

# Actions, contexts, mechanisms and outcomes in macroprudential policy design and implementation

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**Abstract**

Causal mechanisms have received significant attention within the social sciences, and policy design and implementation occupy a prominent place in public policymaking. However, one area that has not received much attention in this literature is the causal mechanisms that are able to link policy instruments with outcomes due to operating within the appropriate contexts. This article seeks to fill this gap in the literature. Drawing on realistic evaluation and comparative historical institutionalism, and an exploratory case study on macroprudential regulation in Turkey between June 2011 and September 2016, this article argues that the success of macroprudential instruments in securing of macrofinancial stability is most likely when they trigger causal mechanisms that operate within the appropriate contexts.

**Keywords**

Causal mechanisms, macroprudential regulation, policy design, implementation, systemic stability

**Introduction**

Mechanism-based explanations in analytical sociology (Hedström and Ylikoski, 2010) and the policy programme evaluation approach (Pawson, 2006; Pawson and Tilley, 1997), informed by realist sociology (Bhaskar, 1979, 2008; Porter, 2015), have already acknowledged that socioeconomic outcomes and successful programmes are the products of mechanisms operating in contexts, as have

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political scientists (Falleti and Lynch, 2009; Gerring, 2010; Tilly, 2001). Although this perspective has received significant attention within the social sciences, how the interactions between various causal mechanisms and contexts inform policy design and implementation, and how policy instruments – via the actions of actors – trigger a variety of mechanisms that generate desired policy outcomes are not sufficiently recognised or appreciated by previous scholarship on policy design and implementation (Bakir and Jarvis, 2017: 472, 475). Eminent scholars of policy design have noted that complex policy mixes have increasingly been formulated and implemented (Howlett, 2014; Howlett and Lejano, 2013; Howlett et al., 2015) and that policy instruments affect policy outcomes (Hood, 1986; Howlett, 2009, 2011; Salamon, 2002). However, our knowledge and understanding of such causal mechanisms operating in various contexts that link policy instruments and output are limited. More recently, Capano and Howlett (forthcoming) called for further research on ‘first-order mechanisms’ that ‘are those psychological and structural characteristics of policy actors which directly affect their behaviour and reaction to policy cues’, and ‘second-order mechanisms’ that relates to feedback effects in terms of target group responses to first-order mechanisms. This article is a response to this call.

We understand from international and comparative political economists that, as a new consensus of the transnational policy design community in the post-Global Financial Crisis (GFC) era,

the idea of macroprudential regulation (MPR) moved to the centre of the policy agenda and became *the principal interpretative frame* for financial technocrats and regulators seeking to navigate the crisis and respond to it, not only in terms of diagnosing and understanding it, but also in advancing institutional blueprints for regulatory reform. (Baker, 2013: 113, my emphasis; see also Quaglia, 2013; Young, 2014)

However, how macroprudential program works through changing the reasoning and responses of bankers and their customers to bring about intended macro-financial stability outcomes is not examined. Thus, it is legitimate to ask several mechanism-related questions: What were the appropriate contextual circumstances that informed the policy workers’ introduction of the macroprudential policy programme? What mechanisms were triggered by the implementation of the MPR to operate in appropriate contexts; why and how did these mechanisms inform the actions of stakeholders (i.e. banks and their customers) that served to contain excessive bank credit growth and household leverage, thereby contributing to macrofinancial stability? This article aims to address these intriguing questions.

Accordingly, the central purpose of this article is to provide an explanation and exploration of causal mechanisms that are activated by elite policy actors in the public sector through the introduction and/or implementation of policy instruments to affect target audiences’ behaviour. This article draws on the Turkish

experience in the MPR tightening between June 2011 and September 2016. Building on the usage of mechanisms in realist evaluation (Pawson and Tilley, 1997) and comparative historical institutional analysis (Falleti and Lynch, 2009), it argues that the desired outcome of macrofinancial stability in Turkey was the product of causal mechanisms that were triggered by macroprudential regulatory measures operating within suitable temporal and non-temporal contexts: it was not the MPR per se that contained macrofinancial risks and thereby contributed to macrofinancial stability. It was these mechanisms, operating in appropriate contexts, activated through the introduction of the MPR that ultimately helped bring about the desired policy goal. The intended outcomes of the MPR programme were due to multiple causal mechanisms that changed the reasoning and responses of bankers and their customers.

Turkey offers an interesting empirical setting to investigate such mechanisms. This is because the surge in global capital inflows in 2010 resulted in, in the words of a senior central banker, the accumulation of ‘macrofinancial risks’, which manifested themselves in the form of ‘extreme volatility in cross-border capital flows, rapid credit growth and a sharp deterioration in the current account deficit’ (Kara, 2012: 1; Aysan, Fendoglu and Kilinc, 2014). This made the Turkish economy vulnerable to ‘sudden stops’ in hot money inflows (Kara, 2016: 125–126). However it is puzzling that, in contrast to the experiences of the 1994 and 2001 Turkish balance of payments crises and the economic contraction in 2009, which were products of these macrofinancial risks (Akyüz and Boratav, 2003; Bakir, 2009; Bakir and Onis, 2010), Turkey proactively contained the macrofinancial risks posed by the 2010 global capital inflows. Specifically, although the Central Bank took action through a monetary policy mix, consisting of a combination of conventional and unconventional monetary policy tools, it was only after the establishment of the Financial Stability Committee (FSC) in June 2011 and implementation of MPR tightening by the Banking Regulation and Supervision Agency (BRSA) that credit growth and household leverage were contained (Kara, 2016; Yagci, 2017; Bakir and Coban, 2018).<sup>1</sup> Hence, the purpose of this article is to show how and why the MPR triggered causal mechanisms within conducive temporal and non-temporal contexts that contained credit growth and household leverage, thereby enhancing macrofinancial stability. The adoption and implementation of the MPR, from a mechanisms perspective, offer a promising avenue to investigate these macroprudential regulatory actions, various first-order and second-order mechanisms, and the temporal and non-temporal contexts that enhanced macroprudential stability in Turkey.

In the remainder of this article, I critically discuss insights from the literature on causal mechanisms for policy design and implementation, with particular emphasis on realistic evaluation scholarship and comparative historical institutional analysis. Then I introduce the methodological approach and offer operationalisation of theoretical insights, with special reference to the MPR case in Turkey. The conclusion summarises the main findings, limitations and directions for future research.

## What do realistic evaluation scholarship and historical institutionalism offer to policy design and implementation?

As the former editors of *Administrative Science Quarterly* noted, in addition to definitions of variables or constructs, ‘a theory must also *explain* why variables or constructs come about or why they are connected’ (Sutton and Staw, 1995: 375, my emphasis). An important and long-standing interest in causal mechanisms research is ‘elucidation of the processes that generate the objects, events, and actions we seek to explain’ (Ekstrom, 1992: 115). In contrast to the deductive arguments of quantitative research, where explanation is based on statistical relationships among variables (e.g. regression coefficients), mechanisms research aims to offer a systematic explanation for how the cause or input generates the effect or outcome. ‘If a regression tells us about a relation between two variables—for instance, if you wind a watch it will keep running—mechanisms pry the back off the watch and show *how*’ (Davis and Marquis, 2005: 336, emphasis in original).

