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DYNAMIC FISCAL POLICIES UNDER KNIGHTIAN UNCERTAINTY: MITIGATING THE ADVERSE EFFECTS OF HOUSEHOLD DEBT ON ECONOMIC STABILITY—A NARRATIVE REVIEW

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Abstract:

The significance of the vulnerability of the household sector as a major source of macroeconomic vulnerability has come to the fore. This is particularly true when the uncertainty setting is Knightian, in which the distribution of shocks is not well known at best. Too much domestic debt can suppress private spending and can make downturns worse; traditional static or discretionary fiscal policy can slow down aggregate demand growth due to the inelasticity of precautionary saving and the ambiguity aversion. In this narrative review, we roll up 18 studies from 2010 to 2026 and included in Scopus to develop a new combined framework of the connection between household debt vulnerability and Knightian uncertainty and dynamic, state-contingent fiscal policy. The paper critically summarises the existing multidisciplinary literature from 2010 onwards and assesses the literature's understanding of the usefulness of dynamic, state-contingent fiscal policies to reduce household debt vulnerabilities and boost macroeconomic resilience in

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the presence of deep uncertainty. The synthesis shows that the stress on the household balance sheet tends to have a non-linear effect on fiscal transmission mechanisms across the four themes of this study: precautionary behaviour and demand suppression, Knightian uncertainty in decision-making, dynamic fiscal rules vs discretion and integrated policy coordination. The literature reviewed suggests austerity is not effective in the context of austerity. In contrast, automatic activation triggers of state-contingent fiscal transfers will lead to a more stable expectation of households and bring the multiplier effect back. Moreover, the greatest stabilization effects are achieved if the dynamic fiscal measures are coupled with monetary easing and countercyclical macroprudential caps. This paper collectively, conceptually, brings together results of various strands of the studies on macro-finance, public economics and behavioural studies, thereby synthesizing theoretical extensions to the standard rational expectations paradigm. It also provides practical recommendations for adaptive rule-based stabilization regimes which can withstand risks to the balance sheets in a very volatile economic environment.

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Keyword:

Household Debt, Knightian Uncertainty, Dynamic Fiscal Policy, Financial Stability, Precautionary Saving, Macroprudential Coordination, Narrative Review

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Introduction

Household debt has become a characteristic of the modern economies that helps drive consumption, investment in housing and education, and overall economic growth. But high home debt has come to be seen as a macroeconomic risk. This is especially the case in households that are subjected to economic shocks and increased economic uncertainty. High debt levels restrict households' ability to spend, reduce financial strength and make adverse shocks more damaging to the overall economy, leading to the risk of prolonged depressions. These worries have grown stronger following the turmoil that the world has endured over the last few years, such as the Global Financial Crisis, the COVID-19 pandemic, and ongoing geopolitical tensions, all of which have led to increased uncertainty about income, jobs, inflation, and interest rates. In this sense, the concept of Knightian uncertainty, in which the probability distribution of future events is fundamentally unknown, is relevant to understand why the traditional fiscal policy approach might be inadequate to deal with the vulnerability of household debt (Mao et al., 2023; Tamegawa, 2011).

Household debt and Knightian uncertainty create a major problem for the stability of the economy because when future events are uncertain, indebted households tend to save more and consume less. This type of behavioral change suggests a drop in aggregate demand, less

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effectiveness in any fiscal stimulus and potential adverse feedback loops between household balance sheets and macro performance. The macroeconomic effects of household debt crisis are also sensitive to income uncertainty, as a result of which the risks of default are amplified and cyclical fluctuations are strengthened, especially for liquidity constrained households (Zhan et al., 2026). Meanwhile, the positive link between household borrowing and consumption is further weakened by the rising Economic Policy Uncertainty (EPU), and the vulnerability of household financial assets is also enhanced. (Jin et al. 2022, Zhang & Ling 2024) The developments suggest that policy interventions are necessary that are adaptive, forward-looking and sensitive to changing economic reality, and not just static or discretionary.

Dynamic fiscal policy has thus become an attractive tool to protect economic stability in times of profound uncertainty. Dynamic fiscal policies are more flexible, rule-based, and state-contingent than discretionary fiscal policies, and they adjust over time in response to fluctuations in the macroeconomic environment. The empirical evidence to date shows that fiscal commitment policies outperform discretionary policies in stabilizing output and public debt (Bianchi & Menegatti, 2012), and that in the event of a crisis driven by debt, countercyclical fiscal measures normally have a higher welfare benefit in the short term than debt reduction, provided that fiscal debt does not reach critical levels (Corsetti & Maeng, 2024). Moreover, when fiscal policy is implemented alongside macroprudential and monetary policy, it can play a crucial role in helping to alleviate excessive household indebtedness and increase financial resilience (Alpanda & Zubairy, 2017; Mendicino & Punzi, 2014). However, the impact of fiscal measures is highly dependent on the state of household debt in the economy and, as such, fiscal measures should be tailored to the specific context of the economy (Zurita, 2024).

The macroeconomic effects of private leverage have been studied in a number of different areas, including macroeconomics, public finance, behavioural economics and macroprudential policy, but the existing research has been quite disparate. This leaves a crucial void and a need for an explicit linking between household debt vulnerability, Knightian uncertainty and dynamic, state-contingent fiscal policy. Current macroeconomic models mostly depend on the rational expectations paradigm and assume an underlying risk distribution, which is measurable and characterized by parametric uncertainty, and don't take into account the impact of non-linearity of fiscal policy transition mechanisms caused by unquantifiable ambiguity (Knightian uncertainty) that triggers large precautionary saving. Likewise, the prevailing fiscal analysis emphasizes static rules or fiscal discretion in isolation, instead of assessing the joint effects of adaptive, rule-based instruments of fiscal policy, including state-contingent transfers, and monetary easing and macroprudential measures on mitigating the impact of household balance sheet stress during unpredictable and severe recessions.

