Income Risk Perceptions: Measures, Patterns, Determinants, and Implications

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Abstract

This paper surveys the literature on perceptions of income risks.

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1 Introduction

The theme of the paper is that understanding how individuals perceive income and unemployment risks is crucial for macroeconomic analysis. These perceptions significantly influence economic decisions such as consumption, savings, labor supply, and investment behavior. While traditional economic models often assume full insurance of income risks and rational expectations, empirical evidence suggests that income risks are at most partially insured, and subjective beliefs about income risks can deviate from objective probabilities. Furthermore, even if the perceptions are subjective, they are shown to be linked to actual outcomes and economic decisions. Incorporating these perceptions into macroeconomic models enhances our comprehension of household financial planning and aggregate economic outcomes.

In this article, I will be primarily addressing four topics.

1. Why do we need to study perceptions of income risk?

The study of income risk perceptions is vital for both economic theory and policy. Individual assessments of income and unemployment risks drive precautionary savings, consumption smoothing, job searching, and portfolio choices. Understanding these perceptions provides insights into economic behavior that standard models may overlook, offering a more nuanced view of economic dynamics and informing more effective policy interventions.

2. Measures of perceptions of income risk

Accurately measuring perceptions of income risk poses a significant challenge. Traditionally, economists indirectly inferred these perceptions from observable earning and job transition data or behaviors like consumption patterns. However, such indirect methods have limitations, as they often fail to capture the subjective nature of risk assessment as well as the underlying heterogeneity. This paper discusses these limitations and explores alternative methods, including direct survey data and experimental approaches, to achieve more accurate measurements.

3. Patterns and determinants of perceived income and unemployment risk

Empirical research reveals diverse patterns in how individuals perceive income and unemployment risks. These perceptions are shaped by various factors, including demographic characteristics, personal experiences, macroeconomic conditions, and psychological biases. This section delves into these determinants, offering theoretical perspectives on how individuals form their risk perceptions, influenced by cognitive biases, informational frictions, and social contexts.

4. Macroeconomic implications of income risk perceptions

Incorporating income risk perceptions into macroeconomic models yields valuable insights into economic behavior. Subjective risk assessments affect consumption choices, precautionary savings, and labor supply, thereby influencing broader economic dynamics. This paper discusses

how these perceptions can refine macroeconomic modeling, enhancing predictions and informing policies such as unemployment insurance, social safety nets, and fiscal measures.

By bridging the gap between subjective risk perceptions and macroeconomic outcomes, this paper contributes to a more comprehensive understanding of economic decision-making. The findings underscore the importance of integrating income risk perceptions into economic analysis, with significant implications for policy design and economic forecasting.

2 Why Income Risk Perceptions?

2.1 The importance of (idiosyncratic) income risks (not perceptions)

This is the first part of the discussion on income risk perceptions, where I will focus on the economic rationale for studying income risk perceptions. I will divide the discussion into two parts: the first is from a microeconomic point of view, and the second is from a macroeconomic point of view. Before the discussion of risk perceptions, let's first talk about the importance of income risks.

Microeconomic decisions. From a microeconomic perspective, economic decisions such as consumption, saving, portfolio choice, and job search, among many others, always involve intertemporal choices based on expected utility maximization.

Take consumption-saving as the classic example. For a long time, the consumption-saving problem was treated as a problem not significantly impacted by risk.

When the utility function is quadratic, there is no precautionary saving motive. Under this assumption, income uncertainty—meaning a mean-preserving spread of income in the future period won't change current-period consumption. This is the classic starting point where income risk itself does not matter.

But once we move beyond quadratic and linear utility functions and settle on CRRA (Constant Relative Risk Aversion) or even CARA (Constant Absolute Risk Aversion) utility functions, the precautionary saving motive becomes one of the most important components of consumption-saving problems. Any mean-preserving spread in the income growth rate would imply that consumption will be different from a world where there is no uncertainty. This is famously known as the precautionary saving motive.

The prudence from utility function, i.e. a convex marginal utility, is one source of precautionary motives. The occasionally binding constraint is another. Even when the utility functions are quadratic, where people face hard borrowing constraints, interacting with income risk still induces precautionary saving motives.

For example, when you cannot afford to pay some bills at some point but you have to, hence you are forced to cut your consumption to zero, and your marginal utility becomes infinity. This creates a terrifying state of the world that people want to avoid. The effort to stay out of such constrained situations is also partially another reason for the precautionary saving motive.

So either way, risk matters beyond just expected income. This is important to realize because income risk affects all consumption-saving decisions in this way.

Macroeconomic Perspective

What about the macroeconomic point of view? Income risk is not only relevant for microeconomic problems—it also plays an important role in driving macroeconomic dynamics, as research over recent decades has shown.

A key point here is that idiosyncratic income risk—meaning risk that affects individuals but not others—still matters for macro models.

For example, consider the chance of losing or finding a job, or the probability of experiencing income growth or decline that is not common to everyone but specific to an individual. Even though these risks are idiosyncratic, their size still matters for macroeconomic behavior.

Income Risk and Recessions

During recessions, income risk could increase simply because people collectively perceive their own income risk to be rising. Because of the precautionary saving response, aggregate consumption declines, which has important aggregate demand implications.

However, it is not always the case that macroeconomists recognize this as an important transmission channel, nor have they always built models where these effects are explicitly considered.

One reason for this is that early macro models, especially in the representative agent framework, were based on linear approximations. The representative agent assumption, combined with linearization techniques, meant that higher-order moments of income fluctuations (such as risk and uncertainty) were ignored, making them irrelevant for macroeconomic models.

The linearity of these models avoided incorporating second and higher moments of income risk fluctuations, which is a key technical reason why early macroeconomic models did not account for income risk.

But there is something in between. How do economists comfortably assume linearity or work with models that are based on approximations around the steady state, such as log-linearization?

This is because of the complete market assumption in representative agent models. In these models, markets are assumed to be complete, meaning that individuals can fully insure their idiosyncratic risks through different mechanisms.

Thus, even though risks exist and affect everyone, they are perfectly insured ex-ante, so individuals experiencing good shocks and those experiencing bad shocks are irrelevant at the aggregate level. The distribution of these shocks does not change aggregate behavior.

Therefore, macroeconomists could comfortably work with representative agent models, even though, in reality, individuals may experience different shocks.

Under this assumption, these shocks are effectively insured through risk-sharing and pooling mechanisms, meaning they do not translate into real economic constraints for individuals. Since people are already insured against these risks, there is no additional need for self-insurance (precautionary saving), and therefore, these risks do not affect aggregate consumption behavior.

The Role of Idiosyncratic Income Risk in Inequality

Another important aspect is how idiosyncratic income risk drives inequality. Moving from representative agent models to heterogeneous agent models, we must consider the source of income inequality. Inequality in income and wealth could arise from either one of the following.

- Idiosyncratic income risk – meaning that people randomly receive good or bad shocks in the economy, leading to different levels of income and wealth accumulation.

- Ex-ante heterogeneity – meaning that people are inherently different in their endowments or income-generating processes, so they start with different income levels and expectations.

Early heterogeneous agent macro models assumed that idiosyncratic income risk was the primary driver of income inequality. The idea was that people randomly received shocks, and these shocks determined long-term income and wealth accumulation patterns.

However, over time, macroeconomists have gradually reconsidered this assumption. They now appreciate ex-ante heterogeneity—the idea that differences in endowments and wealth accumulation may be more important than uninsured idiosyncratic income risk in explaining inequality.

In any case, assuming that idiosyncratic income risk varies over time and affects different individuals in different ways means that the distribution of income and wealth changes over time. This has macro implications, as these distributional changes can influence aggregate consumption, saving, and investment behavior.

Macroeconomic Policy and Income Risk

Understanding idiosyncratic income risk is important not just because it affects individual decisions but also because it affects how the macroeconomy responds to shocks.

Macroeconomic monetary and fiscal policies affect consumers not just through direct income effects but also through their impact on income risk perceptions.

For example, macroeconomic policies like monetary policy can reduce perceived income risk by making it easier for people to find jobs and less likely for them to lose jobs.

It's not just about the people who actually lose or find jobs—it's also about how people perceive their likelihood of job stability. These perceptions affect everyone's consumption and saving behavior, meaning that monetary policy influences macroeconomic outcomes through its effects on labor income risk.

Therefore, the role of idiosyncratic income risk in macroeconomics extends beyond individual decision-making. It plays a crucial role in shaping aggregate demand, inequality, and policy effectiveness.

Idiosyncratic versus Aggregate Risks. One important distinction worth making is between idiosyncratic income risk and aggregate income risk. Here, I will focus particularly on the importance of idiosyncratic income risk.

It is true that all types of risk matter, not just idiosyncratic income risk but also aggregate risk. The realization that aggregate risk matters is not new. However, in recent literature, there has been an increasing emphasis on the importance of idiosyncratic income risk.

Persistence of Shocks and Risks. Another important discussion concerns the time-series nature of idiosyncratic income risk. Risk is always a future-oriented concept—it always involves timing, persistence, and long-lasting effects. Risk represents uncertainty about a future realization, but once that realization happens, its consequences on an individual's economic situation are equally important.

It is not just about the dispersion of shocks per se, but also how long-lasting they are. I will return to this discussion in the next part of the paper.

2.2   Why perceptions of idiosyncratic income risk?

So far, I have emphasized idiosyncratic income risk and its importance for both macro and micro problems, but I have not yet discussed why it is important to study perceptions of idiosyncratic income risk.

