

Policy uncertainty, the economy and business


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Dates:

Received: 27 Oct. 2021
Accepted: 29 Mar. 2022
Published: 09 Sept. 2022

How to cite this article:
Parsons, R. & Krugell, W.,
2022, 'Policy uncertainty,
the economy and business',
*South African Journal of
Economic and Management
Sciences* 25(1), a4422.
[https://doi.org/10.4102/
sajems.v25i1.4422](https://doi.org/10.4102/sajems.v25i1.4422)

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Elevated policy uncertainty acts as a tax on investment. In 1921, Frank Knight made a basic conceptual distinction between risk and uncertainty. In a market context, risks can be hedged through the use of different instruments, yet in the policy context, uncertainty makes waiting and seeing an option with value. However, this can come at a high economic cost. The academic analysis of policy uncertainty is today an active field of research globally. Some papers have been published in this regard, each using different approaches to measure macroeconomic and policy uncertainty. In 2015, the North-West University Business School (in conjunction with the School of Economics) pioneered the creation and publication of a Policy Uncertainty Index (PUI) for South Africa, which has since then captured the impact of key events – from 'Nenegate' to 'Ramaphoria'. This paper presents an analysis of policy uncertainty in South Africa and how the PUI has contributed to an understanding of the economic environment in which business operates, with a specific focus on investment. The paper's contribution lies in the unique context that it creates – where policymaking is more performative than evidence-based and there is a perennial tug of war between the state and market forces, against the backdrop of South Africa's mixed economy.

Keywords: policy, uncertainty; business confidence; investment; South Africa.

The most distinctive characteristic of the businessman – the thing that most sharply distinguishes him from the lawyer, college professor or, generally speaking, the civil servant

– is his capacity for decision. (J.K. Galbraith)

Introduction

Background

The role of policy uncertainty began to emerge in various economic analyses of the South African situation in the late 2000s, as the country's economic performance began to deteriorate. Yet it was not until 2015 that the authors of this paper sought to find a way to measure it, albeit by proxy, constructed from certain researched components. The impact of policy uncertainty had by then come to have important implications for business confidence and the investment climate in the country. At the time, hardly any economic assessment or media release about South Africa from international or local financial institutions, business lobbies, economic analysts, financial journalists or credit rating agencies appeared without the words 'policy uncertainty' in them. It seemed that it was 'an idea whose time had come' and that the regular measurement of policy uncertainty needed to be pioneered in this country.

There were already ample global precedents for taking such a step. It was possible to access substantial previous international research on the subject. Therefore, not only was the calibration of policy uncertainty clearly relevant to South Africa, but it was also spurred by the increasing academic and policy interest globally in the definition, cause, effect and measurement of policy uncertainty. Innovative work in this field had already been done by academics at Stanford University for the US and other economies in the world. Indeed, there is now a 'World Uncertainty Index', launched in 2020 by Stanford University academics and the International Monetary Fund (IMF) to assess what were perceived to be rising levels of policy uncertainty in the global economy.

While efforts have been made, at an academic level, to calibrate degrees of policy uncertainty, recent economic developments such as the Great Recession (and the failure of most economists to foresee it) have also prompted people to revisit and extend the debate on basic theories of risk and uncertainty. The poor track record of most economic forecasting attempts has been highlighted by several economists. The financial crisis of 2007–2008 drove home the intellectual failure of optimising models to apprehend the disruptive action resulting from encounters with an

unknowable future. This has been the subject of several academic publications.

Notably, Kay and King (2020) argue in a recent persuasive study that the world has paid a high economic price because so many scholars, investors and advisers have abandoned the precautionary insights that earlier economists like Frank Knight and J.M. Keynes provided, while also making a clear distinction between risk and uncertainty. Keynes, in particular, was insistent about the existence of inescapable, general uncertainty about the future and its implications for economic policy. Uncertainty, for Keynes, became a major issue in economics and business when livelihoods or prosperity depended on people taking a firm view of the future.

Following on from this, King and Kay are adamant in their conclusion that the real world must now embrace both the notion and the reality of 'radical uncertainty', which presents both 'shocks' and 'opportunities'. Their research strikes a necessary and modern cautionary note about the role of uncertainty in decision-making. This overall broad and cumulative shift in focus at several levels in relation to policy uncertainty suggested that indeed the time had arrived to mobilise research efforts elsewhere and to craft a Policy Uncertainty Index (PUI) adapted to South African circumstances. With this in mind, a joint working group was set up in 2015, comprising academics from the North-West University (NWU) Business School and the NWU School of Economics, to interrogate existing international research and to develop a suitable domestic index. After several months of research, the first PUI was eventually launched early in 2016, covering the 4Q of 2015.