Analytical sociology (Hedström, 2005; Hedström and Bearman, 2009; Hedström and Swedberg, 1998; Hedström and Ylikoski, 2010) and the realistic evaluation field (Pawson, 2006, 2013; Pawson and Tilley, 1997), informed by realist sociology, explain and explore causal mechanisms that link inputs with outputs. For Hedström and Swedberg (1998: 7), for example

The search for mechanisms means that we are not satisfied with merely establishing systematic variation between variables or events; a satisfactory explanation requires that we are also able to specify the social “cogs and wheels” . . . that have brought the relationship into existence. (see also Hedström and Ylikoski, 2010: 50)

Thus ‘all social facts, their structure and change, are in principle explicable in terms of individuals, their properties, actions, and relations to one another’ (Hedström and Ylikoski, 2010: 60). This view, however, advocates a *positivist deductive* methodology of causal mechanisms in analytical sociology (Hedström and Ylikoski, 2010: 59, 62, 63; see also Hedstrom and Bearman, 2009; Hedström, 2005; Hedström and Swedberg, 1998), which assumes that causal mechanisms occur at the level of the *rational* actor rather than at the macro-level (Gerring, 2008: 168; Little, 2012). In other words, ‘a typology of social mechanisms’ (Hedström and Swedberg, 1998 cited in Hedström and Ylikoski, 2010: 59) emphasises micro-level causal relations rather than macro-level causal mechanisms. This is the central weakness of this mechanisms perspective. Its primary emphasis is on mechanisms that operate at the rational individual actor level (i.e. ‘action formation mechanisms’ from micro to micro) but aggregate into larger scale outcomes (i.e. ‘transformational mechanisms’ from micro to macro), recognising but ignoring mechanisms that operate at macro-levels and inform actor decisions (i.e. ‘situational mechanisms’ from macro to micro).

As realistic evaluation scholarship rightly notes, ‘[P]rograms work (have successful “outcomes”) only in so far as they introduce the appropriate ideas and

opportunities (“mechanisms”) to groups in the appropriate social and cultural conditions (“contexts”) (Pawson and Tilley, 1997: 57). The central claim of this approach is that ‘an action is causal only if its outcome is *triggered by a mechanism acting in context*’ (Pawson and Tilley, 1997: 58, my emphasis). Concerning scientific realist inquiry, Pawson et al. (2015: 22) note ‘to infer a causal outcome (O) between two events (X and Y), one needs to understand the underlying mechanism (M) that connects them and the context (C) in which the relationship occurs’. If a causal mechanism is a process that explains how and/or why specific input leads to a desired outcome (Falleti and Lynch, 2009; Gerring, 2010; Mahoney, 2001; Pawson and Tilley, 1997; Tilly, 2001), then causal explanations require contextualisation of causal mechanisms (Falleti and Lynch, 2009). This is because ‘causation resides in the interaction between the mechanism and the context within which it operates’ (Falleti and Lynch, 2009: 1145). Thus, ‘[causal] associations themselves are rarely universal; they are adaptive ‘demi-regularities’ which are always strongly influenced by setting and context’ (Dalkin et al., 2015:2).

Accordingly, realist evaluation research is explicitly concerned with the identification of various contexts. Context, for example, refers to ‘the spatial and institutional locations of social situations together, crucially, with the norms, values, and interrelationships found in them’ (Pawson and Tilley, 1997: 216). This view, however, is less concerned with a non-temporal understanding of the context ignoring its temporal layers. Comparative historical institutionalist analysis may offer a helping hand to remedy this weakness. For example, Falleti and Lynch (2009) ‘understand context to be composed of multiple unsynchronized layers of institutions, policies, and background conditions’ (1145; see also Anderson et al., 2006: 105). In this view, a background condition ‘exerts a continuous influence on the unfolding of the causal process and so can be causally connected to the outcome of interest’ (Falleti and Lynch, 2009: 1157). Falleti and Lynch (2009) define

context broadly, as the relevant aspects of a setting (analytical, temporal, spatial, or institutional) in which a set of initial conditions leads (probabilistically) to an outcome of a defined scope and meaning via a specified causal mechanism or set of causal mechanisms. (1152)

Here, the emphasis on the temporal and non-temporal aspects of context is important. As Falleti and Lynch (2009: 1156) rightly argue, there are ‘a variety of contextual layers’, such as ‘input’, ‘exogenous shocks’, ‘critical juncture’ and ‘other relevant institutions and structures’, that inform the actions and functioning of the mechanisms. Specifically, Bakir (2013: 13) notes non-temporal contexts including structures – ‘broader [material and cultural] contexts within which institutions and agents are embedded’ – and institutions – ‘formal (i.e., legal) and informal (i.e., ideational) rules that guide the behavior of actors through [the] logic of instrumentality (maximizing benefits relative to costs) and/or logic of appropriateness (acting appropriately vis-à-vis cultural environments)’. Importantly, these contextual layers actually imply a simultaneous and collective

impact of multiple contextual components, which are each subject to individual time intervals, speeds, critical junctures and/or other attributes.

In consideration of overlapping contextual layers with different attributes, causal explanations also require periodisation specifying the beginning and end of ‘the temporal context within which causal mechanisms work’; this temporal context then informs the actions and functioning of the mechanisms (Büthe, 2002; Capoccia, 2016; Falleti and Lynch, 2009: 1153; Pierson, 2004). Causal explanations begin with a critical juncture (i.e. ‘the starting point of the temporal context surrounding the *I[nput]* → *M[echanism]* → *O[utput]* pathway’), which is an integral part of context in causal analysis (Falleti and Lynch, 2009: 1155). Further, ‘periodisation may be based on activity, in numerous layers of the context within which a causal process plays out, be they proximate institutions, background conditions, or truly exogenous events’ (Falleti and Lynch, 2009: 1155–1156). Accordingly, there are overlapping layers of temporal and non-temporal contexts that interact with one another, informing policy instrument choices, causal mechanisms and outcomes. This article adopts these insights on its periodisation of causal mechanisms in multi-layered contexts (see Figure 2).

There are three main theoretical insights from the mechanism scholarship which inform the empirical analysis of this article: (1) there is a need for an exploration and explanation of the multiple contextual influences that inform MPR-related policy design, (2) there is a need for the exploration of multiple causal mechanisms triggered by the introduction of the MPR and (3) there is a need for an understanding of appropriate contexts in which mechanisms that enhance a macrofinancial stability outcome are able to operate. In doing so, this article significantly contributes to the explanatory power of the mechanisms research in policy design and implementation by proposing ‘Instrument→Mechanism→Output’ pathway operating in appropriate temporal and non-temporal contexts.