The key idea is illustrated in the diagram Figure 1, where I plot people's perceptions of income risk. The supposedly different objective income risk. I also plot the actual income realizations. As seen in the diagram, the reason perceptions of income risk are particularly important is that, in our model, it is these perceptions—not the true risk—that influence people's decisions.

People make self-insurance decisions, consumption-saving decisions, and precautionary saving behaviors based on their perceived level of risk. However, these perceptions do not necessarily align with the actual degree of risk they face.

Figure 1: Why Perceived Risks?
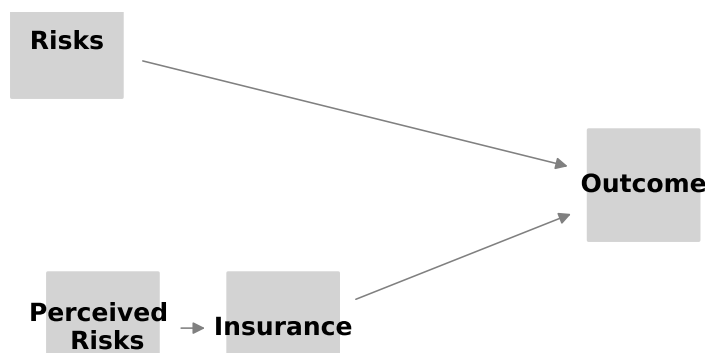
Note: the relationship between the objective and subjective income risks, heterogeneity, and outcome inequality.

Economists have long established that expectations about the future are subjective and may not perfectly reflect reality, assuming we could ever objectively measure the "true" level of income risk.

The core idea here is that perceptions of income risk drive behavior, regardless of whether they are accurate or not. The gap between perceived income risk and actual income risk may introduce a wedge between what people are doing realistically and what they should be doing under some normative economic criteria or the optimal conditions implied by our models.

In any case, since perceptions are subjective, they remain a better predictor of actual behavior than what economists have typically indirectly inferred from observed actions. This is a point I will return to in the second part of the talk, which focuses on measuring income risk perceptions.

**Risk vs. Shock: A Conceptual Distinction**

Another important thing to remember is that risk is always an ex-ante concept. I like to use the metaphor of a dice.

Risk refers to the odds of different outcomes before rolling the dice. A shock refers to the actual outcome of a specific roll of the dice. When you throw a dice ex-ante, you are dealing with risk. Once the dice lands on a particular number, ex-post, you experience a shock.

A shock can be either good or bad, but the distinction between risk and realized shocks is crucial.

Differentiating the risk component from the shock component is also part of my research.

Figure 2: Conventional Inference of Idiosyncratic Income Risks: Illustration
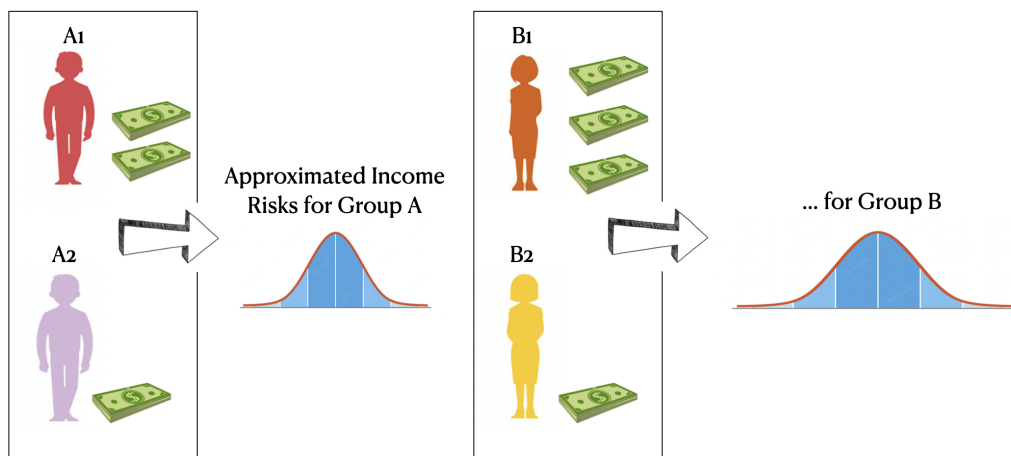
3   Measures of Income Risks and Their Perceptions

In the second part of this discussion, I'd like to talk about the empirical measures of perceptions of income risk.

3.1   Indirect calibration versus direct elicitation

Before directly discussing how perceptions are measured, I'd like to first talk about how economists conventionally infer income risk indirectly and how they often assume that agents' perceptions reflect these inferred risks.

It is important to note that risk is not, by definition, a directly observable object. As I said earlier, the risk is like a dice: what we observe in the real world if anything, is mostly the distribution of different realized shocks or outcomes. We may observe that some people roll two or three on their dice, but it is not obvious how to map these outcomes back to the underlying risk itself.

Because of this, economists have historically relied on indirect inference or estimation techniques to determine the level of income risk, particularly the extent of idiosyncratic income risk.

Potential Mis-specification in Indirect Measures of Income Risk

A common approach in economics is to use cross-sectional panel data on labor income and then attribute the unexplained residuals in income growth or income levels to the distribution or variance of income shocks. Economists can further assume the time-series properties of these shocks, distinguishing those that differ in persistence.

In any case, one crucial assumption when economists try to narrow down these indirectly inferred risks is that they must rely on attribution. They observe income inequality and attempt to attribute a portion of it to income shocks.

Although economists can control for many observable factors in the data, such as demographic characteristics—they can rarely, if not never, exhaust all the information that individuals have in mind when making conditional income forecasts.

This creates a potential misspecification problem. From the individual's point of view, certain income changes are not necessarily perceived as a risk because people may already anticipate them or may have private information that economists do not observe. However, when economists rely on cross-sectional income outcomes to infer risks, they cannot account for all the information people have in mind. Therefore, what economists attribute to "risk" may simply be unexplained income inequality, rather than actual unexpected income shocks. In contrast, individuals may not see these changes as shocks because they were already anticipated.

Why Directly Eliciting Perceptions of Income Risk is Important

Because of these issues, directly eliciting perceptions of risk might be more appealing.

Another reason is that even if the risks economists measure are correctly specified and truly capture the degree of idiosyncratic income risk, it remains an open question whether individuals making consumption and saving decisions actually condition these risks in the way assumed by economic models. This is really about the possible deviation from rational expectations.

As modelers, we typically assume that individuals behave according to a given income risk process and that this process governs the ultimate outcomes in the model.

Thus, if we estimate a model where individuals face a certain degree of income risk, we assume that their decisions—such as consumption and saving behaviors—are driven by the same income risk process that governs income realizations.

In other words, standard models assume that people's perceptions of risk and the actual risks they face are identical.

However, we have gradually realized that there can be a significant gap between the two.

There are several possible reasons for this:

- People may be overconfident about, or more generally, misperceive their future income risks.

- People may subjectively determine the persistence of the experienced shocks.

- People may misattribute the importance of idiosyncratic versus aggregate risks.

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- People may extrapolate from past experience to form their views about future risks, rather than relying on statistical properties of income shocks.

In summary, people's risk perceptions are inherently subjective—they may differ from the actual risks, but they still directly guide their economic behavior.

Measuring Perceptions Directly

Now, let's talk about how to measure perceptions of income risk directly.

For a long time, economists were reluctant to measure subjective perceptions, particularly beliefs about future outcomes. Instead, they relied on strong assumptions about expectations and inferred individuals' beliefs indirectly from observed behavior.

However, due to groundbreaking work by Charles Manski (Dominitz and Manski, 1997; Manski, 2004, 2018), and others in both microeconomics and macroeconomics, researchers have demonstrated that directly measuring expectations is both feasible and invaluable.

This shift in thinking has led to a gradual acceptance of eliciting expectations directly rather than relying on strong assumptions about how individuals form their expectations.

If properly measured, subjective expectations can provide valuable insights into how people make economic decisions.

Using Perceptions to Improve Economic Models

Once subjective risk perceptions are measured and properly assessed, we can use them to:

- Compare traditional methods with direct elicitation.

- Examine whether subjective risk perceptions explain consumption, saving, and labor market behaviors better than indirect measures.

- Calibrate macroeconomic models based on observed heterogeneity in risk perceptions.

This provides an important avenue for improving our understanding of economic behavior and policy design.

3.2 The state-of-art measurements

In this section, I first discuss the existing popular methods of elicit income risk perceptions. Then I discuss the pros and cons of existing methods of eliciting income risks.