In the construction of a PUI for South Africa, the following were determining factors at the time:

1. The single universal driver of all similar indices to date had been media coverage that included the words 'policy uncertainty'. There was no reason not to also accept this as one of the main components of South Africa's measurement of the phenomenon. However, the US model included two other factors: firstly, uncertainty arising from changes in the US tax code, and secondly, measurement of the dispersion among individual forecasters of certain economic variables in the US economy. Regarding the tax code, the NWU working group thought that in South Africa's case it was not a relevant proxy for policy uncertainty. Instead, the issue of political outlook and uncertainty contained in the quarterly Survey of Manufacturing Industry, published by the Bureau for Economic Research (BER) at the University of Stellenbosch, was taken as a credible substitute component in South Africa.
2. As it was not possible to replicate the level of research capacity available in the US, the NWU working group decided that the views of a cohort of economists on levels of uncertainty in South Africa would be solicited via a brief questionnaire. In addition, whereas almost all

other national policy uncertainty indices are published monthly, both capacity limitations and the inclusion of an economic narrative embedded in the PUI would make a quarterly index more appropriate in South Africa. In passing, it should be mentioned that, rather fortuitously, the first PUI for the 4Q 2015 showed a huge initial spike. This was due to the entirely unexpected and controversial dismissal in December 2015 of respected Finance Minister Nene by then President Jacob Zuma, which came as a big shock to the markets and the business community. In analysing the subject of policy uncertainty, the authors of this paper acknowledge, of course, that it cannot explain *all* the lapses or gaps in a country's economic performance. It is also important to explore and determine the extent to which policy uncertainty has an *independent* impact on investment decisions and to assess its role when the other recognised factors, driving private fixed investment, are weighed.

Yet a number of authors revealed some interesting correlations – highlighting that economic outcomes and policy uncertainty do seem to have an impact on the willingness of business to invest, hire or act. There is increasing empirical evidence that when policy uncertainty is high, it may suppress investment, employment and output. Indeed, elevated levels of policy uncertainty may inhibit meaningful investment and consumption. Economic policy uncertainty, therefore, has potentially adverse consequences for an economy.

Given SA's significant socioeconomic challenges, the role of policy uncertainty as a recurring theme in the country's economic performance over the past few years needed to be assessed. More recently, the SA economy has also had to cope with the uncertainties generated by COVID-19 and civil unrest, which reinforced interest in the subject both academically and practically. Also requiring examination was what the phenomenon of policy uncertainty and its approximate measurement could mean conceptually and practically for decision-makers in both the public and private sectors in South Africa.

Problem statement

A valid criticism of most economic theories is that it is usually set against a background of ease and safety. Events steadily dispelled this rather artificial sense of security, especially in emerging markets. It has become increasingly necessary to acknowledge that steering the economy is all about navigating poorly charted waters and avoiding rocks of uncertain location.

What business and other decision-makers need is a reliable and identifiable peg on which to hang a number of key questions about the dynamics of policymaking, its impact on the economy and, where necessary, how the situation can be improved. That is why it was thought helpful to accompany the release of each PUI with a narrative, discussing the reported performance from an economic

perspective. A deeper understanding of how uncertainty induces 'shocks' and how persistent policy uncertainty affects economic performance could help to identify the remedies required to minimise such uncertainty, within an appropriate economic context.

In 2021, policy uncertainty remains highly relevant to the economic and business outlook – even more so with the country still grappling with COVID-19 and more recently having to deal with the fallout from civil unrest. As events unfolded, it was clearly the institutional setting and policymaking environment that influenced the extent to which negative 'shocks' and elevated uncertainty could either (a) be easily managed or (b) inhibited economic activity. There was an important interaction here which must still be explored in the light of experiences to date in South Africa.

To this end, this paper now addresses two problems:

- How well has the PUI been measuring policy uncertainty in SA since its introduction in 2015?
- What are some of the implications for policymakers and the business community?

Objectives

Against the foregoing background on the PUI in South Africa, this paper, therefore, seeks to:

- provide a review of the literature on economic and policy uncertainty to show how the PUI fits into this broader narrative; and
- compare PUI trends against the backdrop of an analysis of the South African economy over the period 2015–2021 and compare the PUI's performance to measures of investment.

The uncertainty discourse

Policy uncertainty: Causes and consequences

Before conducting any analysis of uncertainty, it is useful to consider the concept of uncertainty and its measurement. McLean (2015:3) argues that policy uncertainty occurs when 'economic agents experience doubt over the economic consequences of government policies'. This kind of uncertainty is subjective. The uncertainty occurs because of agents' perception of some policy event that has unpredictable consequences. The unpredictability is key here and emphasises the distinction made between uncertainty and risk. In his work *Risk, uncertainty and profit*, Knight (1921) explains that risk can be calculated. For a risk, the distribution of outcomes is known from past experiences, and statistical analysis can be used to assign a probability to an outcome. In the case of uncertainty, the situation is to a large extent unique and the outcomes are unpredictable. McLean (2015:3) explains that the more complicated an event is, or the more it is perceived to be subject to unforeseeable and unpredictable outcomes, the greater is the uncertainty.