Literature Review

In this work, the narrative review method was used to review critically and synthesize the available literature on the role of dynamic fiscal policies in reducing vulnerability of household debt in the context of Knightian uncertainty. Narrative reviews, which are more flexible than systematic reviews in that they do not rely on a fixed protocol to include empirical evidence, are well suited to broad, multidisciplinary topics where there are multiple and often conflicting theoretical perspectives, heterogeneous methods, and shifting policy debates (Baumeister & Leary, 1997; Ferrari, 2015). Since the research on household debt, fiscal policy, financial stability and Knightian uncertainty covers several fields of economics, macroeconomics, public

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finance, behaviour economics and policy studies, a narrative review offers the necessary flexibility to highlight conceptual connections, to bring different views into comparison and to build a picture of the overall field.

A literature search was carried out with the aim to be as transparent and methodologically sound as possible, to only use the Scopus database, one of the largest peer-reviewed academic literature databases covering all disciplines (Burnham, 2006). Scopus was chosen because it has a wide range of high-quality journals in economics, finance and public policy, providing a broad but not necessarily superficial representation of the existing literature. The search was limited to articles published from 2010 to 2026, which brought in developments since the Global Financial Crisis, the subsequent increase in household debt, the COVID-19 pandemic and the increased importance of uncertainty in macroeconomic policy discussions.

The literature search employed the following Boolean search strategy:

("household debt" OR "consumer debt" OR ("personal debt" OR "family debt") OR ("indebtedness" OR "liabilities")) AND ("financial stability" OR "economic impact" OR "credit risk" OR "default") AND ("savings" OR "income" OR "expenditure" OR "budgeting") AND ("mortgage" OR "loans" OR "credit" OR "financing") AND ("policy" OR "regulation" OR "intervention" OR "management")

The first results from the search were then filtered using a multi-stage selection process. First, bibliographic information was missing from duplicate records and publications were deleted. Titles and abstracts were then reviewed for relevance to the objectives of this review. Studies were considered if they focused on household debt, fiscal policy, financial vulnerability, macroeconomic stability, policy uncertainty, or topics related to the above were paired. The full text assessment was then done to assess the conceptual relevance, theoretical contribution and policy implications of each publication. Due to the conceptual nature of the research at hand (synthesis rather than quantitative evidence aggregation), more weight was given to theoretically influential papers, empirical studies with significant policy relevance, and review papers that helped clarify the linkages between household debt, uncertainty and fiscal policy. The selection process was based on purposive and interpretive judgment based on the methodology of narrative reviews (Ferrari, 2015). The review is not meant to be comprehensive of all available publications, but rather those that provide significant theoretical knowledge, methodology, and applicability to the research question. This method helps to take a holistic look at fragmented evidence from different disciplines. It also facilitates the building of a unified conceptual model of the effect of dynamic fiscal policy in an economy where households are vulnerable to debt and where uncertainty is Knightian.

Table 1: Summary of Search Strategy and Selection Parameters

Component	Description
Database	Scopus
Search String	("household debt" OR "consumer debt" OR ("personal debt" OR "family debt") OR ("indebtedness" OR "liabilities")) AND ("financial stability" OR "economic impact" OR "credit risk" OR "default") AND ("savings" OR "income" OR "expenditure" OR "budgeting") AND ("mortgage" OR "loans"

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Component	Description
	OR "credit" OR "financing") AND ("policy" OR "regulation" OR "intervention" OR "management")
Publication Timeframe	2010–2026
Document Types	Peer-reviewed journal articles and review articles
Language	English
Inclusion Criteria	Studies addressing household debt, fiscal policy, financial stability, macroeconomic resilience, policy uncertainty, Knightian uncertainty, consumer finance, or related policy interventions; peer-reviewed publications indexed in Scopus; studies with clear theoretical or empirical contributions.
Exclusion Criteria	Conference papers, book chapters, editorials, dissertations, non-English publications, duplicate records, publications without full-text access, and studies unrelated to household debt or fiscal policy.
Selection Approach	Narrative review using purposive selection following title screening, abstract screening, full-text assessment, and interpretive synthesis of conceptually relevant studies.

Conceptual Background

Household Debt Vulnerability

Household debt represents the aggregate of all debt that households acquire in order to finance household consumption, housing, education and other purchases. Household debt can come in a variety of forms such as mortgages, personal loans, consumer credit and credit card debt. Besides helping households' smooth consumption and build up human and physical capital, high levels of household indebtedness can make households more vulnerable to financial shocks, such as adverse income shocks, and raise the risk of default on loans. The macroeconomic effects, however, are larger with high debt loads in households, as this can magnify business cycle volatility, limit aggregate demand, and pose potential financial stability risks to the economy by reducing consumption and deteriorating the financial well-being of households (Alpanda and Zubairy, 2017; Zhan et al., 2026). Household debt has therefore become more and more seen as more than just a financial choice at the microeconomic level. Instead, it's a macroeconomic issue that calls for coordinated policy action.