Bin-based density forecast

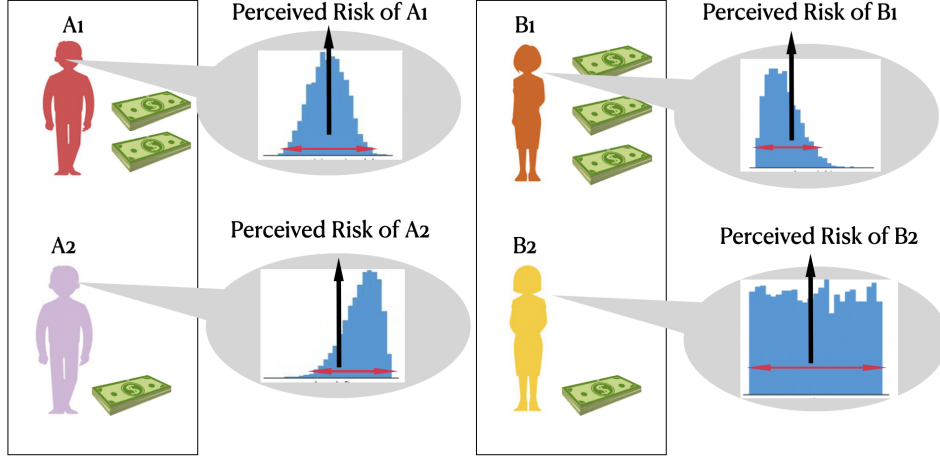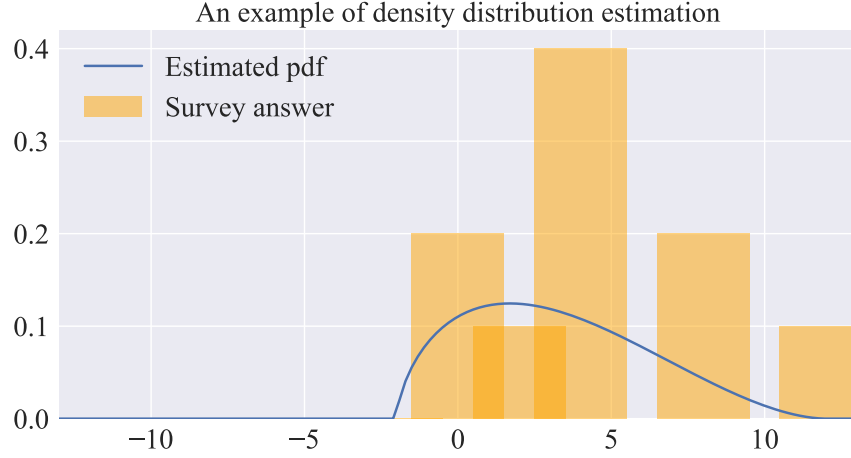Figure 3: Direct Elicitation of Income Risks: An Illustration

Figure 4: Fitting a parametric distribution over bin survey answers

The state-of-art measurements of perceptions of income risks are based on probabilistic and density beliefs elicited by surveys such as the New York Fed's Survey of Consumer Expectations (SCE).

In particular, survey respondents are asked to assign probabilities to various prespecified bins corresponding to different ranges of values of future income changes. (Figure 3)

Practically, the bin-based survey answers are fit with a parametric distribution following the method of Engelberg et al. (2009). (Figure 4)

Because people express their perceived distributions in very different ways, and a single type of distribution may not fit all observed shapes, the estimation assumes various different functional forms for the distributions, including (a) general Beta distribution; (b) triangular distribution; and (c) uniform distribution. Depending on the shapes of the distribution.

Once the type of distribution is determined, the estimation process is essentially a parameterized estimation, which helps generate all the moments of the income distribution in people's minds. (Figure 4)Further analyses are conducted using these moments.

Pros of the Existing Methods

The advantages of this approach include:

- It is easy and flexible.

- It allows economists to define predetermined bins based on the historical range of values of the variable of interest.

- Experimental evidence shows that people are willing and able to assign probabilities meaningfully with careful survey design.

- Survey designs ensure that reported probabilities sum to one, avoiding internal inconsistencies.

Cons of the Existing Methods

However, there are also some limitations:

- The distributions elicited from respondents are ultimately a coarse version of their beliefs.

- There are reasons to believe that respondents may introduce random errors and noise between their true perceptions and their reported answers.

- If we take survey measures too literally, we risk assuming that the reported answers perfectly represent true beliefs that drive economic decisions. This is clearly not always the case.

- Due to the nature of such reported distributions, it is difficult to assume that belief itself is merely a true belief with classical measurement error. Instead, the data-generating process of beliefs and the reporting mechanism must be consistent with the economic data of interest.

Alternative Approaches to Improve Measurement

Some studies have explored ways to improve these measurements:

- Some researchers propose treating respondents' answering patterns across different survey questions as indicative of their unobservable reporting behaviors.(Manski and Molinari, 2010)

- In my work, I have explored linking answering patterns to subjective uncertainty by directly asking respondents how difficult they find it to predict such questions.

Interquartile Range (IQR) as an Alternative Measure

Another common approach in the literature is to focus on interquartile range values rather than taking variance, skewness, or kurtosis too seriously.

- This approach is less susceptible to measurement errors.

- It still captures meaningful variation across individuals and over time in how people perceive risks.

However, a key challenge is that interquartile ranges cannot be directly mapped to standard moments or parameterizations used in typical economic models. A transformation is always needed to ensure consistency between survey responses and model estimates.

Innovations in Elicitation Methods

There have also been several innovations in eliciting beliefs:

- Instead of asking respondents to assign probabilities to predetermined bins, some methods ask respondents to provide:

  - Minimum, maximum, and middle point values first.
  - Then, they are asked to assign probability mass to different ranges.

- Another approach allows respondents to gradually refine their responses using a sliding mechanism:

  - Respondents choose the middle point between two previously selected values.
  - This process continues iteratively until a final distribution is determined.

- Technological innovations have explored:

  - Whether respondents should input numerical values directly.
  - Whether sliders should be used for reporting.

These different techniques have interesting implications for how subjective beliefs are measured and how they should be interpreted in economic models.

3.3 Other measures of risk perceptions

There are other measures that, in some sense, predate the current state-of-the-art methods based on density forecasts. These measures have existed for a long time but have not been, in my opinion, sufficiently appreciated and widely used for macroeconomic analysis.

Examples of Binary Probability Questions

For example, many surveys directly elicit probabilities of a binary event corresponding to a given direction of change of a macroeconomic variable. One classic example is asking respondents about the likelihood that their income will go up or down. The Michigan Survey of Consumers has asked such questions for a long time.

Another example is about aggregate economic conditions or risks, such as the "percent chance of the nationwide unemployment rate going up in future", also follows a similar format.

Additionally, questions that do not explicitly involve income but are still structured in a probability-based format include: stock market expectations, retirement expectations, and personal finance situations.

Some questions are also inclination-based, where respondents express their probability or propensity for taking certain actions, such as: quitting their current job, moving to a new place, or selling a house.

These questions involve more than just perceptions of exogenous changes in life—they also reflect, in part, choices that people make on their own.

Use of Probability Questions in Economic Research

These types of questions have long been used in microeconomic studies, particularly in research on retirement planning.(Hurd, 2009; Kézdi and Shapiro, 2023)

However, in my opinion, they are perceived as less useful in macroeconomic analysis because:

- They do not directly map to quantitative values that macroeconomic models typically rely on.

- They are often seen as categorical rather than numerical, making it difficult to perform quantitative analysis on their forecasting accuracy and patterns.

As a result, less research has been conducted on these questions, despite their potential value.

Categorical Survey Questions

Another type of question that remains underused and underappreciated is binary or discrete/categorical answers when the respondents report beliefs.

Instead of being asked to provide probabilities, respondents are asked to categorize the direction of change in their personal financial situation, choosing from responses among "significantly improve", "improve", " no change", "decrease", "significantly decrease", etc.

For a long time, economists have perceived these questions as having limited usefulness for macroeconomic modeling and quantitative analysis.

Potential Benefits of Discrete Expectations in Models

However, I believe that this type of information is rich and valuable for macroeconomic models. In our quantitative models, we always need to quantify and discretize even continuous state variables and future events. Therefore, using probabilities and quantitative responses as discretized versions of a continuous reality in people's minds.

Arguably, these survey-based responses provide a more realistic representation of expectations than traditional probability measures.

Instead of mapping these discretized perceptions onto continuous numerical values before translating them back into a discretized model, I personally believe it would be more natural to directly integrate these discrete expectations into the model space. This approach could potentially improve model explanations of many observed behaviors.

3.4 The importance of such measures

Having discussed the empirical measures of income risk perceptions, a natural question arises: Why do we even care about them? Do they really help explain human behavior?

Existing Evidence on the Importance of Perceived Income Risk

There was older evidence suggesting that the answer was yes.(Guiso et al., 1992).

More recent evidence, relying on better data and more micro-level evidence, also confirms a solid yes.

We are familiar with the recent literature emphasizing that people's expectations contain a lot of noise and expectational errors. However, despite this subjectivity, it turns out that when it comes to personal income and financial situations, people's expectations—although still subjective and imperfect—are strongly linked to their economic behaviors.

Surprisingly, this link is quite consistent with theoretical models.

Link Between Perceived Income Risk and Consumption Behavior

In my work(Wang, 2023), I primarily focus on the relationship between perceived income risk and consumption behavior.

What I find particularly striking and interesting—using both U.S. and Canadian data—is that:

- Expected consumption growth is positively correlated with expected income growth.

- Expected consumption growth is also related to perceived income risk, measured in different ways.

Table 1: Perceived income risks and the household spending plan from (Wang, 2023)

	(1)	(2)	(3)	(4)	(5)
Expected wage growth	0.324***	0.306***	0.254***	0.243***	
	(0.0825)	(0.0828)	(0.0334)	(0.0334)	
Perceived wage risk	6.127***	6.185***	2.096***	1.711***	
	(1.163)	(1.165)	(0.439)	(0.442)	
Perceived UE risk next 4m					0.353***
					(0.0553)
R-squared	0.000939	0.00318	0.953	0.953	0.633
Sample Size	56046	56046	56046	56046	6269
Time FE	No	Yes	No	Yes	Yes
Individual FE	No	No	Yes	Yes	Yes

Regression results of expected spending growth on perceived income risks. Standard errors are clustered by household. *** $p<0.001$, ** $p<0.01$ and * $p<0.05$.

This result is a classical implication of the precautionary saving motive. The precautionary saving motive explicitly predicts that expected consumption growth should be *positively* correlated with income risk.

- A higher perceived income risk today reduces current consumption relative to future consumption.