## Methodology

This article adopts an exploratory case study method. This method is preferred because it examines the phenomenon in its real-life context, investigates why and how questions, and benefits from multiple sources of evidence (Yin, 1994). In contrast to process tracing, which focuses on the unfolding of the sequence of events over time (Bennett and Checkel, 2015: 9; Trampusch and Palier, 2016), the emphasis in mechanisms research is on the causal chains connecting micro- and macro-level phenomena, individual behaviour and collective outcomes (Hay, 2016; Mayntz, 2004, 2016). Thus, this article focuses on the dynamic interactions among multiple contexts and actor decisions and actions (see also Bakir, 2013, 2017, 2019).

The qualitative data are comprised of a combination of interviews and written sources. Interview data used in this research include elite interviews with seven senior public and private sector officials. They experienced the causal mechanisms that linked the MPR and macrofinancial stability first-hand and were heard and consulted with in regard to the interpretation of these mechanisms. Interviewees

included four very senior central bankers (a former central bank governor, two deputy governors and a former director general of the Research and Monetary Policy Department), one senior banking regulator (a former deputy head of the Risk Management and Surveillance Techniques Department at the BRSA) and two senior commercial bankers (a head of the Credit Risk, Budgeting and Reporting Department, and a senior vice president of Assets and Liabilities Management).

A series of hour-long semi-structured elite interviews with open-ended questions were conducted between 2013 and 2018. There were several rounds of structured interviews because of the iterative and cumulative nature of this research. Further rounds that refined the interview data continued until additional interviews yielded no new information. Participants provided critical information concerning the context and mechanisms that related to the introduction and implementation of the MPR measures that aimed to contain consumer credit growth and household leverage between June 2011 and September 2016.

An extensive review of primary and secondary written sources augmented the interviews. These sources included official reports of public bureaucracies and international intergovernmental organisations, academic publications and newspapers. They served as triangulation and supplementary sources for interview data. The Emerging Markets Electronic Database enabled a systematic search of secondary sources, such as news articles and various reports, published in English and Turkish between 2011 and 2018. In the search, Turkey was selected as the country and the broad keywords ‘macroprudential regulation’ were used. This article also benefitted from written materials excluded by this database and scholarly papers for additional information.

This article recognises the significance of specifying the temporal context within which causal mechanisms work (Büthe, 2002). The temporal context began with the establishment of the FSC in June 2011, at which time the BRSA formally introduced MPR measures to contain excessive bank credit growth. The temporal context ended when the BRSA reversed these MPR measures in order to stimulate bank credit expansion in September 2016 in response to a subsequent decline in hot money and credit flows and economic contraction following the failed coup attempt in July 2016.

This article considers the Turkish setting appropriate to its research purpose because Turkey was considered a fragile country during the surge in global capital inflows; however, it was able to successfully contain macrofinancial risks through the introduction of the MPR (Kara, 2012, 2016). With regard to fragility, Turkey had ‘outperformed most emerging markets peers’ (IMF, 2011: 91) in attracting destabilising hot money inflows – large and volatile, short-term and unproductive capital inflows – and had the highest annual average real credit growth among developing countries (see IMF, 2015, Figure 1: 3). In regard to containing macrofinancial risks, between June 2011 and September 2016, the annual rate of growth in consumer loans declined, the rising trend in the household indebtedness ratio became a declining trend, and the current account deficit and quality of Turkey’s finances improved (Kara, 2016: 131–136).



## **What were the non-temporal contextual conditions that informed the design of a macrofinancial stability programme in Turkey?**

There were non-temporal structural and institutional contextual conditions that informed the first- and second-order mechanisms in macroprudential policy design in Turkey. The initial material structural contexts were marked by the exogenous shock of quantitative easing (i.e. large scale purchases of government bonds or other financial assets by a central bank to stimulate the economy and increase liquidity) at international level and background material conditions of the current account deficit and bank-based financial system at national level. The informal institutional context included normative and cognitive aspects of macroprudential ideas.

In the post-GFC era, quantitative easing by central banks in developed countries, particularly at the US Federal Reserve (Fed), has led to a surge in hot money flows to emerging and developing countries starting as early as 2009 (see Garcia-Escribano and Han, 2015; IMF, 2011). This exogenous shock in the form of speculative capital inflows has resulted in excessive bank credit growth and increased household debt (i.e. financial liabilities of households to banks) that contributed to real appreciation of national currency and a widening current account deficit. In turn, this created a principal source of macrofinancial risks for emerging and developing countries, including Turkey (for a survey, IMF, 2017; Kara, 2012, 2016). In these contexts, Turkey considered experimenting with MPR to manage capital flows. As a former director general of the Research and Monetary Policy Department of the Central Bank notes:

We are concerned with how we can smoothen fluctuations in capital movements with the available [monetary policy] tools. ... If the surge in capital inflows had continued, they could have seriously damaged the economy due to panic and sudden stop and reversals of capital flows [i.e., a balance of payments crisis]. ... The main desired policy effect was realised when the Banking Regulation and Supervision Agency stepped in and took [macroprudential] measures to contain consumer credit expansion [following the establishment of the Financial Stability Committee]. (CB2, Interview, 26 October 2016)<sup>2</sup>

A bank-based financial system, wherein banks dominate financial activities (Bakir, 2006), was a material contextual layer that informed macroprudential policy design and implementation. This is because the banking sector plays a central role in channelling global liquidity to domestic lending in order to finance domestic consumption and the current account deficit (interviews; see also Bakir and Onis, 2010). Thus there has been a strong correlation between macrofinancial risks and credit growth. Specifically, bank credit growth is the principal source of 'a rise in the household debt-to-GDP ratio [which] is associated with higher current account deficits and predicts lower output growth over the medium run' (Kara, 2016: 131). Indeed, macroprudential tools were of the utmost importance in the bank-based



financial system to contain the consumer loan growth that significantly affected the destabilising current account deficit (Kara, 2012: 22). In the words of a senior central banker who participated in the FSC meetings:

There were serious risks embedded in the macroeconomic trends. . . [such as a] surge in credit growth and current account deficit [due to surges in hot money flows]. We [the Central Bank] essentially wanted to make sure that the [Banking Regulation and Supervision Agency] got involved [in implementing the MPR]. This is because 90 per cent of financial intermediation in Turkey takes place through the banking sector. Thus, we thought that direct [MPR] measures constraining the banking sectors' credit expansion or increasing the cost of credit to consumers were influential in limiting credit growth. . . . [For example] higher risk weights [and] general provisions for consumer loans [as well as] higher minimum payments for credit card debt . . . had a tremendous impact [on this course]. (CB2, Interview, 8 November 2016)

The then-governor of the Central Bank summarises the dynamic interactions among quantitative easing, the bank-based financial system and current account deficit, and the macrofinancial instability that informed the MPR-related policy design and implementation:

We have a low saving ratio and a high current account deficit. . . There is a direct linkage between [the] savings ratio and debt. Short-term capital flows have an impact on credit growth and foreign exchange rates [foreign currency volatility]. When there is a surge in capital flows, credit growth [i.e., the credit cycle] is fast and foreign exchange appreciates. The opposite happens in times of capital outflows. . . Our [commercial] banks have access to such low-cost and abundant foreign debt. . . [that] this leads to credit expansion [and] increased [household] leverage, which stimulates the domestic demand. However, its adverse effect is a decline in domestic savings in Turkey. . . This leads to an increased current account deficit and the funding risks [associated with] the capital flows. This is our problem. (CB1, Interview, 7 December 2013)