This conceptual framework also resonates with G.L.S. Shackle's (1955) pioneering work on uncertainty in economics in the mid-20th century. According to his framework, when an individual is absolutely uncertain about the consequences of any of the courses of action available, uncertainty would be 'unbounded'. However, when an individual is faced with the task of selecting from a number of mutually exclusive courses of action, and it is possible to visualise the outcome, it points to 'bounded uncertainty'. Shackle rightly thought at the time that the majority of decisions made by business would be in terms of 'bounded uncertainty' and confined most of his further analysis to that. What the recent literature and empirical evidence are now suggesting is that the phenomenon of 'unbounded uncertainty' has over the past few decades become a more dominant feature globally and domestically. In other words, the boundary between 'unbounded' and 'bounded' uncertainty shifted, with important consequences for business.

There appear to be at least four main causes of this increased uncertainty: (1) the decision-maker can still only afford to devote a limited amount of resources to the process of gathering and compiling information; (2) individuals and institutions are still limited in their ability to predict the future; (3) there are imperfections in the communication systems that human beings employ to transmit information to one another, even with the help of modern technology; and (4) there is an increased prevalence of discretionary, arbitrary or inconsistent actions by governments. The development of 'policy uncertainty indices' is, therefore, an effort to address these phenomena and throw new light on the impact of 'unbounded' uncertainty on an economy in the 21st century.

There are two main channels through which such uncertainty may influence the economy. The first channel draws on real options theory, based on Bernanke (1983) and leads to what Bloom (2014) calls the 'wait-and-see' effect. When the actions of firms, such as investment or hiring, are characterised by a *high degree of irreversibility*, uncertainty will cause them to delay their actions. Over time, firms receive new information that reduces uncertainty and informs optimal actions. So, when the benefit of new information is greater than that of committing to a sub-optimal investment or hire, the value of waiting increases and this dampens economic activity. The second channel has to do with risk aversion and risk premia. When investors are risk averse, a high level of uncertainty will increase risk premia; this causes borrowing costs to increase and suppresses growth.

An official commitment to policy reform can nevertheless also generate its own uncertainties:

Even policy reforms ... can involve a serious dilemma, especially when they include structural and microeconomic features. On the one hand, entrepreneurs, workers and farmers must respond to signals generated by the reform to be successful. On the other hand, rational behaviour by the private sector calls for the withholding of investment until much of the residual uncertainty

regarding the eventual success of the reform is eliminated ... even a moderate amount of policy uncertainty can act as a hefty tax on investment and that otherwise sensible reforms may prove damaging if they induce doubts as to their permanence. (Rodrik 1991:229)

Measuring policy uncertainty internationally

The literature that sets out to measure policy uncertainty has its recent roots in the work of Baker, Bloom and Davis (2015). There are different versions of the first paper, but the brief discussion that follows here draws on their 2015 National Bureau of Economic Research (NBER) working paper titled *Measuring economic policy uncertainty*. The index is a news-based measure reflecting the frequency of articles in 10 leading US newspapers that contain the following triple-word group: 'economic' or 'economy'; 'uncertain' or 'uncertainty'; and one or more of 'congress', 'deficit', 'Federal Reserve', 'legislation', 'regulation' or 'White House'. The paper reports that the index was then extended to cover a longer time period and more countries and to reflect policy categories, such as health care policy uncertainty and national security policy uncertainty.

To address concerns about accuracy, reliability and consistency, Baker et al. (2015) evaluated the index in various ways. They found a strong relationship between the index and other measures of policy uncertainty, such as implied stock market volatility. They similarly found a relationship between the index and mentions of policy uncertainty in the Federal Reserve System's Beige Books. They also asserted that the left-leaning or right-leaning slant of a newspaper does not distort the overall index. Finally, they did an audit of 12 000 randomly selected articles to evaluate the performance of the computer-automated methods used and found a high correlation between the indices compiled by human evaluators and the computer-generated indices (Baker et al. 2015).

Since the early work of Baker et al. (2015), their Economic PUI has expanded to include 26 countries. The authors also produce a number of other indices, including a World Uncertainty Index, a firm-level political risk index and a Twitter-based uncertainty index – all published via the web site: www.policyuncertainty.com (see also Ahir, Bloom & Furcer 2018).

Other recent research has also been done specifically on the effect of world economic policy uncertainty on the foreign direct investment of 138 countries over the period 1996–2018. Overall it suggests that world economic policy uncertainty reduces foreign direct investment and that the magnitude of the effect is greater in emerging and developing economies than in advanced ones (Avom, Njangang & Nawo 2020).

The South African literature

There have been a number of academic contributions to the policy uncertainty literature in the South African context.