- This results in lower current consumption and higher expected future consumption growth.

- The model has always predicted this behavior, but it has rarely been directly confirmed with micro-level evidence where ex-ante behaviors and expectations are elicited.

Factors beyond Expectations

Of course, this does not mean that perceptions alone perfectly explain all variations in economic outcomes and behaviors such as consumption saving.

There is a difference between:

- The patterns of observed behaviors that can be explained by expectations regardless of their subjectivity

- versus the role of other factors, such as heterogeneity in preferences, that also influence behaviors and macroeconomic dynamics, conditional on such expectations.

Taking Stock

The key point is that once we have direct information on expectations, even though they are subjective, they provide:

- Additional and more direct covariates of economic behavior.

- A more informative alternative to indirectly assuming what expectations should be.

Thus, measuring subjective expectations helps improve our understanding of individual decision-making and macro-level economic dynamics.

4 Patterns and Determinants of Perception of Income Risks

4.1 Heterogeneity in perceptions

Now, we move on to the third part of the talk, which discusses the patterns of perceptions of income risk.

Macroeconomists have conducted extensive research over the past three decades on expectations about inflation. For example, inflation is one of the most important macroeconomic variables, and managing inflation through expectations is a crucial mechanism for central banks.

Therefore, understanding patterns of macro variables, such as inflation expectations, is of first-order importance. However, I argue that there is much more work to be done in understanding the patterns of income expectations and other key variables that are more directly relevant to individual households.

Income is obviously one such variable, and income risk is naturally a candidate for deeper study.

So far, there has been relatively less work on the patterns of income risk perceptions. My work contributes to this literature, and I will again split the discussion into: micro-level patterns of income risk perceptions, and macro-level patterns of income risk perceptions.

Micro-Level Patterns of Income Risk Perceptions

The micro-level perspective focuses on understanding what drives heterogeneity in income risk perceptions.

Typically, indirect measures of income risk inferred from panel data require grouping people based on demographic variables and assuming they face homogeneous income risks.

By assumption, this limits our ability to explore the heterogeneity in income risks that individuals perceive.

Of course, richer micro datasets such as Guvenen et al. (2021) have shed light on how income risks can be:

- Income-dependent and state-dependent

- Non-Gaussian, exhibiting non-zero skewness.

These insights are especially evident in administrative data.

However, I argue that whether such outcomes truly reflect people's perceptions of income risk remains an open question.

Key Findings on Heterogeneity in Income Risk Perceptions

A key finding in my work is that income risk perceptions are widely heterogeneous.

As Wang (2023) argues, the heterogeneity in these perceptions is far greater than what can be explained by a few observable factors.

Economists typically categorize individuals based on education, gender, and age, assuming that these variables capture meaningful differences in risk perception. However, my research suggests that: even within these demographic groups, individuals differ not only in their income growth expectations but also in their perceived income risk.

- **Females** tend to perceive income risks as **higher**.

- **Younger individuals** also perceive income risks as **higher**.

- **Self-employed workers** report higher perceived risks than those workers employed by others.

These patterns are intuitive and may reflect actual differences in income risk exposure across groups.

The Role of Subjectivity in Risk Perceptions

However, subjectivity also plays a role. Beyond observable demographic factors, I find that individuals' perceptions of income risk are shaped by:

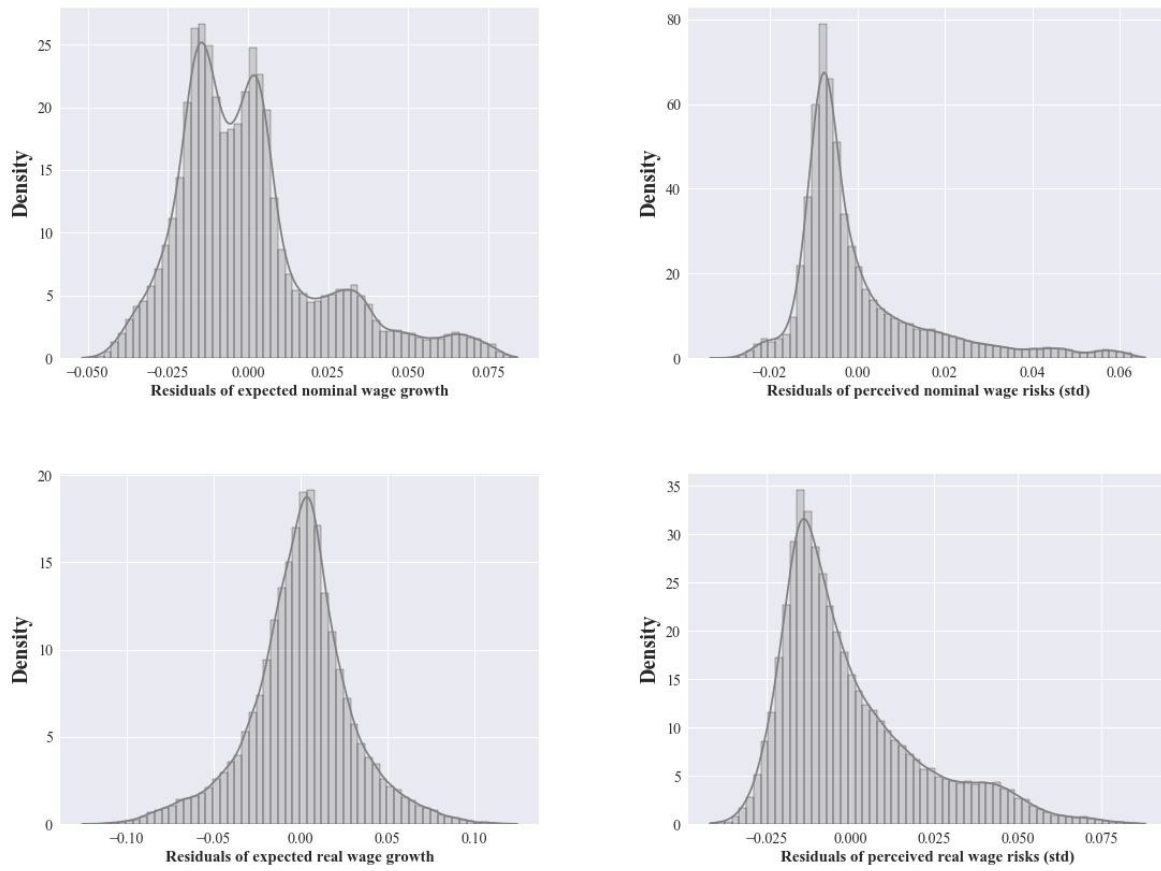Figure 5: Heterogeneity of Different Moments in Wage Growth Expectations

Table 2: Covariants of Perceived Wage Risks

	(1)	(2)	(3)	(4)	(5)	(6)
IdExpVol	4.58***	2.23***	2.69***	2.75***	2.95***	2.94***
	(0.33)	(0.36)	(0.39)	(0.39)	(0.38)	(0.39)
AgExpVol	0.04	0.28***	0.34***	0.32***	0.18***	0.20***
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
AgExpUE	0.14***	0.08***	0.05**	0.05*	0.04*	0.05**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age		-0.02***	-0.02***	-0.02***	-0.02***	-0.02***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
gender=male			-0.36***	-0.35***	-0.32***	-0.30***
			(0.02)	(0.02)	(0.02)	(0.02)
nlit_gr=low nlit			0.09***	0.09***	0.10***	0.09***
			(0.02)	(0.02)	(0.02)	(0.02)
parttime=yes					-0.01	-0.02
					(0.02)	(0.02)
selfemp=yes					1.25***	-0.00***
					(0.03)	(0.00)
UEprobAgg						0.02***
						(0.00)
UEprobInd						0.02***
						(0.00)
HHinc_gr=low income					0.16***	0.16***
					(0.02)	(0.02)
educ_gr=high school				-0.10***	-0.13***	-0.09***
				(0.02)	(0.02)	(0.02)
educ_gr=hs dropout				0.08	0.11	0.29***
				(0.11)	(0.11)	(0.11)
N	41422	41422	34833	34833	33480	29687
R2	0.01	0.02	0.04	0.04	0.11	0.06

Standard errors are clustered by household. *** p<0.001, ** p<0.01 and * p<0.05.

Results associated with a regression of logged perceived income risks (incvar) on logged idiosyncratic(IdExpVol), aggregate experienced volatility(AgExpVol), experienced unemployment rate (AgExpUE), and a list of household-specific variables, such as age, income, education, gender, job type, and other economic expectations.

Table 3: Average Perceived Risks and Local Labor Market Conditions

	(1) log perceived risk	(2) log perceived risk	(3) log perceived iqr	(4) log perceived iqr
Wage Growth (Median)	-0.05*** (0.01)		-0.03*** (0.01)	
UE (Median)		0.04* (0.02)		0.04*** (0.01)
Observations	3589	3589	3596	3596
R-squared	0.021	0.019	0.025	0.027

*** p<0.001, ** p<0.01 and * p<0.05.

Regression coefficient of the average perceived income risk of each state at different times on current labor market indicators–i.e., wage growth and the unemployment rate. The monthly state wage series is from the Local Area Unemployment Statistics (LAUS) of BLS. The quarterly state unemployment rate is from the Quarterly Census of Employment and Wage (QCEW) of BLS.

- Local labor market conditions (Figure 3 and Figure 7)

- Personal past income volatility (Figure 6)

- Recent unemployment experience. (Figure 6)

This suggests that when individuals assess their future risks, they heavily rely on their recent experiences. This aligns with experience-based learning mechanisms.