In addition to these multiple structural contexts, including quantitative easing, the current account deficit and bank-based financial system, normative and cognitive aspects of macroprudential ideas served as the institutional contexts of the policy design and implementation. The normative institutional dimension involved adopting the macroprudential practices of advanced nations through a normative process (i.e. elite decision makers adopted similar views on what constitutes an *appropriate* financial regulatory practice). Specifically, there has been an international shift in financial regulatory ideas towards MPR, aiming to address financial system-wide risk, and away from an exclusive focus on microprudential regulation geared towards preventing excessive risk-taking by individual banks (Baker, 2013). Indeed, microprudential attention to the safety and soundness of individual banks in prudential policy and price stability objectives in monetary policy was not sufficient to ensure financial stability; a macroprudential focus

was required. The cognitive foreground policy prescriptions about financial stability and regulation shifted to MPR. Unsurprisingly, financial regulators and central bankers increasingly designed and implemented macroprudential policy programmes to curb capital flows in order to contain systemic financial and macroeconomic risks stemming from them (IMF, 2011, 2017).

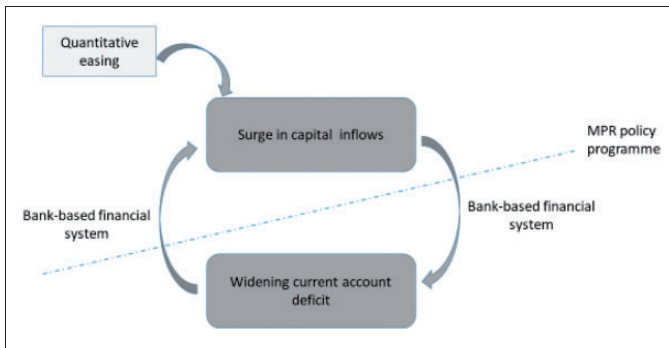
When the financial stability-related normative and cognitive ideas shifted from microprudential policy towards macroprudential policy (Baker, 2013; Young, 2014) so, too, did financial regulatory policy designs and implementations across the world (e.g., see IMF, 2011, 2017). Accordingly, cognitive ideas in the form of macroprudential programmes that specify cause and effect relations between an MPR and financial stability, as well as normative ideas that bank regulators *should* adopt an MPR as an informal institutional context, informed the elite decision makers' macroprudential policy design and implementation in Turkey.<sup>3</sup> In the words of the then-Central Bank governor,

Now we have macroprudential measures, the *new fashion* which was not on the [policy] agenda in the past...we have a conducive environment for their introduction to contain systemic risk. ... Under normal circumstances, you would not expect any banking regulator to take action on these issues [managing hot money flows to contain macrofinancial risks]. This is normal. But when the macroprudential framework gained currency in the world and started spreading [across countries], there was a structural change [in policy design and implementation] in Turkey: The Financial Stability Committee was formed. It addressed the need [for macroprudential action]. ... Macroprudential tools must be taken into account for limiting macrofinancial risks. (CB1, Interview, 13 December 2013, my emphases)

Thus, there was an informal institutional context in the form of macroprudential policy ideas that offered legitimacy to the introduction of MPR measures. Interactions among an exogenous shock (i.e. quantitative easing that led to a surge in global capital flows) and background contexts (i.e. the current account deficit, bank-based financial systems and macroprudential policy ideas) were proximate to the critical juncture and input. Figure 1 illustrates these interactions among contextual conditions, macrofinancial risks and the MPR.

### *When did the temporal context that relates to the implementation of the MPR measures to contain macrofinancial risks start and end?*

The Central Bank initiated a monetary policy mix to manage capital inflows in September 2010 (Kara, 2012). However, it did not have the necessary macroprudential regulatory toolkit that could directly impact credit growth and household leverage. Thus, following the establishment of the FSC in June 2011, the BRSA started implementing the MPR measures, which contained excess credit growth and household leverage (more below). The critical juncture of FSC creation was a defining moment for the introduction and implementation of the MPR

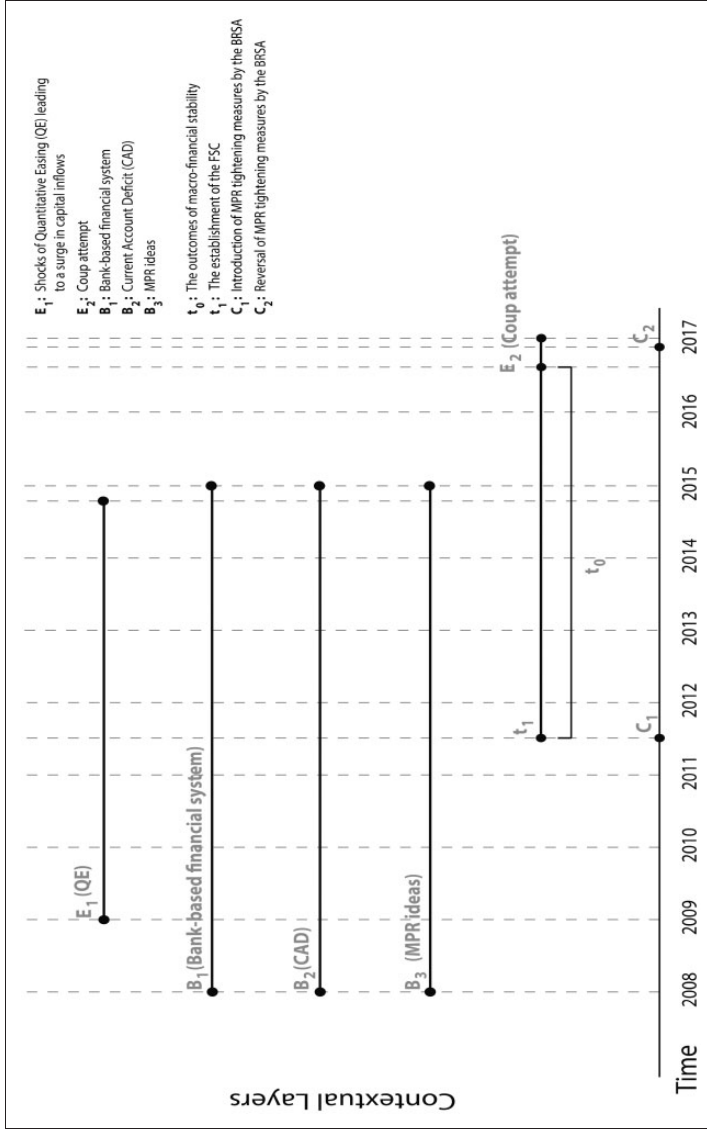


**Figure 1.** Structural and institutional contexts that informed the MPR policy design. MPR: macroprudential regulation.

measures and the starting point for various causal mechanisms. More specifically, formation of the FSC was critical because it marked the beginning of the temporal context within which the causal mechanisms that produced outcomes of macro-financial stability were activated through the MPR. In the words of a senior central banker, ‘we were able to implement macroprudential regulation with the establishment of the [Financial Stability] Committee’ (CB2, Interview, 26 October 2016). In this respect, the BRSA emerged as a macroprudential regulator following the establishment of the FSC (Bakir and Coban, 2018; Kara, 2016; Yagci, 2017).