Redl (2015) set out to measure macroeconomic uncertainty in South Africa over the period 1990–2014 and constructed an index from three sources: (1) the measure of disagreement among professional forecasters about macroeconomic variables, which uses data from the Economist of the Year competition (run by *Media 24*); (2) a media-based measure which counts articles mentioning economic uncertainty in South Africa in national and international newspapers; and (3) mentions of uncertainty in the Reserve Bank's quarterly economic review. He found that the index is positively correlated with other measures of uncertainty, specifically the realised and option-implied volatility of the stock market. The index reflected high levels of uncertainty at the time of the democratic transition and the depreciation of the rand in 2001, and during the global financial crisis in 2008. A structural vector autoregression (VAR) model was used to measure the impact of uncertainty shocks in the economy. The results showed that uncertainty is a leading indicator of recession and that uncertainty shocks are inflationary.

Hlatshwayo and Saxegaard (2016) examined the role of policy uncertainty in reducing the responsiveness of exports to relative changes in the real effective exchange rate. They constructed a 'news chatter' measure of policy uncertainty, using a number of search algorithms to search the Dow Jones Factiva news aggregator to compile the index of economic policy uncertainty. Hlatshwayo and Saxegaard (2016) then used a regression model with the Pooled Mean Group estimator to analyse the determinants of export volumes, including economic policy uncertainty. The results showed that increased policy uncertainty diminishes the responsiveness of exports to the real effective exchange rate and reduces export performance over the short and the long run.

Adopting a more specific focus, Kotzé (2017) examined fiscal policy uncertainty and economic activity in South Africa. His work had two empirical parts. The first identified fiscal volatility shocks. Kotzé (2017) considered consumption taxes, labour income taxes, capital gains taxes, and government expenditure, as well as specified policy rules for the individual fiscal instruments. He then used a stochastic volatility specification to model independent shocks to the fiscal rules and examined the volatility processes. The second part then combined the measures of an unexpected increase in the volatility of a specific instrument with other macroeconomic variables in a VAR model. This was aimed at estimating the effects of an aggregate fiscal volatility shock on output, consumption, investment, prices, interest rates, labour productivity, wages and labour cost. The results showed that shocks may lead to persistent reductions in output, consumption and investment, and cause price increases.

In related work, Aye (2019) undertook an asymmetric analysis of fiscal policy uncertainty. The GARCH (1,1) conditional variances in consumption tax, labour income tax, capital tax and government spending were used to measure fiscal policy uncertainty. Linear projection models that allow

for asymmetry showed that a high level of fiscal policy uncertainty had a negative impact on real GDP. In general, high volatility (bad news) had a larger effect than low volatility (good news).

More recently, Kirsten (2020) examined the link between economic policy uncertainty and macroeconomic variables in South Africa. He constructed an economic PUI following Hlatshwayo and Saxegaard (2016) and used it in constant parameter and time-varying parameter VAR models, together with industrial production, inflation, the 10-year government bond yield and the real effective exchange rate. The results showed that an unanticipated increase in the uncertainty index caused a decline in industrial production and a depreciation in the exchange rate. It also caused an increase in inflation and the 10-year government bond yield. The impact of such shocks declines systematically over time.

Binge and Boshoff (2020) constructed a measure of economic uncertainty for South Africa. Their focus was on using microdata from business surveys conducted by the BER. It is argued that survey-based indicators based on the opinions of key agents are a more direct measure of uncertainty. The survey-based indicators were then combined with text mining data and financial data to calculate a composite measure of economic uncertainty. Binge and Boshoff (2020:116) explain that three composite survey-based indicators were calculated: (1) the scaled, weighted, cross-sectional standard deviation of forward-looking responses, (2) the weighted, cross-sectional mean of individual firm forecast errors; and (3) the weighted, cross-sectional standard deviation of firm forecast errors.

They then combined the survey-based indicators with alternative indicators to incorporate information from different sources of uncertainty. More specifically, they used the first principal component of five standardised uncertainty proxies as an overall measure. The results showed that an increase in uncertainty is significantly related to a decrease in real economic growth over the period 1992–2017.

The Policy Uncertainty Index and analysis

The PUI compiled by the NWU Business School is published quarterly. The index number is a composite of a news-based uncertainty measure, a survey of economists and their views on policy uncertainty, as well as inputs from manufacturers surveyed by the BER for their views on political constraints facing business. The PUI is the *net* outcome of positive and negative factors influencing the perceptions of policy uncertainty over the relevant period. An increase beyond 50 reflects heightened policy uncertainty; a decline in the PUI means reduced uncertainty.

The news-based measure draws on a Google search for news articles that mention 'policy uncertainty' in 'South Africa'. The operator AROUND (10) is used to ensure that these

terms are captured in conjunction with one another. These mentions are then normalised using mentions of 'economy' AROUND (10) 'South Africa'. The economists are asked five questions. The first is whether they think that the level of policy uncertainty increased, stayed the same or decreased compared to the previous quarter. The second, third and fourth questions relate to foreign investors, local investors and consumers respectively, and whether the economists think that the uncertainty they face has increased, stayed the same or decreased. The fifth question is whether they think that politics have become more uncertain, less uncertain or stayed the same, compared to the previous quarter. The BER survey asks business a number of questions as part of a bigger confidence survey, but the PUI uses only the one response to the question about whether business managers think that there are political constraints facing their business.