Household debt vulnerability is one of the concepts that is closely related to household indebtedness. Household debt vulnerability measures how likely an indebted household is to experience financial difficulties if its income falls, unemployment occurs, interest rates rise or asset values drop due to unexpected economic shocks. When the economy is functioning normally, indebted households can afford to keep repaying their debts relatively easily. But when the capacity to service debts declines, given rising uncertainty or bad macroeconomic news, the vulnerability is highlighted. Recent studies have found that income uncertainty markedly raises the default risk of households and intensifies the impact of financial shocks on macroeconomic fluctuations, especially for those households most vulnerable to both leverage

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and liquidity constraints (Zhan et al., 2026). Household vulnerability is thus an individual financial risk and a potential source for general economic instability.
Knightian Uncertainty

The idea of knightian uncertainty offers a necessary theoretical basis for interpreting the behavior of households in a context where the future economic result cannot be specified by a known probability distribution. Knightian uncertainty, on the other hand, involves genuine uncertainty concerning the future state of the economy, which event probabilities are neither observed nor estimated. This non-measurable uncertainty leads households to take protective and precautionary measures, such as saving more, delaying large purchases and reducing borrowing. Indeed, from the macroeconomic point of view, generalised precautionary saving has a strong negative effect on aggregate demand and significantly increases the severity of economic downturns, particularly when household debt loads are high. Under a persistent ambiguity, economic agents have to deal with risks that are not measurable and thus with risks that they will not respond to the usual indicators of economic policy.

Dynamic fiscal policy overcomes these shortcomings by providing a flexible, adaptive approach, in which government spending, taxes and transfers change directly in order to meet the variations of macroeconomic conditions rather than following rigid rules. The main aim is to provide macroeconomic stability, less volatility, help households earn income when the economy slows down and to ensure long-term fiscal sustainability. Dynamic fiscal policy is not based on discretionary policy or on a ceiling on debt but on state-contingent mechanisms that respond to the economic fluctuations, allowing the government to better smooth out the deleterious effects of financial instability. Similarly, dynamic fiscal measures can help to lessen fragility of household debt and increase overall economic resilience when combined with coordinated monetary easing and macroprudential measures, such as countercyclical caps on the Loan-to-Value (LTV) ratio.

In the absence of a general knowledge of the timing, length, and distribution of economic shocks, static rules cannot work because it is impossible to pre-program a response appropriately. Dynamic fiscal policy tackles this by moving from a fixed program of spending and taxation to automatic, real time stabilisation devices. In this approach, in the absence of specific regulatory conditions, targeted fiscal transfers (debt relief, conditional cash transfers, or short-time work compensation, for example) are automatically triggered when observed balance-sheet stress reaches critical thresholds. That would be increases in unemployment, increases in Debt-Service-to-Income (DSTI) ratios, or precipitous declines in aggregate consumption. Dynamic policy ties policies to real-time indicators, thereby eliminating administrative lag, policy uncertainty, and anchoring prospects even in very unquantifiable settings.

Key Theories or Frameworks

There are a number of complementary theories that explain the conceptual linkage between household debt, Knightian uncertainty, and fiscal policy. The first is Knight's Theory of Uncertainty, which was initially concerned with separating measurable risk from real uncertainty, in which future events are not subject to objective probabilities. This distinction is important because it has implications that go beyond the conduct of the household's financial behavior, as people under Knightian uncertainty will practice precautionary actions that cannot be accounted for by expected utility theory. Recent macro-finance studies show that uncertainty

about future economic conditions affects portfolio choice, borrowing, and consumption decisions of households, and thus macroeconomic instability (Mao et al., 2023; Tamegawa, 2011). In these situations, fiscal policy needs to deal with the reality of economic shocks and the behavioural effects of economic uncertainty.

Another theoretical basis is the precautionary saving model, which addresses the impact of uncertainty on household saving and borrowing. Under this approach, a household planning for an uncertain future earning potential will save and cut spending on goods and services in order to create a financial cushion for any future shocks. While precautionary saving helps the financial resilience of individuals, there is a simultaneous reduction in aggregate demand, which slows down the economic recovery, when the saving rate on the aggregate level is reduced. The negative impact is significantly more pronounced in high debt households, as the burden of debt payments restricts the ability of these households to reduce their consumption levels, and makes them more vulnerable to default. The latest macroeconomic evidence suggests that household debt adds to the contractionary effects of income uncertainty by adding to financial fragility and reinforcing macroeconomic fluctuations (Zhan et al., 2026). This theoretical lens points to the need to pay attention to the effect that fiscal policies, which can help to stabilise household income, can have on precautionary behaviour and debt-related vulnerabilities.

The third theoretical approach is one of countercyclical fiscal stabilization, and the role of fiscal policy in reducing macroeconomic volatility. The traditional Keynesian stabilization theory suggests government spending and taxes should be countercyclical, meaning that they should be pro- or anti-cyclical, cushioning output and employment during economic expansions or contractions. This argument has been further developed in more recent studies, which stress the importance of the fiscal policy being dynamic, adaptive, and credible in case of uncertainty. In general, the more successful results are obtained from the commitment to fiscal stabilization rules as opposed to the mere discretionary interventions, as the credible policy decreases the uncertainty about the fiscal future actions (Bianchi & Menegatti, 2012). In this regard, countercyclical fiscal expansion is likely to provide larger welfare benefits than fiscal consolidation immediately after a debt-driven crisis, as long as sovereign debt does not reach critical sustainability thresholds (Corsetti & Maeng, 2024). The results are consistent with the need to build fiscal policies that strike an appropriate balance between the short-term stabilization goal and fiscal sustainability.

Last, the new literature highlights the importance of policy coordination mechanisms, as the coordination of monetary and macroprudential policies with fiscal policy contributes to increasing the financial resilience. Household indebtedness is affected by a multitude of related factors such as credit conditions, housing markets, interest rates, and financial regulation. However, fiscal policy effects alone will not be sufficient to alleviate the vulnerability of households unless complemented with additional macroprudential policy action to curb excessive credit growth and enhance the financial system's ability to withstand shocks. Empirical studies suggest that a combination of measures (fiscal, monetary and macroprudential) is more powerful than single measures in reducing the indebtedness of the household sector and curbing systemic financial risks (Alpanda & Zubairy, 2017; Mendicino & Punzi, 2014). In a world of Knightian uncertainty, coordinated and dynamic policy responses offer more flexibility to help soothe the household expectations, increase confidence, and ensure long-term economic stability.

