal*, Vol. 119 No. 536, pp. 448–462.

Kuchler, T. and Zafar, B. (2019), "Personal experiences and expectations about aggregate outcomes", *The Journal of Finance,* Vol. 74 No. 5, pp. 2491-2542.

Levy, J. (1992), "An introduction to prospect theory", *Political Psychology,* Vol. 13 No. 2, pp. 171-186.

Lucy, D. and Broughton, A (2011), "About labour market analysis & minimum wage", Employment Relation Research Series, No. 119, available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/32212/11-918-understanding-behaviour-employees-conflicts-at-work.pdf (accessed 12 January 2020).

Luechinger, S., Meier, S., and Stutzer, A. (2010). "Why does unemployment hurt the employed? evidence from the life satisfaction gap between the public and the private Sector". *Journal of Human Resources,* Vol. 45 No. 4, pp. 998-1045.

Metz, I., Kulik, C.T., Brown, M. and Cregan, C. (2012). "Changes in psychological contracts during the global financial crisis: the manager's perspective". *The International Journal of Human Resource Management,* Vol. 23 No. 20, pp. 4359-4379.

Mohnen, A. & Pokorny, K. (2005), "Reference dependency and loss aversion in employer-employee-relationships: a real effort experiment on the incentive impact of the fixed wage", available at: 10.2139/ssrn.641542 (accessed 20 October 2019).

Morrison, E.W. and Robinson, S.L. (1997). "When employees feel betrayed: a model of how psychological contract violation develops". *The Academy of Management Review,* Vol. 22, No.1, pp. 226-256.

Myant, M., Theodoropoulou, S. and Piasna, A. (2016), "Unemployment, internal devaluation and labour market deregulation in Europe", available at: www.etui.org › content › download › file › 16 (accessed 20 October 2019).

Nyberg, A. (2010). "Retaining your high performers: moderators of the performance–job satisfaction–voluntary turnover relationship". *Journal of Applied Psychology,* Vol. 95 No.3, pp. 440–453.

Park, T.Y. and Shaw, J.D. (2013). "Turnover rates and organizational performance: a meta-analysis". *Journal of Applied Psychology,* Vol. 98 No. 2, pp. 268–309.

Pate, J. (2006). "The changing contours of the psychological contract: unpacking context and circumstances of breach". *Journal of European Industrial Training*, Vol. 30 No.1, pp. 32-47.

Roth, C. and Wohlfart, J. (2019), "How do expectations about the macroeconomy affect personal expectations and behavior?", working paper, available at: https://www.briq-institute.org/wc/files/people/chris-roth/working-papers/how-do-expectations-about-the-macroeconomy-affect-personal-expectations-and-behavior.pdf (accessed 12 September 2019).

Rousseau, D. (1989), "Psychological and Implied Contracts in Organisations", *Employee Responsibilities and Rights Journal,* Vol. 2 No. 2, pp. 121-139.

Sarnecki, A. (2015), *Unemployment as a moderator of the organizational justice turnover intentions relationship,* paper presented at the annual meeting of the academy of management proceedings, 2015, pp. 15954-15954, available at: 10.5465/AMBPP.2015.15954abstract (accessed on 22 December 2019).

Sevak, P. and *Schmidt, L.* (2011), *Macroeconomic conditions and updating of expectations by older Americans,* working paper (paper number, *2011*-259), Michigan Retirement Research Center, Michigan.

Sirola, N. and Pitesa, M. (2018), "The macroeconomic environment and the psychology of work evaluation", *Organizational Behavior and Human Decision Processes*, Vol. 144, pp. 11-24.

Stavrova, O., Schloesser, T. and Fetchenhauer, D. (2011), "Are the unemployed equally unhappy all around the world? the role of the social norms to work and welfare state provision in 28 OECD countries". *Journal of Economic Psychology*, Vol. 32 No.1, pp. 159-171.

Stokvik, H., Adriaenssen, D.J. and Johannessen, J.A. (2016), "Strategic entrepreneurship and intrapreneurial intensity", *Problem, and Perspectives in Management,* Vol. 14 No. 2*,* pp. 348-359.

Sun, L.Y., Aryee, S. and Law, K.S. (2007), "High-performance human resource practices, citizenship behavior, and organizational performance: a relational perspective". *Academy of Management Journal,* Vol. 50 No. 3*,* pp. 558–577.

Thomas, D.C., Fitzsimmons, S.R., Ravlin, E.C., Au, K.Y., Ekelund, B.Z. and Barzantny, C. (2010), "Psychological contracts across cultures", *Organizational Studies*, Vol. 31 No. 11, pp. 1437-1458.