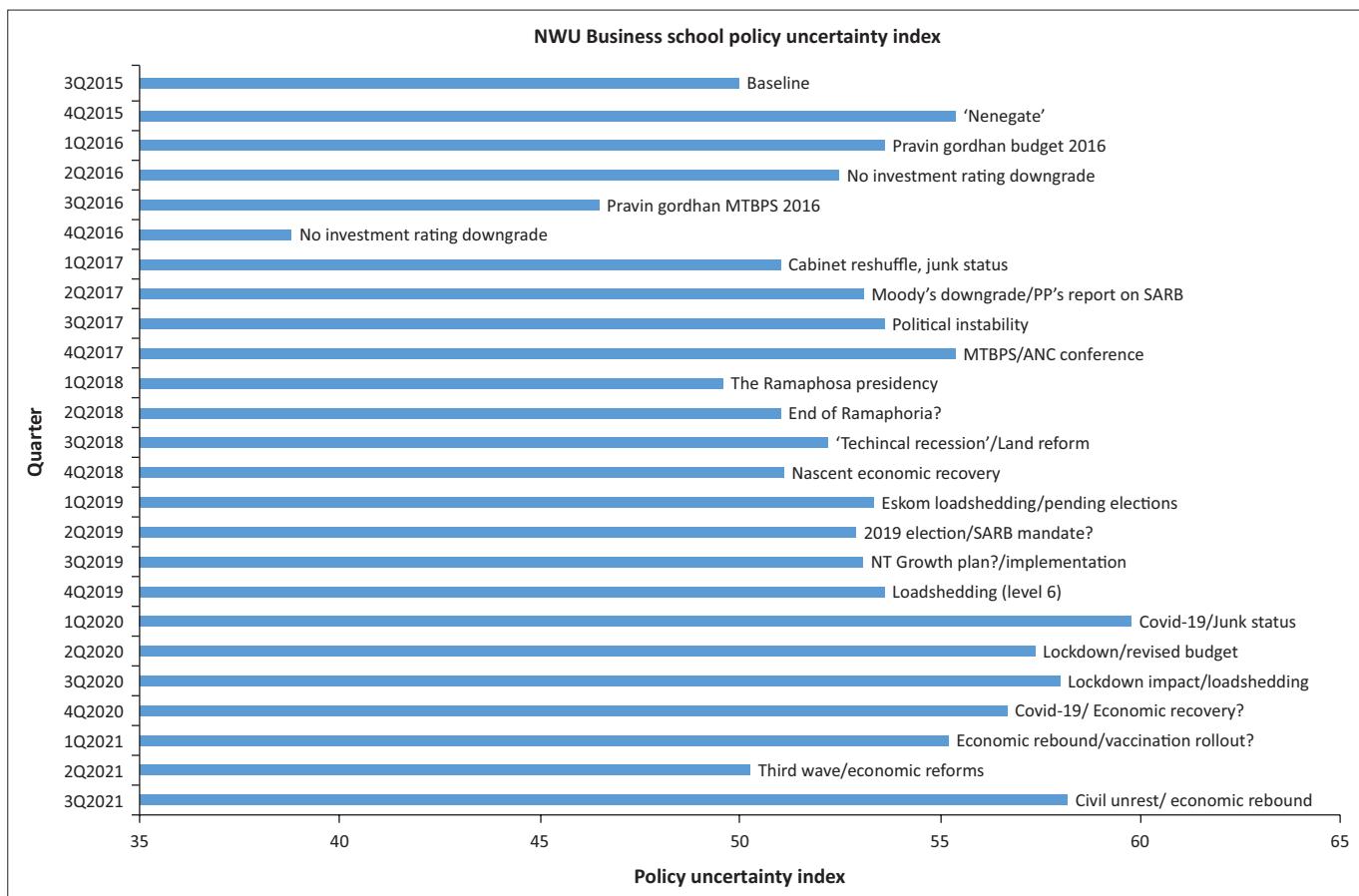
The three components of the index are equally weighted in the calculation of the index number. This quarterly average is then expressed relative to the base of the third quarter of 2015. A brief analysis reveals that, over time, the views of the economists show the greatest variation, followed by the media data. The respondents in the BER survey reveal less variation in their responses and report a high level of political constraints facing businesses.

Over the past 5 years, the PUI has tracked major events, as shown in Figure 1. The index spiked at the times of 'Nene-gate' in the fourth quarter of 2015, in the run-up to the ANC elective conference in the fourth quarter of 2017, and again at the start of the COVID-19 pandemic in the first quarter of 2020. It also captured the 'good news' of 'Ramaphoria' in 2018 and that of the recent economic reforms.

What does policy uncertainty mean for business?