The FSC is composed of principal decision makers from the public sector at the centre of financial policy design and implementation. The Treasury minister chairs the FSC and briefs the Council of Ministers regarding the results of FSC meetings and decisions. The remaining principal decision makers at the FSC, who are involved in the analysis, production and implementation of macro-financial stability measures, include the Central Bank governor, the chairman of the BRSA and the Treasury undersecretary.<sup>4</sup> The result of the creation of the FSC was concerted bureaucratic mobilisation, cooperation and collaboration among these key actors in the MPR (Bakir and Coban, 2018: 226–227; FSB, 2015: 13; Yagci, 2017).

Figure 2 operationalises Falleti and Lynch’s (2009) contextual periodisation approach to illustrate the multiple contextual layers that informed MPR policy design and the causal mechanisms triggered by the MPR measures in Turkey. During the period between 2011 and 2016, there were multiple contexts that informed the outcome of causal mechanisms. These contexts comprise multiple causally important non-temporal and temporal layers. There were two exogenous shocks and three background conditions serving as non-temporal layers. Exogenous shocks included quantitative easing ( $E_1$ ) that resulted in a surge in global capital inflows to Turkey and the coup attempt ( $E_2$ ) that resulted in hot money outflows. Background conditions consisted of a bank-based financial system ( $B_1$ ), material conditions of a current account deficit ( $B_2$ ) and MPR ideas ( $B_3$ ). These multiple contextual layers were background conditions because they influenced the causal mechanisms and were linked to its outcomes.



**Figure 2.** Periodisation of causal mechanisms in multi-layered contexts. BRSAs: Banking Regulation and Supervision Agency; FSC: Financial Stability Committee; MPR: macroprudential regulation.

Periodisation specifies ‘the beginning and ending of [a] temporal context within which causal processes [play] out’ (Falletti and Lynch, 2009: 1153). Concerning the temporal context, causal mechanisms began after the establishment of the FSC ( $t_1$ ). This is a critical juncture ( $C_1$ ). As various MPR measures were implemented within this time interval, bank credit growth and household leverage were contained from 2011 to 2016, leading to macrofinancial stability ( $t_0$ ). The temporal context ends at the exogenous shock of the coup attempt, resulting in the critical juncture of the reversal of the MPR measures (i.e. the easing of MPR measures) by the BRSA ( $C_2$ ).

The temporal context of the MPR measures aimed at containing bank credit expansion and household leverage ended in September 2016 in response to a decline in hot money and credit flows and economic contraction following the failed coup attempt in July 2016. For comparison, net total hot money inflows reached USD 4.1 billion from 1 January to 15 July 2016, while there were net total hot money outflows of USD 2.7 billion from 16 July to 31 December 2016 (Institute of International Finance, 2018). Consequently, the BRSA reversed its MPR measures to stimulate bank credit expansion.<sup>5</sup>

### **What were the principal MPR measures that aimed to contain bank credit growth and household leverage?**

There were multiple MPR measures that triggered first- and second-order mechanisms aiming to contain bank credit growth and household leverage. They included consumer loan and credit card regulations that came in various forms (see Table 1). As Kara (2016) notes, there were ‘two rounds of macroprudential tightening’:

The first package, which was implemented throughout 2011, included higher risk weights and general provisions for consumer loans, higher minimum payments for credit card debt, and loan-to-value (LTV) caps for housing loans. The second package, which came in late 2013 [and] early 2014 introduced further caps, limits and higher risk weights on credit cards, LTV ceilings for vehicle loans, and maturity restrictions for uncollateralised consumer loans. (131)

The two separate rounds specifically aimed to respond to different episodes of capital surge associated with the different rounds of quantitative easing.<sup>6</sup> For example, while the Central Bank’s policies through the first package were aimed at responding to the impact of the Fed’s second round of quantitative easing on bankers’ and their customers’ actions (Uysal, 2017), the second package was implemented following the Fed’s adoption of the third round of quantitative easing. Both packages targeted a containment of loan growth and household leverage when approaching the end of the quantitative easing round.<sup>7</sup>

Higher risk weights [were] introduced for fast growing consumer loans [in June 2011]. For new general purpose loans with maturities below two years, the risk-weighting

Table 1. MPR measures.

Macroprudential tightening	Measure	Start	End <sup>a</sup>	Outcomes
First round of MPR implementation	Higher risk weights on general purpose loans	2011	March 2016	From June 2011 to December 2012, the total loan growth declined from 33.7 to 18.2%; growth in consumer loans declined from 42.2 to 15.2% and the 12-month current account balance (excluding energy transactions) moved from a USD 29.4 billion deficit to a USD 4.4 billion surplus
	Higher and diversified general provisioning for consumer loans	2011	September 2016	
	New maturity caps for housing loans	2011	September 2016	
	Higher minimum payment requirements for credit card payments	2011	September 2016	
Second round of MPR implementation	Further limitations on credit cards	2013–2014	March 2016	From December 2013 to December 2014, the total loan growth declined from 23.9 to 16.8%; the growth in consumer loans declined from 27.8 to 13.3% and the current account balance (excluding energy transactions) moved from a USD 14.4 billion deficit to a USD 5.2 billion surplus
	Loan to value (LTV) restrictions on vehicle loans	2013–2014	September 2016	
	Maturity restrictions for consumer loans	2013–2014	September 2016	
				The household indebtedness ratio declined from 54% in 2013 to 46% in 2015 LTV limits to automobile loans in 2013 led to a 19% drop in automobile sales growth for cars with values above 50,000 TL in 2014

Source: Kara, 2016; Data Monitor; Uysal, 2017.

MPR: macroprudential regulation.

<sup>a</sup>In 2016, the MPR measures which had been implemented during first and second round MPR packages were fully abolished, partially abolished or reconfigured. First, in March 2016, MPR measures concerning capital adequacy were abolished in an effort to fully comply with BASEL standards. Second, in September 2016, due to the changing contextual aspects and new policy objectives, MPR measures were reversed, loosened or reconfigured.

increased to 150 percent (from 100 percent). For new general purpose loans with maturity greater than two years, the risk-weight increased to 200 percent (from 100 percent). For new (performing) general purpose loans, general provisions were increased from 1 percent to 4 percent. General provisions for (pre-nonperforming) loans increased from 2 percent to 8 percent. The higher provisioning requirements are conditional on banks having a consumer loan portfolio exceeding 20 percent of total loans or having a general purpose loan NPL greater than 8 percent. (IMF, 2014: 54)

Further, consumer loan maturity ‘[was] capped at 36 months for consumer loans [from 48 months] excluding housing loans and other real estate related loans, and at 48 months for car loans’ in December 2013 (IMF, 2014: 55).