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Theoretical perspectives are taken together to form the conceptual basis for this narrative review. Knightian uncertainty is the basis for the fundamental change in the behavior of households exposed to uncertainty, precautionary saving is the reason why a saving channel is a key determinant of debt vulnerability under uncertainty, the countercyclical fiscal stabilization theory is the basis for the complementary role of adaptive fiscal policy responses in maintaining macroeconomic stability, and the policy coordination frameworks highlight the complementary role of the fiscal, monetary and macroprudential policies in the presence of debt vulnerabilities. Combined, these frameworks offer a holistic perspective on the efficacy of dynamic fiscal policy as a tool to reduce the vulnerabilities of household debt.

Thematic Review of Literature

The integration of predictive analytics (PA) into Lean management frameworks represents a decisive shift away from traditional, reactive operational models. This section synthesizes the extant literature across four primary thematic domains: conceptual foundations, cross-industry applications, performance outcomes, and implementation challenges. The structural relationship between these themes is illustrated in Figure 1.

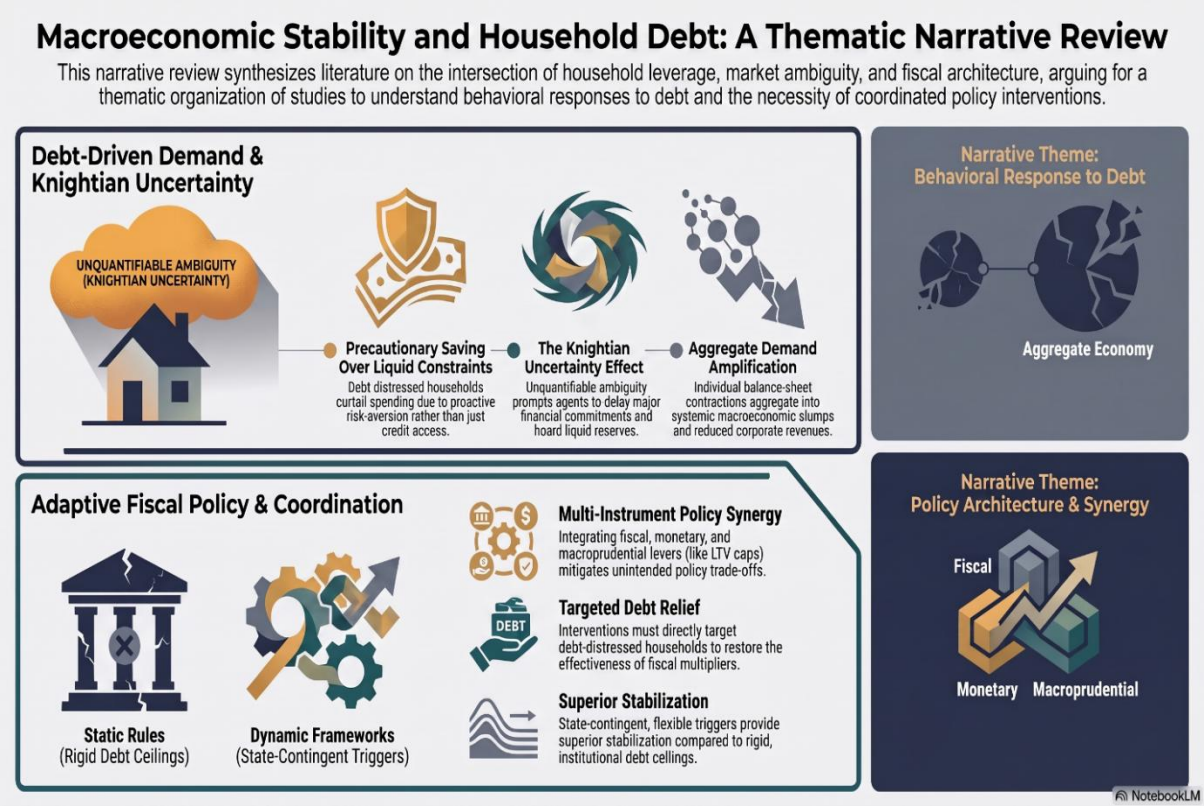


Figure 1: Thematic Review of Literature

Theme 1: Household Indebtedness, Precautionary Behaviour, and Aggregate Demand Amplification

The existing literature shows that increasing household debt is a strong channel for the transmission of economic shocks to lower aggregate demand. High levels of debt can place a heavy burden on the capacity of households to pay their debts, with the corresponding impact

on their balance sheets, and make them highly susceptible to shock. During periods of income insecurity, indebted households anticipate future insolvency by cutting down on spending on non-essential items and building up precautionary saving buffers (Tamegawa, 2011; Zhan et al., 2026). The contraction in the balance-sheet of individual household units can combine into a macroeconomic contraction, when a large portion of demand withdraws from the economy, causing a decline in corporate income, and leading to a decrease in employment and the contraction of the economy in general (Zurita, 2024).

One major issue in the literature is that of whether aggregate demand suppression is more related to hard liquidity constraints or to precautionary motives for saving. Early empirical evidence focused on binding credit constraints, which suggest that low-income families lower their consumption because they don't have liquid assets or credit to draw on when the economy slows down. In contrast, new theoretical and empirical research suggests that cautious behaviour is the primary determinant, and that even if credit is available, households will limit their consumption when they are exposed to uninsurable risks and income insecurity (Zhan et al., 2026; Zurita, 2024). Furthermore, though it is a well-established fact in the literature on classical life-cycle models that borrowing smoothes consumption over time, it is noteworthy that the literature on financial stability today shows the opposite: high debt overhangs is associated with consumption volatility. This makes consumption respond much more strongly to negative income shocks than otherwise indicated by standard consumption models.