For a small country, South Africa is on the whole well served by a credible spectrum of economic and business indices, from both official and private sector sources. In a 'mixed' economy, in which government inevitably plays a significant role, the private sector in particular needs appropriate analytical tools to unpack the policy environment. These tools should now include those that help to calibrate the level of policy uncertainty in the economy during any one period. To the degree that rising levels of policy uncertainty have recently been revealed, the PUI emerged as another useful analytical device capable of filling the gap in policy uncertainty assessment. Furthermore, as mentioned earlier, the accompanying narrative is intended to create an economic perspective on each PUI number.

What the empirical evidence so far suggests is that business can adjust even to weak policies; alternatively, it can work around them where necessary. Business is capable of less-than-optimal responses, but not if faced with persistent uncertainty or inconsistency. This tends over time to cause the corrosion of many business decisions, especially



PUI, Policy Uncertainty Index.

FIGURE 1: The Policy Uncertainty Index and major events.

investment ones. The following comment by a leading business publication on the government's recent proposal regarding the possibility of a basic income grant illustrates this point:

Here, it's a question of affordability, and the government should know at this point whether it's doable or not. Yet, it hasn't said, either way. This helps nobody. What confuses investors is the absence of certainty – not necessarily whether the decisions are right. Unfavourable choices can be prepared for, or 'priced in'. What investors want, more than the wisdom of Einstein or gimmicky slogans (think 'New Dawn') is certainty. (Mkokeli 2021:1)

To the extent that investment decisions are not always fully reversible, open-ended and uncertain policies make a 'wait-and-see' attitude an option with value – in other words, to delay and wait for more information before firm commitments are made or other opportunities sought. As Figure 2 illustrates, there is no perfect fit between the PUI and investment, but the relationship is *indicative* and corresponds with the link found in other parts of the South African literature. For example, the decline in the PUI in 2016 was followed by increases in Gross Fixed Capital Formation in 2016 and the first half of 2017. The picture in 2018 and 2019, before the Covid-19 pandemic is less clear. The value of the index increased over that period, but investment initially proved resilient before declining later on.

There may well also be other factors explaining the weak performance of private fixed investment in recent years. Yet it is difficult to overlook the unequivocal symptoms of policy uncertainty playing a key role. For example, the build-up of corporate cash reserves to what appear to be excessive levels is not, as critics often say, a sign that South African investors are 'on strike'. This 'liquidity preference' should rather be seen as one likely barometer of reactions to excessive policy uncertainty. Cash reserves then rise until certain policies are clarified and more certainty is provided. 'For as long as you have that heightened policy uncertainty you will have companies sitting on cash and not investing', the governor of the South African Reserve Bank, Lesetja Kganyago cautioned (Donnelly, 2021:1).

If policy uncertainty remains too high for too long, it can even lead to disinvestment or businesses seeking investment opportunities outside the borders of South Africa. The National Treasury growth document (August 2019) acknowledges that policy uncertainty could reduce domestic investment and outlines some policy steps to address it. It is likely that the same uncertainty factors applying to domestic investment would apply to foreign direct investment.

A special World Bank ([2017] 2018:32) report published in 2018 on 'Foreign investor perspectives and policy implications' confirmed that:

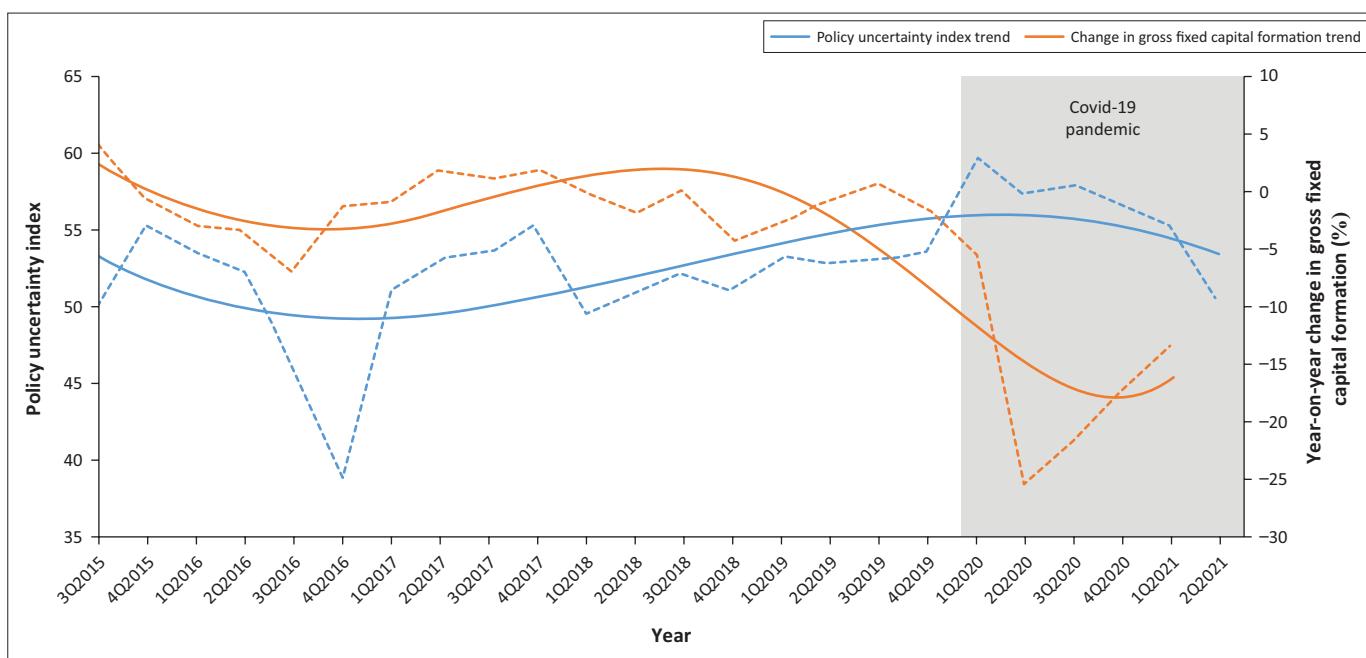


FIGURE 2: Policy uncertainty and investment.

... [P]redictable government conduct is at least as important to multinational corporations as countries' laws and regulations. Investors cited the importance of transparency and predictability in the conduct of government agencies as the most important among investment climate factors. Investors also look at *implementation* and *administration* of those policies'. [emphasis added]

What chronic policy uncertainty therefore does, is constantly increase the risk that the best forecasts made by businesses about their future plans will turn out to be wrong. If policy is subject to continual and uncertain changes, then business confidence will be shaky. The confidence with which businesses make their predictions, depends on their estimates of the seriousness of these imperfections and limitations. Business confidence then becomes a potential transmission instrument of policy uncertainty to investment decisions.

Investor confidence is likely be more affected because of its long-term nature, while the daily mood in business circles is probably less affected. Load-shedding and a lack of energy security, for example, are damaging to long-term investment because of the uncertainty that they create. In the short term, of course, it is also extremely disruptive to day-to-day business activity, but coping strategies can be and are adopted by many businesses to adjust to recurrent phases of load-shedding.

Generally, if alerted by the PUI – and depending on the nature of the uncertainty or 'shock' – businesses may decide whether to adopt 'hedging' or 'rebalancing' strategies to deal with the new situation. A firm's response to a 'shock' may be a question of financing versus adjustment. This will be decided by the firm's degree of flexibility and adaptability, as well as its access to resources and its market position. It also depends on whether business decision-makers see the 'shock' or uncertainty as temporary or chronic.

It can be added here that a large firm may hope that by averaging perceived risks among many ventures – some doing better and others doing worse in the face of elevated policy uncertainty – it will still be able to take positive decisions and pull through. A small firm is more vulnerable and may easily face disaster if caught unawares, as it is operating on a much narrower base. The risk of disaster means that a small firm must give special attention to addressing the impact of policy uncertainty, where that is possible.

Overall, however, persistently elevated levels of policy uncertainty dampen what Keynes (1936) calls business persons' 'animal spirits – of spontaneous urge to action rather than inaction'. It seems better to keep policy uncertainty to a minimum and out of negative territory, wherever possible. As previously emphasised, if decision-makers find themselves in a situation in which they believe that the future is too uncertain to commit resources, they may simply delay or even abandon the decision to invest. It then inhibits the potential of SA becoming a preferred investment destination.

Officialdom in South Africa has not ignored the problem. Government increasingly recognised policy uncertainty as a serious challenge and emphasised the issue, such as in the State of the Nation addresses, Budget speeches and key policy statements, and at official investment conferences. Business spokespersons increasingly found it also important to cite policy uncertainty in their public statements and in their advocacy about the economy to the authorities. The fact that the government recently again announced an Economic Reconstruction and Economic Recovery Plan for South Africa may be seen as a serious effort to respond to these concerns and to seek to inject more certainty and direction into the economy.

The problem is not so much that the government at the highest level does not acknowledge the value of policy certainty. Indeed, former Minister of Finance Tito Mboweni tweeted (23 November 2020):

I don't know how to explain this anymore Economic agents: investors, businesses, consumers, buyers and sellers of goods, farmers, the market etc, need policy certainty. FUNDAMENTAL. I invest because I will harvest in x years in the forward market. CONFIDENCE! (NWU Business School PUI, 2Q 2021 [emphasis in original])

It is rather that the inconsistency and implementation risks are still high, despite the commitment to new economic 'plans'. Policy uncertainty in South Africa remained at elevated levels for too long. Not knowing what the government may do next has become a serious negative factor in the macroeconomic environment, now aggravated by uncertainties arising from phenomena such as COVID-19 and civil unrest.

Conclusion

The emergence of greater policy uncertainty both globally and domestically in recent times is a strong reminder that, in their day, both Knight and Keynes believed that pervasive 'radical uncertainty' was essential for an understanding of how a capitalist economy worked and that its role should not be underestimated. The distinction between risk and uncertainty, however, has become lost in subsequent economic theory and analysis, as more faith has been placed in probabilistic reasoning and modelling than in assessing an uncertain future. As to why and how this has happened must be explored in a different paper.