However, what is particularly interesting here is that traditional experience-based learning models focus on the first moment—that is, individuals extrapolate from past mean inflation rates or mean income growth rates.

In contrast, I argue that experience-based learning also applies to the second and higher moments of expectations.

- Individuals who experience bad economic outcomes tend to perceive higher income risk going forward.

- Individuals who experience volatile economic periods perceive greater uncertainty about future income, reinforcing their perception of risk.

This suggests an intersection between the first and second moments in expectation formation:

- People who experience negative economic shocks not only revise their mean expectations downward but also increase their risk perceptions.

- Greater perceived volatility in income risk reinforces precautionary saving behavior.
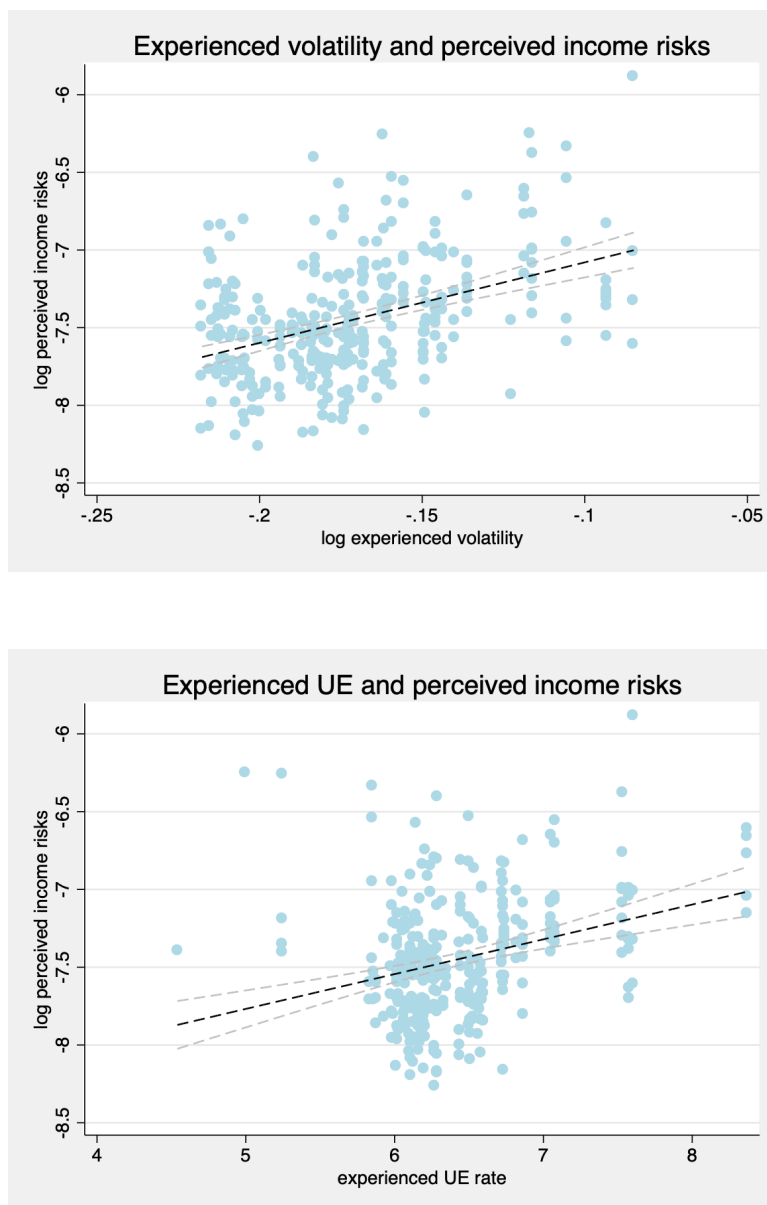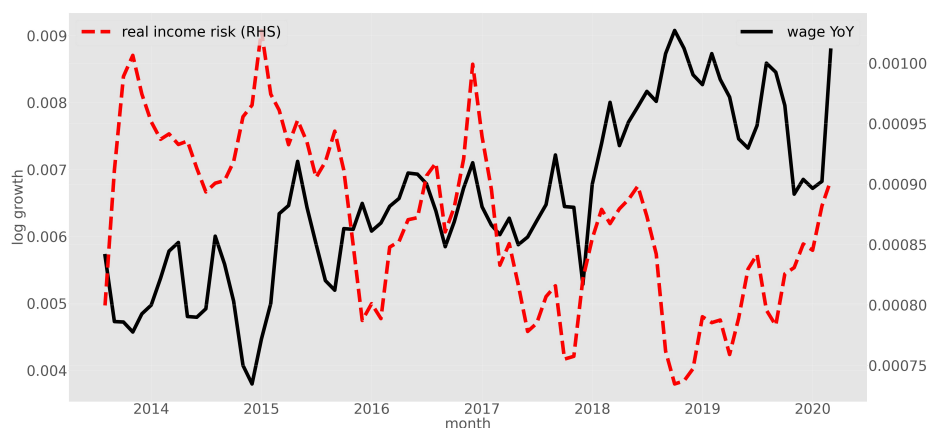
20

Figure 6: Past Experience and Perceived Income Risks

Figure 7: Current Labour Market Conditions and Perceived Wage Risks

Higher-Order Moments of Perceived Income Risk

Beyond variance and dispersion, perceptions of income risk also differ in terms of higher-order moments, such as:

- **Skewness** (asymmetry in expectations). (Figure 8)

- **Kurtosis** (fat-tailed risk perceptions).

I find that individuals widely disagree on the symmetry of wage/income risks.

- Some individuals believe that bad outcomes are more likely than good ones.

- Others have a more symmetrical view of income risk.

Taking stock

This, in my opinion, highlights a fascinating area of research. The patterns of income risk perceptions are not only shaped by demographic factors but also by subjective experiences and higher-order risk beliefs. This calls for richer models of expectation formation that account for:

- **First-moment effects** (mean income expectations).

- **Second-moment effects** (variance and risk perceptions).

- **Higher-moment effects** (asymmetry and extreme event expectations).

Future research should further investigate how these factors interact and influence economic decision-making.

Figure 8: Perceived Skewness in Wage Growth: Wang (2023)
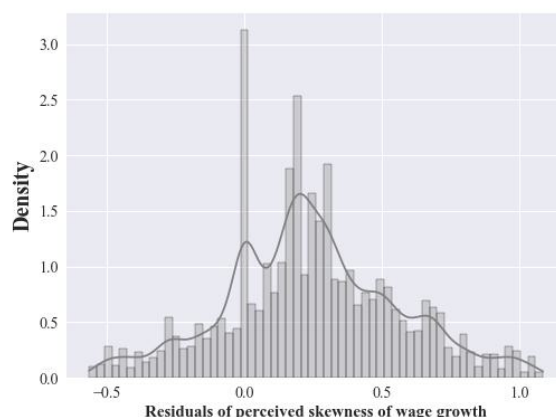
4.2 Comparing perceptions with objective benchmark

One crucial type of empirical evidence is how perceptions of income risk compare to objective benchmarks, or what economists have traditionally inferred as income risk.

Ultimately, idiosyncratic income risk contributes to income inequality, and there must be some kernel of truth that can be verified by comparing people's perceptions to cross-sectional income outcomes.

However, it is often difficult to compare idiosyncratic risks for the same individual to the actual risks they face. This is because the risk is like a dice roll: what we observe at the individual level is, at most, an outcome, not the underlying risk itself. Even at the individual level, we do not directly observe the true probability distribution of future income shocks.

Empirical Findings on Perceived Wage Risk

In Wang (2023) and other contemporaneous studies such as Caplin et al. (2023), we both examine income risk by measuring the conditional variance of people's perceptions of future income changes and inspect how these perceptions compare to indirectly inferred measures of income risk.

A key finding is that perceived income risk is consistently lower than the inferred measures of income risk.

This is an important and interesting result, and different explanations could account for this gap.

In my ongoing work, I measure wage risk conditional on individuals' information sets using:

- Survey data from the New York Fed Consumer Expectations Survey, where individuals

Figure 9: Calibrated versus perceived wage risks from Wang (2023)
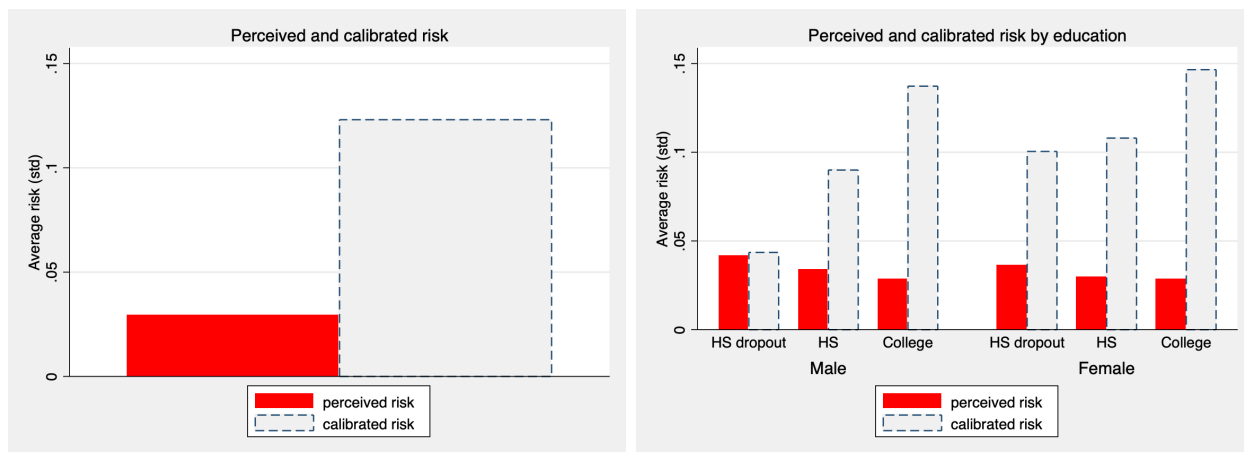
report their perceived wage risk.