In this literature critical analysis shows that the conventional macroeconomic models fail to capture the precautionary behaviour in the presence of deep structural shocks. Current literature is based on the rational expectation paradigm which assumes uncertainty is a known probability distribution, thus underestimating the impact of consumption retrenchments by highly leveraged households. Furthermore, there is some division in the literature about how much debt the household sector needs to have for the debt to become an engine of fragility and not growth for the economy. Existing work tends to ignore how such dynamic interactions in the balance sheet can increase the severity of recessions when ambiguity is unmeasureable and instead emphasizes the static Debt-to-Income (DTI) ratio. Hence, understanding the behavioural effects of the debt-overhang is important for the larger review goal, and understanding why conventional, static fiscal policy measures cannot restore aggregate demand without state-contingent fiscal policy measures that directly alleviate stress on the balance-sheet of the household sector.

Theme 2: Knightian Uncertainty and Economic Policy Uncertainty in Household Decision-Making

Studies on decision making in the presence of Knightian uncertainty (where the probability distribution of future macroeconomic outcomes is unknown) show that non-measurable ambiguity has a fundamental impact on household economic behaviour. Unlike conventional risk, Knightian uncertainty cannot be priced and controlled through conventional financial products, which would lead to the agents in the economy to become very ambiguous averse (Mao et al., 2023; Tamegawa, 2011). As in the traditional relationship between borrowing and private consumption, the positive association between borrowing and private consumption is often lost when households undergo significant structural changes or when policies are unpredictable. In high uncertainty environments, households tend to adhere to the principle of postponing large investment decisions on credit, increasing their liquidity buffers, and raising their debt default risk (Jin et al., 2022; Zhang & Ling, 2024).

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The studies reveal important differences in empirical pathways linking EPU and Knightian ambiguity to the balance sheets of households. The other stream of literature emphasizes the direct precautionary channel, which suggests that increases in policy uncertainty led to a decline in household spending on durable goods and a stockpiling of cash (Jin et al., 2022; Tamegawa, 2011). The other branch focuses on an indirect channel of corporate investment, arguing that uncertainty makes companies less inclined to hire, resulting in reduced household incomes, reduced income, and balance sheet problems due to a decline in profits (Zhang & Ling, 2024). Empirical results also vary with regard to household heterogeneity. Some research indicates that households with low literacy and low liquidity are hardest hit by policy uncertainty, while others have found that highly leveraged middle-class household homeowners are most financially stressed by inflexible mortgages.

Even with these findings, the literature suffers from a very large theoretical and empirical gap regarding the interaction between Knightian uncertainty and dynamically consistent fiscal intervention policies. Formal modeling of Knightian ambiguity is generally missing from existing macroeconomic models, which usually rely on simpler stochastic shock processes. Consequently, policy makers have a poor understanding of the effect of fiscal signals to diminish subjective uncertainty in policy, rather than creating it in an unintended way by making discretionary adjustments. This gap clearly highlights the central argument of this review, that under Knightian conditions fiscal measures need to be open, flexible and rule-based to anchor household expectations and inhibit precautionary contractionary hoarding.

Theme 3: Dynamic and Countercyclical Fiscal Policies versus Static Rules

There is a vast literature demonstrating that dynamic countercyclical fiscal policies have better macroeconomic stabilization characteristics than rigid rules or purely discretionary fiscal policies. Dynamic fiscal frameworks are based on state contingent mechanisms, flexible expenditure triggers and automatic fiscal stabilizers (automatic response to adverse economic conditions) (Bianchi & Menegatti, 2012; Corsetti & Maeng, 2024). Debt-driven downturns require countercyclical fiscal expansion, such as targeted income transfers, debt-relief measures, and short-time work schemes, to preserve household purchasing power, aggregate consumption and prevent such spirals of deep debt and deflation (Zurita, 2024). If believable, dynamic rules lower policy induced ambiguity and can help to address the time-inconsistency problems inherent in discretionary policies (Bianchi & Menegatti, 2012).

One important debate in fiscal economics has been whether there is a tradeoff between short run stabilization of output and long run sustainability of sovereign debt. The defenders of traditional fiscal consolidation, claiming that public debt levels are too high, say that they limit countercyclical spending, and that this can only be achieved by fiscal consolidation to ensure the creditworthiness of the sovereign and the stability of interest rates. But more recently, macroeconomic studies have demonstrated that austerity policy during debt-financed recessions is very counterproductive: cutting government spending lowers overall production, harms household balance sheets, and raises public debt-to-GDP.In contrast, in recent times, macroeconomic studies have shown that austerity in debt-constrained recessions is highly counter-productive, as it reduces aggregate output, degrades the balance sheets of the household sector, and increases the public debt-to-GDP ratio. In addition, there is a disagreement among researchers on the models of policy implementation. Some call for firm debt ceilings to help set expectations, others show that flexible state-contingent fiscal rules can

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yield significantly larger welfare benefits – the reason being that they offer important shock absorption in cases of financial constraint on private balance sheets.

Importantly, previous work does not comprehensively explain the implications of dynamic fiscal policy when there is a combination of household debt overhang and Knightian uncertainty. In fact, existing literature on the fiscal multiplier has been concerned with static or state-independent multipliers and has ignored the impact of market uncertainty on the fiscal multiplier as well as the differential impact of government spending on various levels of household debt (Zurita, 2024). Some of them do, however, elaborate on this idea, in discussing how debt-constrained households could be considered in the design of dynamic fiscal transfers without causing moral hazard. By bringing these perspectives together, these papers illustrate one of the central objectives of this review: the explicit consideration of risks on the household balance sheet is one of the major objectives of dynamic fiscal policy. This, in turn, re-establishes the effectiveness of fiscal multipliers in times of economic crisis.