Credit card payment regulations imposed various formal limitations; first that

If three or more monthly payments within a calendar year are less than half of the outstanding balance for the period, the individual credit card limits cannot be increased and cash advances for such credit cards cannot be permitted, unless the outstanding balance for the period is fully covered

introduced in June 2011, followed by

If three or more monthly payments within a calendar year are less than half of the outstanding balance for the period, the individual credit card limits cannot be increased and cash advances for such credit cards cannot be permitted, unless the outstanding balance for the period is fully covered

in December 2013, and ‘Consumer credit card limits were tied to income[;] [m]inimum payment limits and risk weights were increased[, and] limit increases were linked to prior income tests’ in October 2013 (IMF, 2014: 54–55).

### **What were the multiple causal mechanisms that linked the MPR and the outcome of macrofinancial stability?**

The macroprudential programme aimed to activate multiple mechanisms through which bankers’ lending and customers’ borrowing *reasoning* was changed. Consumer loan regulations (i.e. high risk weights, increased general provisions and a reduced maturity limit on consumer loans) and credit card regulations (i.e. capping credit card limits and increasing the minimum threshold for monthly credit card payments) were the two main macroprudential instruments. These measures triggered ‘risk appetite’, ‘default risk’, ‘cost’, ‘reputation’ and ‘regulatory enforcement’ mechanisms. The bank-based financial system and establishment of the FSC had a continuous impact on the unfolding of the causal mechanisms and containment of macrofinancial risks.

The MPR, in the form of consumer loan regulation instruments (such as higher risk weights and general provisions for consumer loans), activated causal



mechanisms that reduced bank credit expansion (outcome) by reducing bankers' risk appetite through increases to the cost of capital and reductions to profitability ('risk appetite' mechanisms). The bankers internalised the costs and risks associated with excessive credit growth through this mechanism. In the words of the head of the Credit Risk, Budgeting and Reporting Department in one of the largest commercial banks in Turkey:

Banks started paying closer attention to balancing risk, return and capital when the risk weights and general provisions for consumer loans were increased. In the banks' experience, credit expansion was linked with capital; the higher the credit extended, the higher the capital that they [had to] put aside and [the] lesser the profitability. . . . [Thus] the banks faced higher costs. Before the macroprudential regulation, the banks had to deduct a very small [amount from] their consumer credit as capital. After the regulation they allocated significantly larger proportions of capital for their loans offered. The provision allocated by the bank for the credit extended is deducted from equity [forcing bankers to think] '*This is my [bank's] loss*'. . . . General provisioning regulation affected [the] cost of bank capital through equity because it depleted the equity and reduced the rate of return for capital. Thus, credit expansion was no longer [as] profitable as we were used to. . . . It is not just us. All banks faced this in the [financial] system. Thus, banks slowed down their extension of credit. . . . *The risk appetite fell*. (B1, Interview, 25 January 2018, emphases added)

The MPR, in the form of maturity limits on consumer loans (instrument), triggered causal mechanisms that reduced consumer demand for loans and the household leverage (outcome) by making customers feel they had an increased risk of potential default ('default risk' mechanism). As a senior banker notes,

Access to consumer loans is the key factor behind customers' purchasing power. As consumers faced shorter loan maturity and higher instalments for their loan monthly payments, they reduced their spending and debt. . . . The presence of these regulations led to lessened consumer loan demands, [because] *current and potential customers were deterred by them*. For example, such regulations made it much more difficult for customers to pay the larger amount of monthly payments due to the shorter maturity of the loan than what it used to be. . . . *They [customers] felt the increased pressure of potential default*. . . . Indeed, there had been increases in existing customer defaults, especially in credit cards, as loan restructuring through maturity extension was prohibited by the regulation. (B1, Interview, 25 January 2018, my emphases)

As such, various mechanisms triggered through the introduction of the MPR deterred customer spending and contained household debt (outcome) because of the anticipated added difficulty in debt payments and greater risk of default (mechanism). Indeed, following these measures, about one million bank customers 'were unable to pay off their personal loan or credit card debt in 2013, an increase of 49 per cent from 2012' (*Financial Times*, 6 May 2014).

Unsurprisingly, fallout from the surge in consumer debt became a social reality that began to dissuade customers from debt-financed spending by instilling doubt or fear of default.

In a similar vein, the increased minimum thresholds for credit card payments (instrument) reduced consumer spending (outcome) by forcing existing credit card customers to fully cover their payments for an outstanding balance in order to not face higher interest charges ('cost' mechanism). As a senior central banker notes, 'Households are highly sensitive to the cost of credit and the amount of their monthly payments. Increased monthly loan payments reduced their spending and deterred their demand for loans' (CB2, Interview, 26 October 2016).

The linkage between this instrument and its outcome was also reinforced through the 'reputation' mechanism that deterred credit card customers from risking credit card cancellations, a damaged credit score or prosecution due to overdue payments. In the words of a former deputy head of the Risk Management and Surveillance Techniques Department at the BRSA:

If credit card customers have an overdue monthly payment and fail to close their balance following the tighter [macroprudential] regulations, they experience first-hand that the credit bureau records this negative information, which will affect their credit score, and they will not be able to access credit. Further, when they set up a business in the future, they will experience hardships in their access to bank credit. *With the macroprudential regulation, people increasingly became aware of this.* (BR, Interview, 26 January 2018, my emphases)

The consumer loan and credit card regulations (instruments) collectively led bankers and their customers to avoid excessive risk-taking that they believed to be associated with credit expansion and household leverage (outcome); they were deterred from such behaviours because they were convinced that excessive risk-taking would be monitored, and compliance with the tight MPR measures would be ensured by the prudential supervisor ('regulatory enforcement' mechanism). In the words of a bank regulator,

Both banks and [bank] customers revisited their risks following the implementation of the [macroprudential] regulation. If somebody is always walking on a high wire, like an acrobat, and I ask him 'what would happen if you fall down?' He would say, 'I die'. Then, I would reply 'your death might not be a problem for you. But, this may have consequences for others'. Thus, this person would pay attention to costly safety nets and regulations that *I impose* on him. Accordingly, *what I meant by 'revisiting the risk' was lenders and borrowers started paying close attention to what they do, its processes and consequences.* (BR, Interview, 26 January 2018, emphases added)

Similarly, statements by public authorities calling on banks to limit annual bank credit growth by 25% (instrument) also deterred potential and actual

offenders among the banking community; knowing that additional formal MPR measures would be implemented ('regulatory enforcement' mechanism), they contained their credit expansion (outcome). For example, the then-minister in charge of the economy and senior bureaucrats instructed banks in May 2011 that the government 'does not wish to take police-type measures' against banks that do not limit loan growth to 25% per annum (Lord, 2011). The IMF (2014) called this verbal MPR instrument an 'Implicit Nominal Credit Growth Target' (54). This verbal macroprudential intervention reminded banks that their credit expansions were vulnerable to formal regulatory interventions, and they should thereby be prepared to take greater consideration to keep credit growth within the appropriate limit.