- Panel data from the Survey of Income and Program Participation (SIPP), where I focus on individuals who stay in the same job and observe their annual wage growth.

Using the standard econometric approach, I infer the wage risks these SIPP workers face and compare them to the survey-reported perceptions.

I find that although the perceived annual wage risk in the survey is around **3%**, the commonly calibrated wage risk from panel data is at least 10-15%. (Figure 9)

Possible Explanations for the Discrepancy

There are two possible explanations for this discrepancy:

- **Individuals may have private information** that economists do not observe, leading to differences between their conditional perceptions and the inferred risk measures.

- **Individuals may be overconfident**, underestimating their exposure to wage risk.

My ongoing work seeks to disentangle these two possibilities and determine their relative importance.

Perceptions of job risk: probabilities of job loss and job finding

A growing literature examines individuals' perceptions of job risk measured through the perceived probability of job loss, job finding, job-to-job transitions, etc.

Studies using different datasets have found conflicting evidence on how these perceived probabilities compare to objective benchmarks based on observed labor market transitions.

Findings on Job Loss and Job Finding Perceptions

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- **People are over-optimistic about job finding.**

  – Mueller et al. (2021) use advanced survey data and find that individuals, on average, overestimate their likelihood of finding a job compared to realized job-finding probabilities.

  – The bias is particularly large for long-term unemployed individuals.

  – Other studies with similar type of evidence include Arni (2013), Spinnewijn (2015), Conlon et al. (2018)

- **People are overly pessimistic about job separation.**

  – Earlier research such as Stephens Jr (2004) suggests that workers overestimate their likelihood of losing a job. Dickerson and Green (2012), Balleer et al. (2021),

  – On average, individuals report higher probabilities of job separation than observed in labor market data.

Despite such biases, ex-ante perceptions do predict outcomes. See Figure 10. This is consistent with Hendren (2017) and other studies that emphasize "advance information", e.g. the fact that workers do partially anticipate the future job loss.

Understanding Business Cycle Fluctuations in Job Risk Perceptions

Another paper of mine Du et al. (2024) examines the business cycle fluctuations in job risk beliefs.

We construct a long time series of job risk perceptions by:

- Using belief imputation methods to extend historical data.

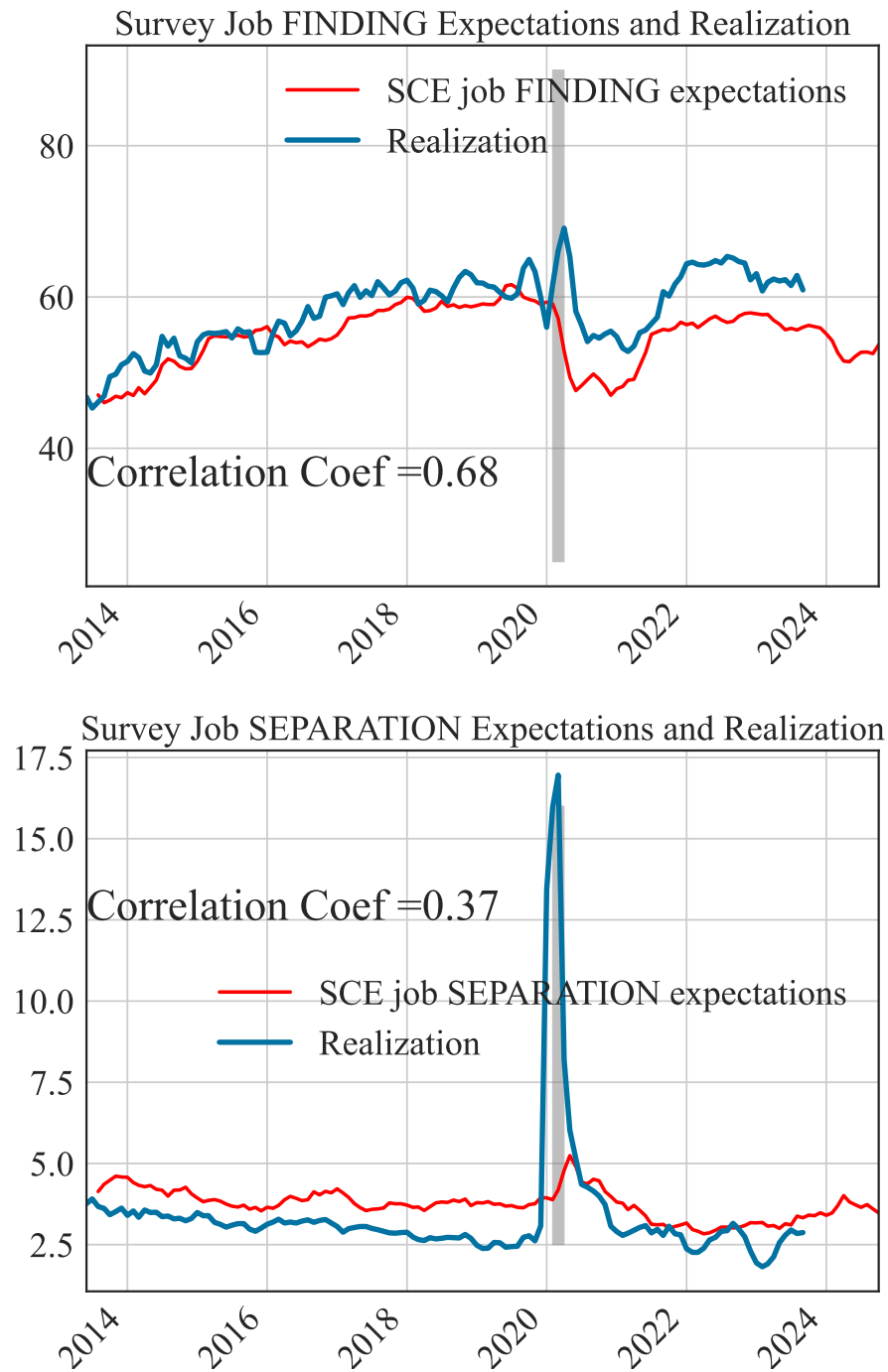- Constructing an objective ex-ante benchmark for job risk using long-run labor market data.

Why an Ex-Ante Benchmark is Important

We also create an objective ex-ante benchmark for job risks.

Comparing ex-ante perceptions to ex-post job market outcomes is problematic because:

- Ex-post job outcomes are affected by unexpected economic shocks.

- Even rational agents cannot perfectly predict future changes in job flows.

Figure 10: Perceived job risks and realized job flow rates: reproduced from Du et al. (2024)

Survey Job FINDING Expectations and Realization

Correlation Coef =0.68

- SCE job FINDING expectations
- Realization

Survey Job SEPARATION Expectations and Realization

Correlation Coef =0.37

- SCE job SEPARATION expectations
- Realization

To address this, I construct a benchmark that accounts for predictable job market fluctuations.

Findings on Job Risk Perceptions Over the Business Cycle

- People exhibit rigidity in belief updating. (Figure 11)

    - During recessions, job separation risk rises, and job finding probabilities decline.
    - However, individuals revise their beliefs more slowly than rational expectations models would predict.

- Despite slow updating, perceptions significantly affect aggregate behavior.

    - Precautionary savings behavior is strongly driven by perceived job risk.
    - These beliefs contribute to fluctuations in aggregate consumption. (See Figure 14)
    - But sticky job beliefs limit the precautionary saving responses compared to the consumption response to the counterfactual objective benchmark. (See Figure 14)

Implications for Welfare and Economic Policy

Although subjective perceptions are not perfectly accurate, they:

- Still significantly shapes economic behaviors.

- Influence business cycle fluctuations.

This has important welfare implications:

- If individuals underestimate job risk, they may save too little.

- If individuals overestimate job risk, they may engage in excessive precautionary saving, leading to larger economic downturns.

Future Directions: Incorporating Firm Expectations and Labor Market Frictions

More work can be done to further explore:

- The role of **firms** in job risk formation.

- How **endogenous labor market frictions** influence expectations and equilibrium job outcomes.

This is a promising field for future research.