Tversky, A. and Kahneman, D. (1992), "Advances in prospect theory: cumulative representation of uncertainty", *Journal of Risk and Uncertainty,* Vol. 5 No. 5, pp. 297–323.

Vantilborgh, T., Bidee, J., Pepermans, R., Willems, J., Huybrechts, G. and Jegers, M. (2014), "Effects of ideological and relational psychological contract breach and fulfilment on volunteers' work effort", *European Journal of Work and Organizational Psychology*, Vol. 23 No. 2, pp. 217-230.

Vantilborgh, T., Dries, N., De Vos, A. and Bal, P.M. (2015), "The psychological contracts of older employees", in P.M. Bal, D. Kooij and D.M. Rousseau (eds.), *Aging Workers and the Employee-Employer Relationship,* Springer, Amsterdam, pp. 107-127.

Vogel, L., Menz, J. and Fritsche, U. (2009), "Prospect theory and inflation perceptions - an empirical assessment. Macroeconomics and finance series 200903", available at: https://econpapers.repec.org/paper/hepmacppr/200903.htm (accessed on 5 October 2019)

William. A. B. (2004), "The prospects for prospect theory: an empirical evaluation of international relations applications of framing and loss aversion", *Political Psychology,* Vol. 25 No.3, pp. 331-362.

Worach-Kardas, H. and Kostrzewski, S. (2013), "Quality of life and health state of long: term unemployed in older production age", *Applied Research Quality Life*, Vol. 9 No. 9*,* pp. 335–353.

Yam, Y. (2016), "The influence of macro and micro-environmental factors on the consumption of mobile phones and marketing strategies", DBA thesis, Southern Cross University, Lismore, NSW, available at: https://epubs.scu.edu.au/theses/512/ (accessed on 12 November 2019)

Zhao, H., Wayne, S.J., Glibkowski, B.C. and Bravo, J. (2007), "The impact of psychological contract breach on work-related outcomes: a meta-analysis", *Personnel Psychology*, Vol. 60 No.3, pp. 647–680.

Table 1

Meta-analysis results of the main effects of psychological contract breach on job behaviors

							95% Confidence Interval		**90% Credibility Interval**			
Outcomes	**Study**	***k***	***N***	***r***	**ρ**	**SD ρ**	**Lower**	**Upper**	**Lower**	**Upper**	**Q**	
In-role performance	Current study	34	8287	-.21	-.22	.12	- .26	-.17	- .42	-.01	138	54
	(Zhao et al., 2007)	*16*	*3504*	*-.20*	*-.24*	*.09*	*-.29*	*-.18*	*-.37*	*-.11*	*32*	*56*
OCB	Current Study	33	20268	-.22	-.24	.06	-.24	-.21	-.39	-.06	211	54
	(Zhao et al., 2007)	*21*	*12662*	*-.11*	*-.14*	*.09*	*-.18*	*-.10*	*-.28*	*-.02*	*69*	*51*
Turnover intentions	Current Study	61	20753	.32	.34	.18	.29	.39	.02	.70	947	79
	(Zhao et al., 2007)	*22*	*6268*	*.34*	*.42*	*.15*	*.36*	*.49*	*.19*	*.65*	*109*	*80*
Actual turnover	Current Study	6	6869	.13	.18	.04	.07	.12	.03	.16	13	2
	(Zhao et al., 2007)	*5*	*730*	*.05*	*.06*	*.18*	*-.12*	*.23*	*-.21*	*.32*	*20*	*3*

k = number of studies; N = number of observations; r = mean uncorrected correlation; ρ = true score correlation; SD of ρ = standard deviation of true score correlation; Q = Cochran's homogeneity test statistic; Fail safe n = Number of studies required to refute the significance of the correlation.

Table 2

Meta-analytic results of the moderating roles of economic factors in the relationships between contract breach and job behaviors

Economic factor	**Outcomes**	***k***	***N***	**Beta**	**S.E.**	**p-value**	**R^2**
Inflation Rate	In-role performance	34	8632	.54	.03	.00	.29
	OCB	33	20268	.04	.01	n.s.	.00
	Turnover intentions	61	20753	-.32	.01	.01	.10
	Actual turnover	6	6879	.12	.01	.00	.00
Unemployment Rate	In-role performance	34	8632	.48	.01	.00	.23
	OCB	33	20268	-.18	.00	n.s.	.03
	Turnover intentions	61	20753	.30	.01	.01	.09
	Actual turnover	6	6879	.74	.00	n.s.	.55

k = number of studies; N = number of observations; Beta = interaction coefficient; S.E. = standard error of Beta; t = t-test of Beta; p-value = significance of t-test; R^2 = explained variance.