We realised that banks made their [credit growth] plans in line with this 25 per cent [limit]. This especially includes the state-owned banks. Others [private sector banks], however, also followed them. Thus this [measure] has a guiding role. This is because if banks do not comply with the desired direction, the government takes necessary [formal] measures. This is known by banks, which *thus makes it a credible threat*. ... We observed that this *verbal intervention* was effective [in containing bank credit expansion]. (CB2, Interview, 26 October 2016, emphases added)

### ***What was the most appropriate non-temporal context for the MPR measures to trigger 'risk appetite', 'default risk', 'cost', 'reputation' and 'regulatory enforcement' mechanisms?***

The bank-based financial system was the most appropriate non-temporal context for the MPR measures to trigger 'risk appetite', 'default risk', 'cost', 'reputation' and 'regulatory enforcement' mechanisms. This was because financial activity has primarily occurred inside the banking system, which also increased the effectiveness of the MPR to enhance macroprudential stability. Thus, the bank-based financial system was proximate to the MPR (input) and the multiple mechanisms through which macrofinancial stability was generated. As a former senior bank regulator notes: 'We have a bank-based financial system. The share of capital markets in the financial system is very low. Thus, any regulation that relates to the banking sector affects economic activity directly in a very short period' (BR, Interview, 26 January 2018).

The bank-based financial system gave the MPR its best chance of achieving macrofinancial stability by increasing its effectiveness. In the words of a senior central banker,

Our financial system is based on banking. This was our chance [as an appropriate context]. *This was because banks had limited options to circumvent [macroprudential] regulation*. In other words, when you impose [a] direct limitation on a bank balance sheet, a bank does not have a room to escape from it. [The MPR] will have its effect. In

this regard, the measures that relate to consumer loans were extremely influential. (CB2, Interview, 26 October 2016, emphases added; for empirical research on the effectiveness of the MPR and containment of macrofinancial risks, see Kara, 2016: 129)

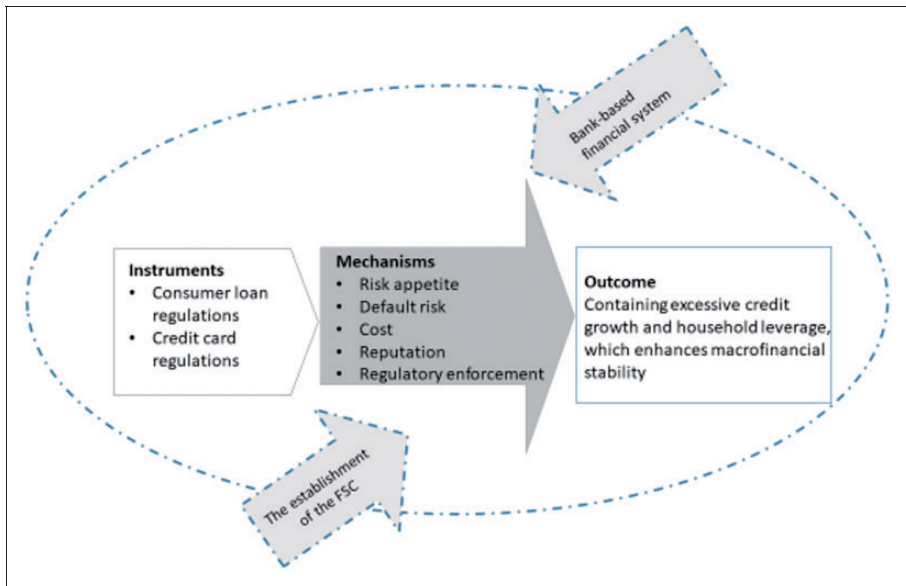
Thus, in the words of a senior vice president of a commercial bank responsible for Treasury, Asset and Liability Management, ‘the MPR [contributed to financial stability] because it encourage[d] both banks and customers to determine their choices and to calculate their costs’ (B2, Interview, 25 October 2016). Unsurprisingly, in its country report, the IMF noted ‘the success of recent macroprudential measures . . . to cool credit growth, and exchange rate depreciation weakened private domestic demand, thus compressing import growth and reducing the current account deficit’ (IMF, 2014: 2, 7, 8).

Indeed, Banks hold over 80% of total assets in the Turkish financial system (Bankalar Birliği, 2018: 15). Further, over 92% of the financial liabilities of households, such as consumption loans and credit card debt, are to the banks (CBRT Financial Stability Report, November 2015, Table 2.1.2, cited in Kara, 2016: 124, fn.6). There were 54.3 million credit cards issued by the Turkish banking sector, making Turkey the second biggest market in Europe after the UK, and credit card usage (i.e. shopping and cash withdrawals) constituted 33.49% of total household consumption expenditures by the end of 2012 (Ozkan, 2014: 1). As such, the multiple causal mechanisms triggered by the tight MPR measures had an immediate effect on reduced domestic consumption.

Quantitative research by economists argued that the MPR contained consumer credit growth and household debt that were closely related to the current account balance in Turkey (see Akkaya and Gurkaynak, 2012: 103–106; Alioğulları et al., 2015: 6–7; Kara, 2016: 131–132). For example, ‘a significant slowdown in credit could be observed only after the bank regulator’s [the BRSA’s] measures by mid-2011’ (Kara, 2016: 129). Specifically,

These [MPR] measures, coupled with a tighter monetary policy stance, had a significant impact on loan growth. . . . Consumer loans displayed a marked deceleration each time a new round of measures were introduced. The annual rate of growth in consumer loans slowed from 45% in mid-2011 to less than 15% in 2015. As a consequence, the upward trend in [the] household indebtedness ratio (household liabilities over assets) has reversed since 2013 [declining from 54% in December 2013 to 46% in August 2015]. . . . The deceleration in commercial loans [was] less pronounced, because this segment was not directly targeted by the macroprudential measures. Overall, these observations suggest that macroprudential measures have been instrumental in containing credit growth and household indebtedness, and changing the composition of credit. (Kara, 2016: 131–132)

Further, ‘consumer loan growth negatively and statistically significantly affects current account balance’ and the BRSA’s macroprudential measures played the principal role in [the] slowdown of consumer loans’ (Alioğulları et al., 2015: 1, 5–6).



**Figure 3.** ‘Instrument + mechanism + context = outcome’ configuration of the MPR programme. FSC: Financial Stability Committee.

Accordingly, there were ‘strong effects of LTV measures on curbing the sales growth’ that led to a ‘19% drop in automobile sales growth for cars with values above 50,000 TL in 2014’ (Arslan et al., 2015: 2).

However, it was not the MPR per se that contained macrofinancial risks. It was these multiple causal mechanisms that increased the effectiveness of the MPR. The multiple mechanisms, activated through the introduction of the MPR, led to the desired outcome. Indeed, ‘mechanisms will not always be triggered, but only in particular contexts’ (Pawson and Tilley, 1997: 94). In this regard, the bank-based financial system in Turkey offered the most appropriate structural context for the operation of multiple causal mechanisms that linked the MPR with the containment of macrofinancial risks.