Figure 11: Perceived job risks versus its ex-ante objective benchmark: reproduced from Du et al. (2024)

JF Expectations and Machine-Efficient Forecast

JS Expectations and Machine-Efficient Forecast
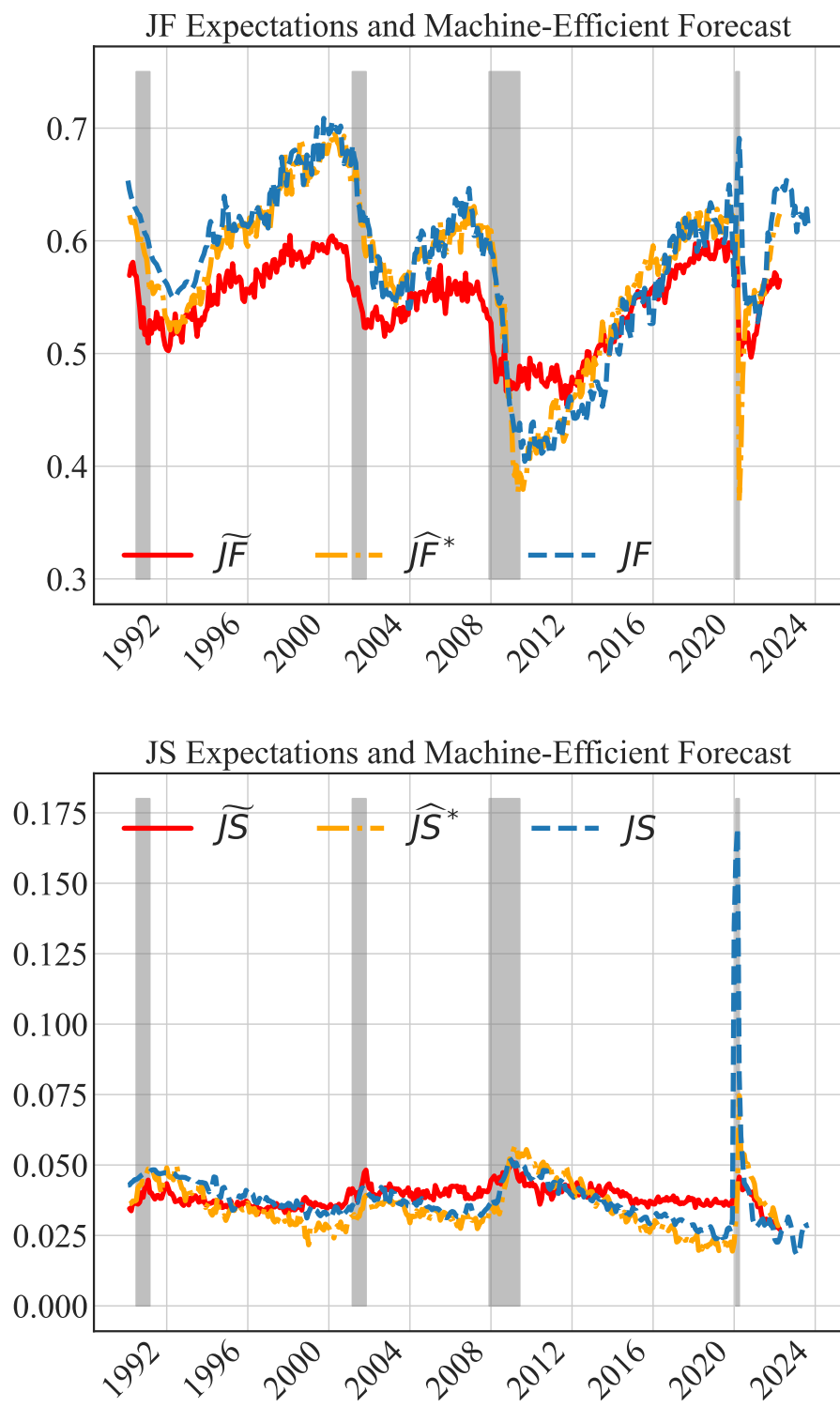
4.3   Other topics

Several lines of research emphasize **different aspects of job risk and income risk**, focusing on:

- **Expectations about outside options**.

- **Job offer arrival rates**.

- **The range of possible wage offers**.

These factors **directly influence job acceptance decisions**.

Expectations About Job Offer Arrival Rates and Wage Ranges

Some research examining the expectations of **college graduates** has found that:

- Individuals do not have **perfect perceptions** about **job offer arrival rates**.

- They also **misestimate the possible range of job offers**.

This **subjectivity** introduces variation in individuals' **reservation wages** and affects their **job search behavior**.

Implications for Job Acceptance Decisions

There is also research suggesting that these **subjective perceptions** of job opportunities can:

- Lead to **different levels of reservation wages**.

- Affect **the duration of unemployment spells**.

- Influence **career trajectories and long-term earnings**.

Future research can further explore how these expectations interact with **labor market policies and job search models**.

Another set of important yet underexplored questions relates to how **income risks or income expectations are correlated with other economic expectations**.

Why This Matters

Risk is always a **conditional concept**—the way **future outcomes** depend on other expectations is crucial for **individual decision-making** and **economic outcomes**.

For example, consider the following scenario:

- If individuals believe that during economic downturns, both their **personal income** and the **stock market** will decline simultaneously, they will be more inclined to **hedge against both risks**.

- However, if individuals assume that **these two risks are uncorrelated**, they might make very different financial and consumption choices, requiring **less hedging**.

Thus, understanding **income risk** is not just about **labor income expectations**—it also involves examining how **income perceptions correlate with other macroeconomic variables**.

Limited Research on Correlated Expectations

Despite the importance of this issue, there is **very little empirical evidence** on how income risk perceptions interact with **other macroeconomic expectations**.

Some recent work suggests that:

- Individuals **perceive inflation and unemployment to be positively correlated**.

- Individuals perceive **inflation expectations and job-finding rate expectations** to be related.

This is an **unexpected finding** because inflation itself may not necessarily **directly impact income levels**, but it could influence **individuals' perceptions of job risk**.

Future Research Directions

These findings suggest that:

- There is a need for **more empirical research** on how individuals form **joint expectations** about labor markets, inflation, and income risk.

- Understanding these relationships could improve models of **expectation formation** and **household financial decision-making**.

This is an area that deserves **more focused research** in the future.

5 Macroeconomic Implications of Perceived Income Risk

We now move on to the fourth part of the talk, which discusses the macro implications of perceived income risks and the usefulness of studying income risk perceptions, especially for the purpose of understanding macroeconomic dynamics.

This is a broad topic, and I will divide the discussion into several subtopics:

1. **Understanding the drivers of inequality**: Why studying income risk perceptions is important for explaining income inequality.

2. **Understanding expectation formation**: How individuals perceive risks and the implications for economic models.

3. **Macroeconomic fluctuations**: The role of **misperceived or subjective perceptions of income risk** in driving aggregate fluctuations.

4. **Policy implications**: How monetary and fiscal policy should be designed considering income risk perceptions.

These aspects collectively highlight why income risk perceptions matter not only at the individual level but also at the macro level, influencing inequality, economic stability, and policy effectiveness.

5.1   Risk perceptions and income inequality

As I have emphasized throughout this talk, perceptions of income risk can be subjective. However, individual expectations contain meaningful information, reflecting people's specific circumstances and understanding of their personal situations.

Conditional forecasts of income, even if subjective, have merit because they incorporate heterogeneous and private information. By admitting such heterogeneity and advanced information, we can better understand how expectations about income and risk perceptions contribute to income dynamics and inequality.

Income Inequality: Heterogeneity vs. Risk

Income inequality ultimately arises from two sources:

1. Anticipated or deterministic heterogeneity: some individuals are inherently endowed with better human capital, better education, and higher ability, leading them to earn higher wages. Others, with fewer advantages, earn less.

2. Idiosyncratic risk: beyond deterministic differences, some individuals become richer or poorer due to luck. Unexpected income shocks—whether positive or negative—can lead to substantial variation in realized income, even among individuals who were ex-ante identical.

If we rely only on realized income data, economists must conduct extensive analysis to disentangle:

- The fraction of income inequality due to deterministic heterogeneity.

- The fraction due to uninsured idiosyncratic income risk.

The Value of Subjective Income Expectations in Studying Inequality

I argue that subjective perceptions of income expectations and risks provide additional, useful information for studying income inequality. Specifically:

- Expectations reveal perceived heterogeneity among individuals.

- Realized income outcomes capture actual inequality.

By comparing these two, we can decompose the role of risk in income inequality more effectively. This approach provides a better empirical measure of true income risk.

Link to the Literature on Measuring Income Risk Only with First Moment

This argument aligns closely with earlier literature that attempted to measure higher moments of income risk relying upon not only realized income outcome but also ex-ante income expectations. (Pistaferri, 2001; Kaufmann and Pistaferri, 2009)

Traditional approaches relied on observed income data without directly measuring individual expectations. However, with data on:

- **Individual income expectations**

- **Realized income outcomes**,

economists can better identify:

- **Shocks that individuals did not foresee**.

- **The true distribution of income risk**.

Decomposing Risk from Expectations and Realizations

An extension of this idea is that it is not only **individual-level expectations** that matter. The **cross-sectional distribution** of expectations across individuals reveals:

- The extent to which **heterogeneity** is reflected in future income circumstances.

- The extent to which unexpected **shocks drive realized income differences**.

By comparing **cross-sectional expectations** and **cross-sectional outcomes**, we can:

- Identify the portion of income variation that is due to **unanticipated shocks**.

- Measure **true job risk** at the individual level.

- Compare **subjective risk perceptions** with **objectively estimated risks** to assess their alignment.

Implications for Measuring the Income Process

This allows for better estimation of income processes, capturing both:

- **Shocks**

- **Risk perceptions**

Thus, my broader argument is that measuring income risk and expectations is valuable, even for understanding the income process itself.

Without relying on expectations data, economists must make stronger assumptions about income processes, estimating them purely from realized income data.

5.2 Macro implications of (mis)perceptions of risks

In this section, I explore the macro implications of misperceptions of unemployment and income risk.

I discuss two key applications based on two research projects Wang (2023) and Du et al. (2024).

1. **Steady-state comparisons**: How perceived job risk is lower than traditionally calibrated models suggest, and how this affects predictions about the level and heterogeneity in liquid wealth accumulation in standard heterogeneous agent macro models a la Huggett (1993); Carroll and Samwick (1997); Krusell and Smith (1998), etc.

2. **Business cycle fluctuations**: How the non-comovement between risk perceptions and true job risks leads to a different degree of precautionary saving behaviors than rational benchmarks predict.