Theme 4: Policy Coordination: Integrating Fiscal, Monetary, and Macroprudential Interventions

The importance of a multi-instrument, comprehensive policy framework to address vulnerabilities in the household debt burden and promote financial stability is gaining ground in the scholarly literature. Monetary policies to manage credit growth or raise economic activity can have unintended policy effects, such as lowering asset prices and raising debt service costs for vulnerable borrowers, as can regulation of credit growth or raising economic activity. The integrated frameworks are designed to include measures of countercyclical fiscal support and monetary accommodation and macroprudential measures (e.g., adjustable LTV and DTI caps) (Alpanda & Zubairy, 2017; Mendicino & Punzi, 2014). These levers can be related and coordinated by policy authorities, to manage aggregate demand and to keep the risks of systemic leverage and mortgage defaults in check.

The optimal mix and sequence of tools (fiscal, monetary and macroprudential) are a matter of controversy in the literature. One popular view is that the major defense against the accumulation of household leverage in economic booms is macroprudential policy. This will provide monetary policy a greater scope to bring inflation under control and fiscal policy a better scope to bring structural growth in the economy (Alpanda & Zubairy, 2017). One counter argument is that in the event of substantial downturns, macroprudential caps are insufficient, and in such downturns, there should be active fiscal countercyclical transfers to directly deleverage household balance sheets and provide support to monetary policy when interest rates hit the zero lower bound (Mendicino & Punzi, 2014). Moreover, there is little consensus on how institutions can coordinate, as independent central bank mandates are often in conflict with the political budget cycle, resulting in a lack of coordination in policy responses at times of systemic crisis.

The lack of a common analytical framework to evaluate the effectiveness of coordinated fiscal, monetary, and macroprudential policies in a Knightian uncertainty setting is one of the important literature gaps regarding policy coordination. Most open economy and Dynamic Stochastic General Equilibrium (DSGE) models adopt a probabilistic specification and a more precise form of institutional communication, which fails to recognize that the presence of unmeasurable ambiguity affects the institutional interactions and the effectiveness of the policy. In addition, sectoral knowledge is overwhelmingly focused on the advanced economies,

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and a mechanism for sectoral coordination, that could be adopted in emerging market institutions, is largely a black box because capital markets are not well developed, and fiscal space is constrained. This is an important aspect of this review because bridging the gap is important to the core mission of this review; and dynamic fiscal policy cannot be carried out without dynamic monetary policy. Rather, it should be used as a stabilizer in a comprehensive stabilization program in the midst of deep economic uncertainty.

Critical Discussion

This section is critical to the thematic content of the literature but is separate from it and has a focus of consolidating the broad main findings of the reviews to get a handle on the state of knowledge regarding dynamic fiscal policy and on household debt and Knightian uncertainty. Instead of offering a mere recap of the individual empirical findings, this discussion critically examines the field under the four analytical headings of: (1) the main areas where there is conceptual and empirical consensus; (2) the persistent disagreements and theoretical differences; (3) the critical gaps in existing research; and (4) the implications for future policy design and academic study. This section aims to reconcile the sometimes-fragmented observations across disciplines, and to provide a more coherent conceptual approach for understanding how adaptive fiscal mechanisms serve to maintain macroeconomic stability confronted by deep uncertainty, and to organize the analysis for these four dimensions.

Agreements in the Literature

There is a vast literature that indicates that the macroeconomic volatility in the downswing is strongly linked to high household debt. In all the methodological approaches, the consensus is that households with high debt ratios are subject to significant balance-sheet constraints, which means that debt repayments become a top priority for them in times of economic shocks, rather than any other expense (Alpanda & Zubairy, 2017; Zurita, 2024). Overall lower aggregate private consumption is a brake on economic activity and is associated with various features of economic recovery after financial and other crises and financial system fragility. Furthermore, the non-quantifiable ambiguity, as Knightian uncertainty, has been found to alter the behavior of the households – their precautionary saving behavior and their reduced confidence in consumption – which in turn leads to a difference in the growth of consumption (Mao et al., 2023; Tamegawa, 2011). During these times, the traditional economic stimulus is not as effective since households would rather save money than spend or borrow money.

At a more theoretical level, the common ground areas suggest a key paradigm shift from classical life-cycle approaches, in which borrowing of households is seen as a consumption smoothing instrument. The two literatures analyzed (macro-finance and behavioral) indicate that high levels of indebtedness cause credit to become a vehicle for systemic risk (Zhan et al., 2026). One key feature of this deal, though, is that the negative macroeconomic effects of household debt are not as straightforward as it may seem: leverage increases growth during times of calm. However, in times of uncertainty and when DTI limits are exceeded it can be very contractionary. Indeed, understanding this non-linearity is key to economic theory: it is the realization that the conventional economic models that assume smooth and linear transmission mechanisms fail to capture the possibility of sharply contracting economies in the midst of deep uncertainty due to the dynamics of the balance sheets.

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Disagreements in the Literature

While there is general consensus that household debt is a problem that might trigger the economy's destabilization, there are many different views on the mechanisms that would cause consumption reductions in uncertain economic conditions. The prevailing view is that a contraction in household spending has been brought about by the difficulty and rigidity of liquidity constraints and contracting credit conditions by risk averse financial institutions (Alpanda & Zubairy, 2017; Mendicino & Punzi, 2014). The other strong argument, however, is that precautionary saving motives and EPU matter more, even in the absence of constraints, as people work to limit consumption to enough to ensure financial buffers (Jin et al., 2022; Zhang & Ling, 2024). Nevertheless, there has been much debate about the design and implementation of fiscal policy responses, including how well strictly binding commitment devices work compared to "flexible" state-dependent discretionary fiscal policies for output stabilization without compromising the sustainability of government debt (Bianchi & Menegatti, 2012; Corsetti & Maeng, 2024).