Against this background, this paper, nonetheless, offers the following five insights.

Firstly, the paper accepts that much of the previous academic literature on uncertainty and investment, especially that dealing with management theory, was tied to the conventional notions of the possible future behaviour of competitors and consumers in shaping business strategies. However, an additional dimension is created when official policy and a changing macroeconomic environment become more dominant in the economic context. Hence, this paper examines the extent to which elevated levels of policy uncertainty have now increasingly come to revolve around *who* will make the broad economic policy decisions, *what* policy decisions will be taken and when, and the economic *effects* of policy action (or inaction). Both recent economic analysis and empirical evidence suggest that high levels of policy uncertainty or 'shocks' may act like a tax on investment, while also inhibiting other business decision-making.

Therefore, a country's policy environment can either offer the degree of predictability that minimises uncertainty for business decision-makers or it can instead operate in ways that strongly elevate policy uncertainty. The level of policy uncertainty, therefore, matters and emerges as one of the key

elements shaping the dynamics of private capital formation. The complexity of the policy analysis in these situations, nonetheless, needs to be further interrogated, especially the criteria for better governance and other decision-making processes that might minimise policy uncertainty.

Secondly, the paper argues that unless business decision-makers are willing to make random choices, they must make an effort to predict possible outcomes. In doing so, they are faced with three kinds of uncertainty: (1) uncertainty about their current environment; (2) uncertainty about the course of future events; and (3) uncertainty about the reliability of the data they possess. It depends, as Keynes (1936) put it:

[O]n the *confidence* (emphasis in original) with which we rate the likelihood of our best forecast turning out to be quite wrong. If we expect large changes but are very uncertain as to what precise form these changes will take, then our confidence will be weak. (p. 148)

Thirdly, the paper outlines how the recent emergence of policy uncertainty indices globally, and in South Africa, helps to fill a gap in the assessment of policy environments and how policy uncertainty may be better managed. It provides another analytical tool with which to understand the policy environment. A PUI captures the 'bad news' *not* attributable to other factors or variables. Calibrating policy uncertainty has the potential to act as an 'early warning system' to decision-makers about both negative and positive developments in the policy environment in which they operate. It therefore creates a new intersection of thought between management theory, economic analysis and the need for effective institutions.

Fourthly, the paper highlights the extent to which the universal element in the different proxies used to track levels of policy uncertainty lies in media reporting. It also emphasises the importance of asking business people about the degree to which official policy decisions and actions, taken by governments, are perceived by business to be unpredictable, unique or unforeseeable. This creates scope for further development of the PUI in the direction of big data. A number of studies already linked the big data generated by social media to stock market movements and investor sentiment. Similar methods can be used to further explore policy uncertainty. Recent developments in South Africa appear to reinforce the need for an expanded narrative.

Finally, although a robust relationship between policy uncertainty and investment plans appears to have been established, this paper suggests that further research on the role of policy uncertainty in general and the PUI in particular may throw more light on the response of firms as *adaptive* organisations. On the upside, it was Knight who believed that it was 'radical uncertainty' that also created positive opportunities for entrepreneurs and that it was their skill and luck in navigating radical uncertainty that drove technical and economic progress. This might be seen to be aligned with Joseph Schumpeter's (1942) subsequent view of

'creative destruction' as an inevitable phenomenon driving the capitalist system.

Nonetheless, as a *defensive* strategy, further interrogation may also help to identify new options available to business people to allow them to plan their affairs so as to make their firms less vulnerable to (what may be perceived as) highly uncertain policy conditions. In other words, uncertainty is not just accepted by businesses as a given quantity; instead, businesses choose appropriate alternatives to mitigate uncertainty, in line with their best interests. In this regard, business people may follow policies that increase their knowledge of, and control over, variables that are potential sources of serious disturbance. They may also organise their operations, relying on flexibility and adaptability, so that uncontrollable variables or uncertainties cannot have too damaging an influence. In short, *coping* is an entirely rational response to the accepted reality that the world is uncertain.

This paper, therefore, ultimately seeks to move the debate forward on how a PUI and its future refinements may assist in tracking and framing the socioeconomic issues with which business and political leaders are faced, particularly 'unbounded' or 'radical' uncertainty, and identifying possible ways to understand and manage policy uncertainty better.

Acknowledgements

The authors would like to thank Anton van Wyk for his research assistance in the Policy Uncertainty Index project and participants at the ESSA 2021 conference for their inputs. All errors and omissions remain our own.

Competing interests

The author(s) declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

Prof Parsons conceived the idea of the index, supervised the work and contributed significantly to the final manuscript. Prof Krugell collected the data and compiled the index numbers. He also contributed to the final manuscript.

Ethical considerations

This article followed all ethical standards for a research without direct contact with human or animal subjects.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

The data that support the findings of this study are available on request from the corresponding author.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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