In sum, macroprudential policy instruments triggered effective mechanisms within the conducive Turkish bank-based financial system to contain excessive bank credit growth and household leverage (Figure 3). They reduced private credit growth to reasonable levels, because of their ability to directly influence the supply and demand for bank loans within the bank-based financial system of Turkey.

## Conclusion

Scholars of scientific realism (Pawson and Tilley, 1998) show that key programme outcomes stem from the changes in the reasoning and behaviour of target audience

when mechanisms operate in appropriate contexts. Comparative historical institutionalists (Falleti and Lynch, 2009: 1144) highlight that “credible causal social scientific explanation can occur if and only if researchers are attentive to the interaction between causal mechanisms and the context in which they operate”. Building a bridge among these fundamental insights, this article sets out a framework that reorients design thinking to an “Instrument + Mechanism + Context = Outcome” (IMCO) pattern configuration. In doing so, it advances our understanding of effective policy design and implementation by highlighting the policy actions that trigger multiple first-order and second-order causal mechanisms, which are able to operate within appropriate contexts and generate desired outcomes. More specifically, this article shows that the success of a policy programme is due to (1) its appropriate contextualisation in defining policy content and policy objectives and selecting their instruments; and (2) policy instruments triggering desired mechanisms which are able to operate in appropriate multiple temporal and non-temporal contexts, whereby the reasoning and responses of the target audience are influenced.

Drawing on theoretical insights from mechanisms scholarship and empirical insights from the exploratory case study on the MPR case in Turkey between June 2011 and September 2016, this article has argued that MPR-related policy design and implementation involved interconnected context-sensitive causal mechanisms, through which the MPR subsequently contained macrofinancial risks and enhanced macrofinancial stability. The MPR took the form of consumer loan and credit card regulations. These instruments triggered ‘risk appetite’, ‘default risk’, ‘cost’, ‘reputation’ and ‘regulatory enforcement’ mechanisms, which impacted credit growth and household debt in the bank-based financial system by informing the reasoning and responses of bankers and their customers. The establishment of the FSC marked the beginning of the temporal context, with the existence of the bank-based financial system as the non-temporal context, and offered a conducive environment for the causal mechanisms to function effectively, leading to the success of the MPR measures.

These findings also have a significant implication for future research in the finance literature on the effectiveness of macroprudential policy tools (for a comprehensive review of this literature, see Galati and Moessner, 2017). Perhaps the inconclusive and mixed results of this literature that ‘[have] so far provided only limited guidance for decisions’ (Galati and Moessner, 2017: 7; IMF-FSB-BIS, 2016) are due to their focus on statistical relationships between MPR instruments and the intermediate objectives of macroprudential policy, rather than multiple causal mechanisms embedded in various contexts that link such instruments with policy objectives.

Additionally, research on policy design and implementation, with particular emphasis on causal mechanisms, can benefit policy workers and politicians in several ways. First, it can stimulate them to deploy resources towards the linkages between instruments, mechanisms, contexts and outcomes that should increase the effectiveness of policies. In doing so, policy designers and implementers should not

only pay attention to policy goals and the tools expected to realise those objectives (Hood, 1986; Howlett, 2009; 2011; Salamon, 2002), but also consider the mechanisms that affect the reasoning, decisions and actions of the target audience. Policy instruments operate most effectively in appropriate contexts that trigger causal mechanisms. Second, the insights from this research may contribute to unpacking how and why designed policies may work (or fail) in various contexts. Policy design and implementation successes are most likely when policy workers tailor policy instruments that activate context-sensitive mechanisms; failures in policy design and implementation may neglect to do so. Third, with the Turkish currency crisis in August 2018, it became clear that policy instruments operating in the appropriate context and activating causal mechanisms are among the necessary conditions, but they are not sufficient alone to maintain macrofinancial stability and are not a substitute for sound macro and microeconomic reforms.

There is at least one limitation recognised in this article. The analysis of causal mechanisms focuses on the MPR in Turkey; whether the identified causal mechanisms are portable to other countries is subject to further research. Future research can extend the analysis to non-Turkish contexts and other policy domains. This work should nevertheless pay off by broadening our empirical and theoretical understanding of not only how mechanisms link inputs and outputs in policy design and implementation but also how dynamic interactions among various structural, institutional and temporal contexts affect their operation.

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### **Notes**

1. However, the new policy mix, including the reserve option mechanism and asymmetrical interest rate corridor, was effective in reducing exchange rate volatility in Turkey in comparison with the currencies of peer economies (see Alper et al., 2013; Değerli and Fendoğlu, 2013).



2. Our interviews revealed that Turkey experienced the opposite effect due to the US Fed's end of quantitative easing (i.e. tapering the Fed's asset purchases or bond-buying programme) in the form of hot money outflows in August 2015. This resulted in several measures taken by the Central Bank, including the adjustment of the monetary policy mix to manage the Turkish lira and foreign exchange liquidity and required reserves to contribute to financial stability (see Central Bank of Republic of Turkey, 2015). However, as will be detailed in the remainder of this article, actual reversal of the MPR measures took place in September 2016.
3. The Central Bank was the key organisational actor behind the establishment of the FSC (Kara, 2016: 126–127), which resulted in the implementation of MPR measures by the BRSA to contain macrofinancial risks (for a detailed discussion on the political economy of the establishment of the FSC and implementation of the MPR in Turkey, see Bakir and Coban, 2018; Yagci, 2017). In addition to mobilising the Treasury Minister's political power, the Central Bank made sense of the MPR and enhanced understanding of macrofinancial risks and how to address them, which resulted in the socialisation of the BRSA within the macroprudential policy paradigm and framework under the auspices of the FSC.
4. There were two other members of the FSC that were not directly involved in the macroprudential policy framework: the Saving Deposit Insurance Fund, the key authority on the bank resolution framework, and the Capital Markets Board, a disclosure regulator.
5. The BRSA reversed several MPR measures to stimulate aggregate demand via credit expansion. For example, in September 2016, the BRSA removed the general reserve requirement for restructured consumer loans, extended credit card payment periods, extended refinancing of credit card and consumer debt up to 72 months, and extended consumer loan maturity to 48 months (see Turkish Bankers' Association, 2017: 14). Consequently, the annual rate of bank credit growth increased from about 8% in September 2016 to 22% in July 2017 (see Ozdemir, 2017).
6. The Fed adopted quantitative easing in three different phases (QE1, QEII and QEIII), in which major Treasury securities and mortgage backed securities were purchased by national and regional central banks, which increased money supply in the global financial system (Weaver and Ho, 2017) and thus created excess capital flow to emerging market economies. QE1 was effective from November 2008 to March 2010, QE2 was effective from November 2010 to June 2011 and QE3 was effective from September 2012 to October 2014 (Kryzanowski et al., 2017: 18). Due to the time difference and policy choices in-between, the capital surge to emerging market economies also reflected imbalances.
7. The intra period between the Fed's second and third rounds of quantitative easing reflect a period with softening capital surge and hence a softening macroprudential policy objective for the Central Bank.

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