These theoretical and empirical differences underscore some basic conflicts about the nature of the relationship between human behaviour and institutional constraints in stabilization frameworks. The liquidity constraint versus precautionary motives disagreement contains a deeper disagreement with respect to the rationality of the agents and their expectations in the presence of Knightian ambiguity. A behavioural element to spending retrenchment will ensure that conventional monetary easing and credit creation prove ineffective without policy intervention to put the subjective ambiguity to bed. Second, the current discussion over fiscal rules and discretion is a matter of when to be credible and when to be flexible when implementing the rules. Although stable fiscal rules enhance people's confidence in government, the strictness of fiscal rules may not be flexible enough to protect against economic shocks, and fiscal rules that are too many may reduce people's confidence in government, thereby increasing EPU and, in turn, instability of people's expectations (Jin et al., 2022; Zhang & Ling, 2024).

Gaps in the Literature

A shortcoming of the existing literature is the lack of an explicit connection between the dynamics of household debt, the concept of Knightian uncertainty, and the dynamic and state contingent nature of fiscal policy in one analytical framework. The available research in this field is fragmented in the literature and the conceptual link between an adaptive fiscal policy and high household leverage and deep market ambiguity is still not understood. The fiscal policy responses typically considered in most existing DSGE and open-economy models are based on observable, parametric risk distributions of volatility instead of true ambiguity, in which the probability distribution is not known (Mao et al., 2023, Tamegawa, 2011). In turn, current research does not combine the impact of precautionary behavior on household expectations with fiscal transfers in the presence of monetary easing and macroprudential caps to bring policy multipliers back to normal in deep debt fueled crises. Moreover, empirical studies continue to be overwhelmingly focused in the highly developed, advanced economies, where financial markets are more complex and integral, while research on the nature of integrated dynamic financial markets in emerging and developing economies, where financial markets are shallower and fiscal space is tighter, continues to lag behind.

The lack of inclusion of these concepts, theories and empirical findings have significant consequences for research and design of policy. The existing literature, however, lacked some drawbacks, such as not being able to integrate the concept of household balance-sheet distress, Knightian uncertainty, and dynamic fiscal rules into a single model.This existing literature, however, had some limitations in embedding the concept of household balance-sheet distress, Knightian uncertainty and dynamic fiscal rules in the same model, which could lead to over-estimation of the effectiveness of the traditional static fiscal multiplier during deep economic downturns (Zurita, 2024). Furthermore, there is a troubling policy blind-spot in that some emerging markets have high levels of informal debt outstanding in the household sector, mismatches in domestic and foreign currency, and lower social protection coverage leading to increased balance-sheet pressures when hit with unquantifiable external shocks. To fill in these gaps, researchers have to build non-linear behavioral models that combine aspects of ambiguity aversion, heterogeneous household balance sheets and state-contingent policy triggers in a single behavioral model. Otherwise, the design of fiscal policy will continue to be based on static assumptions which are not conducive to reducing the vulnerabilities of household debt in highly dynamic economic conditions.

Implications for Policy and Future Research

The results of this synthesis have important implications for the design of future macroeconomic stabilization policies. It is crucial to shift fiscal policy from static rules or ad hoc discretionary policies to state-contingent stabilization policies, as per Knightian uncertainty (Bianchi & Menegatti, 2012; Corsetti & Maeng, 2024). Policy frameworks should explicitly feature automatic, rule-driven expenditure triggers, such as targeted debt relief, conditional cash transfers and income support that automatically respond to rising leverage at a household level and macroeconomic uncertainty when they hit pre-defined thresholds. Further, fiscal policy cannot be applied out of context, but must be coordinated with macroprudential policy measures, such as dynamic Loans-to-Value limits, and monetary policy. This is because it helps to avoid the possibility of having more credit than is necessary during a boom period, which when overstretched during a recession period can cause balance-sheet issues (Alpanda & Zubairy, 2017; Mendicino & Punzi, 2014).

The findings of this study suggest that future studies should consider the interdisciplinary integration of public finance, macro-finance and behavioural economics. It is important that empirical scholars now prioritize empirically quantify Knightian uncertainty on a micro-level, based on household dataset, to more effectively trace the differential effect of ambiguity on different DTI groups (Zhan et al., 2026; Zhang & Ling, 2024). Methodologically, modelling in the future should transcend the current rational expectation models and introduce Knightian ambiguity and heterogeneous agent architectures in quantitative fiscal evaluations. As theory and empirical testing develop, scholars can provide policymakers with helpful policy instruments that could be used for designing adaptive fiscal policies that can maintain the stability of the global economy in an uncertain world.

Recommendations for Practice

For the practitioners in financial counselling and consumer banking, as well as debt advisory services, the implications are that their risk assessment models should be modified to account for the non-linear response under the conditions of Knightian uncertainty. The classical techniques for credit scoring and financial counseling are based on historical default rates and

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fixed debt-to-income ratios, which are non-responsive to the sudden economic uncertainty, which might trigger acute precautionary retrenchment (Mao et al., 2023; Tamegawa, 2011). Financial advisors and consumer lenders need to adopt dynamic stress-testing framework to model unquantifiable macroeconomic shocks and liquidity constraints (Zhan et al., 2026). If scenario-based stress testing were to be part of the financial planning process, it may be possible for practitioners to assist households in creating individual precautionary liquidity buffers before they hit the tipping points of their own debt-servicing stress.

Secondly, private lenders and community financial services should make debt restructure procedures flexible beforehand to lessen default risks at the systemic level in periods of high EPUs. To avoid delaying default events, institutions should implement early-warning systems that can detect borrowers who are highly leveraged and have limited liquidity when EPUs rise in general (Jin et al., 2022; Zhang & Ling, 2024). The practitioners can do this by providing the mortgage forbearance, automatic principal deferral or variable mortgage rates based on regional economic conditions in a state contingent basis. This proactive measure can prevent a domino effect of the balance-sheet issues of individuals to mass delinquency among individual consumers thus preserving the quality of institutions' assets and, at the same time, improve the financial resilience of individual consumers' saving and consumption units (Alpanda & Zubairy, 2017).

Recommendations for Policy or Organizational Use

The expectations of macroeconomic policy need to be anchored and grounded, shifting the paradigm from static, discretionary policies and interventions to dynamic, rule-based policies and interventions by central banks, fiscal authorities and the financial regulatory bodies. When circumstances are highly uncertain, governments can run a risk of a sharp increase in the adverse impact of household debt because of a lack of state-contingent automatic stabilizers in their national fiscal frameworks (Bianchi and Menegatti, 2012; Corsetti & Maeng, 2024). These mechanisms should involve pre-legislated fiscal transfers, short-term work compensation schemes that automatically activate when there is a new policy uncertainty and a measure of household debt overhang, and targeted mortgage support. Clear and credible fiscal rules remove policy-induced uncertainty, build consumer confidence and limit contractionary precautionary saving (Jin et al., 2022, Zurita, 2024).

The regulatory authorities in this context should run effective multi-instrument policy coordination mechanisms, combining fiscal, monetary and macroprudential policies. To leverage the countercyclical buffer requirements, alongside dynamic LTV and DTI caps, which automatically get tighter in times of credit boom and looser in uncertain economic slowdowns (Alpanda & Zubairy, 2017; Mendicino & Punzi, 2014). This macroprudential room for manoeuvre should also be aligned with the stance of monetary policy and flexible dynamic fiscal transfers to not put vulnerable households at a disadvantage when it comes to access to liquidity in a crisis. If the policy coordination committees are established, they can help coordinate policies and ensure policy smoothness and stability of the system in the face of unexpected global events.

Future Research Directions

Moving forward, it is important to explore the potential application of Knightian uncertainty in quantitative macroeconomic models of household behaviour. The standard DSGE and agent-

based models are overwhelmingly characterized by a well-defined, parametric description of probability distributions, which lack the ambiguity aversion found in the real world, and which are modeled instead by economic shocks (Mao et al., 2023; Tamegawa, 2011). The researchers should develop non-linear models of the behavior which would reflect the ambiguity-averse decision making and the heterogenous structure of household balance sheets. Understanding the interaction of non-quantifiable risks with different levels of mortgage and consumer leverage will help to estimate fiscal multipliers in different business cycle periods (Zurita, 2024).

The methodological contribution to future research will be the fine-grained and high frequency micro data that will allow for an evaluation of the differential effects of dynamic fiscal policies on different socio-economic groups. The current empirical literature is still predominantly focused on macroeconomic variables in high-income and advanced economies, and there is a relative lack of focus on emerging market economies and the poorest groups (Zhan et al., 2026; Zhang & Ling, 2024). Empirical researchers should concentrate on cross-country comparative studies of the effects of various institutional structures, informal credit arrangements and social protection schemes on the process of household debt reduction in an EPU. This evidence-based inquiry will be crucial to the development of fiscal instruments that are resilient and set against the backdrop of a changing economic landscape and are context specific.

Conclusion

This narrative review combines the intricate relationship between household indebtedness, Knightian uncertainty and dynamic fiscal policy to provide a unified framework for analyzing macroeconomic stability in uncertain times. The key findings indicate that high household leverage has a magnifying effect during a downswing of the business cycle as it induces balance-sheet constraint and precipitates significant precautionary spending cuts (Alpanda & Zubairy, 2017; Zurita, 2024). In the Knightian uncertainty regime, monetary and static fiscal policies lose their efficacy as households have a preference for holding money instead of making big investments or expenditures (Tamegawa, 2011; Mao et al., 2023). The central argument of the review is that these vulnerabilities on the balance sheets need to be addressed by a change in the thinking about more flexible and state-contingent fiscal policies, which would be automatically triggered during a crisis, and an effective coordination of monetary and macroprudential policies (Bianchi & Menegatti, 2012; Mendicino & Punzi, 2014). Maintaining the household resilience and promoting macroeconomic stability for the long term will be crucial to embed the adaptive fiscal rules in integrated stabilisation regimes to address the increasing structural shocks to the world's economies.

Limitations

This review offers conceptual integration, but its results should be seen in the context of the methodological and scope limitations of the review. The literature was limited to Scopus, a database which covers a wide range of peer reviewed articles but may not include all articles in the Web of Science or PubMed (Burnham, 2006). Second, the time frame (2010-2026) is subjective because it focuses more on the literature that has emerged after the GFC as there may be events in the past that are not included. Thirdly, the literature examined is clearly sectoral in nature, with more quantitative research conducted in countries with well-established financial markets in the advanced economies. The results might not be directly applicable to emerging and developing economies characterized by limited fiscal space and informal credit

networks (Zhan et al., 2026). Fourth, the concepts are similar in different periods, e.g., fiscal rules are similar to dynamic fiscal policy during the 2000s, and adaptive stabilization to in today's periods, so that classification and comparison can be difficult. Last, because it is a purposive selection and interpretive synthesis narrative review (Baumeister & Leary, 1997; Ferrari, 2015), the conclusions might be prone to selection bias in relation to systematic reviews based on strict algorithmic guidelines.

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