Despite the predictive power of perceived risk in explaining individual behaviors, we find that subjective perceptions and true risk benchmarks do not often align.

This has **normative implications**:

- Due to misperceptions and subjectivity, individuals may underinsure themselves, leaving them more vulnerable when negative income shocks occur.

- This leads to larger ex-post adjustments in consumption and financial behavior than would be necessary if individuals correctly perceived risks ex-ante.

- Self-insurance behavior is directly influenced by how individuals perceive risk, affecting aggregate economic outcomes.

Application 1: Micro Heterogeneity and Steady-State Implications

In Wang (2023), I focus on the micro heterogeneity in risk perception and its steady-state implications.

To study this, I take a standard heterogeneous agent macro model.

- Keep all key parameters and structures unchanged.

- Modify only one key assumption: individuals perceive **wage risk conditional on unemployment** to be **lower than traditional calibrations**.

- Meanwhile, I allow differences in **wage growth rates** to be more **ex-ante heterogeneous** rather than standard calibration.

Key Findings from the Model (Figure 13 and Figure 12):

- Since **perceived income risk is lower**, the **precautionary saving motive is weaker** than in conventional models. (Figure 13)

- More individuals **live closer to borrowing constraints** compared to the benchmark model. (Figure 13)

- Because **income growth rate heterogeneity is incorporated**, the model predicts **higher wealth inequality**—closer to empirical data. (Figure 12)

This adjustment helps reconcile gaps between model predictions and real-world data, particularly in explaining wealth accumulation patterns and the fraction of households found to be close to borrowing constraints.

Application 2: Business Cycle Fluctuations in Job Risk Perceptions

For the second application, Du et al. (2024) examines how job risk perceptions fluctuate over the business cycle and their impacts on aggregate consumption fluctuations.

Figure 12: Implications of Heterogeneous Income Risk Perceptions: an Illustration
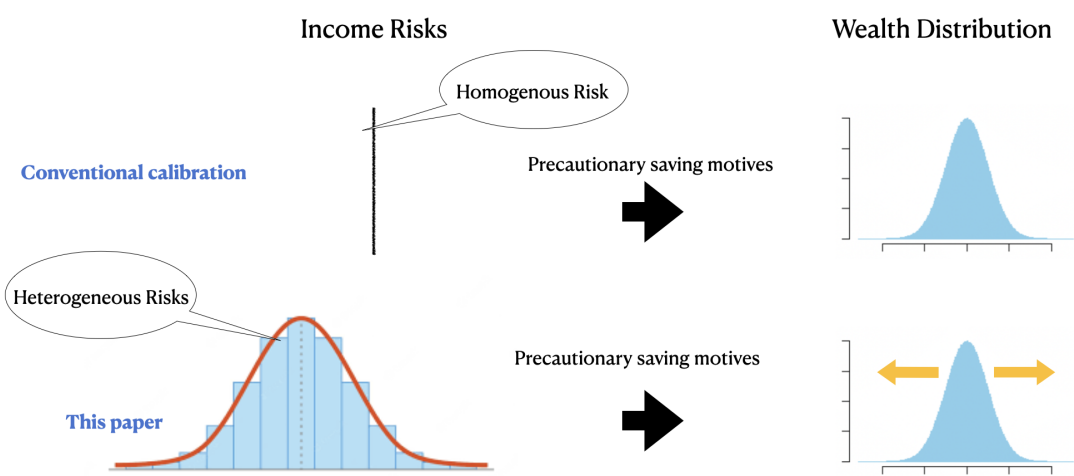

Figure 13: Implications of Lower Perceptions of Income Risks: an Illustration
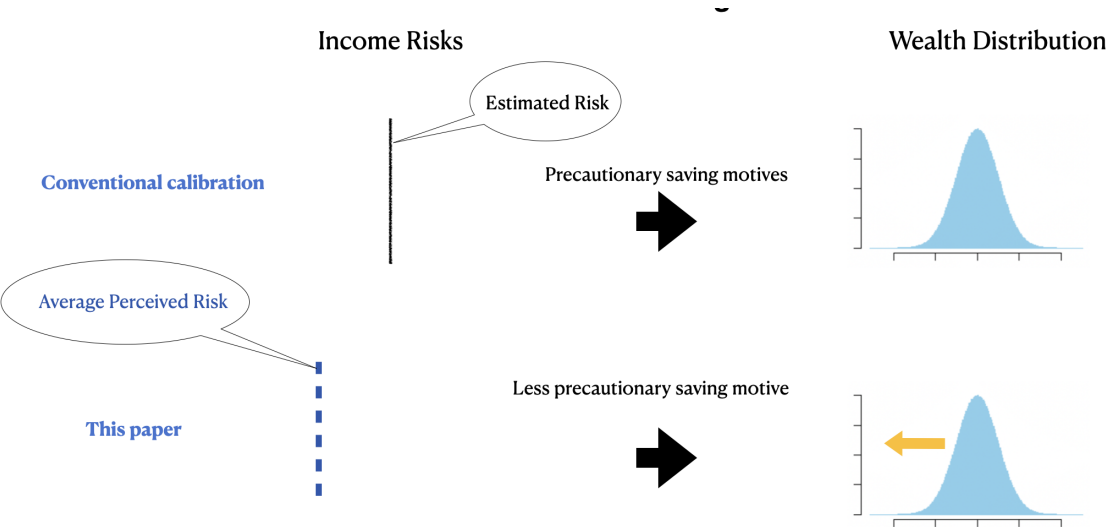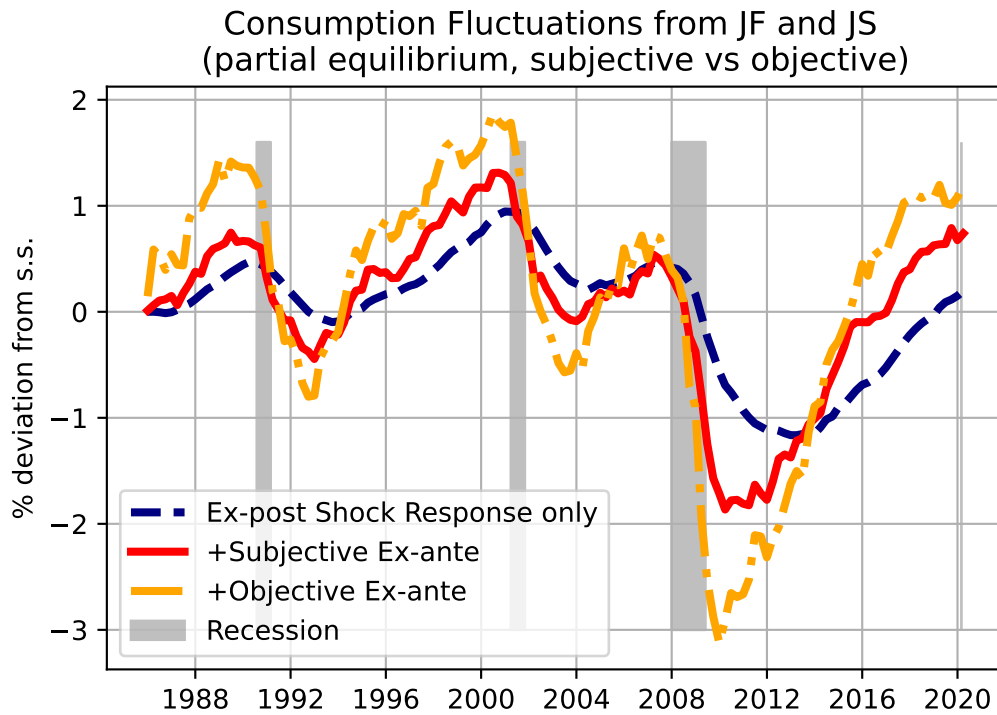
Figure 14: Aggregate consumption response to unemployment risk and shocks: reproduced from Du et al. (2024)

Consumption Fluctuations from JF and JS
(partial equilibrium, subjective vs objective)

- We analyze how **precautionary saving motives** change when individuals' **job risk percep-tions**—rather than realized job losses—drive consumption behavior.

- We calibrate perceptions separately from **actual job loss and finding rates**.

- We also construct a **counterfactual benchmark** based on **rational ex-ante job risk**.

Key Findings from the Model (Figure 14)

- Individuals cut their spending significantly in response to rising perceived job risk, con-tributing to aggregate consumption drops in recessions. (Figure 14)

- During the Great Recession in 2008, individuals' perceived job risk implied an aggregate consumption drop of 3% at its trough. (Figure 14)

- This accounts for about one-third of the total observed decline in aggregate consumption during that period. (Figure 14)

The Role of Sticky Perceptions in Recessions

Another key finding is that job risk perceptions exhibit stickiness, meaning: (Figure 14)

- Some individuals fail to fully incorporate predictable job risks ex-ante.

- As a result, their consumption response is weaker than what would occur under a fully rational expectations model.

- This suggests that persistent low demand during and after recessions is partially driven by insufficient ex-ante preparation for job risks.

Heterogeneous Job Risks and Perceptions

We also show the importance of heterogeneous job risk perceptions relative to their group-specific objective benchmarks. (See Figure 15) We found

- Low-education workers, supposedly the most exposed to cyclical job risks, are particularly underreactive in their perceptions, therefore, underprepared for the recessions.

- This leads to a larger wedge between precautionary responses due to their job risk perceptions and the counterfactual optimal counterpart.

Comparing the Great Recession (2008) to the COVID-19 Recession

The model also helps explain why the COVID-19 recession was so different from the Great Recession:
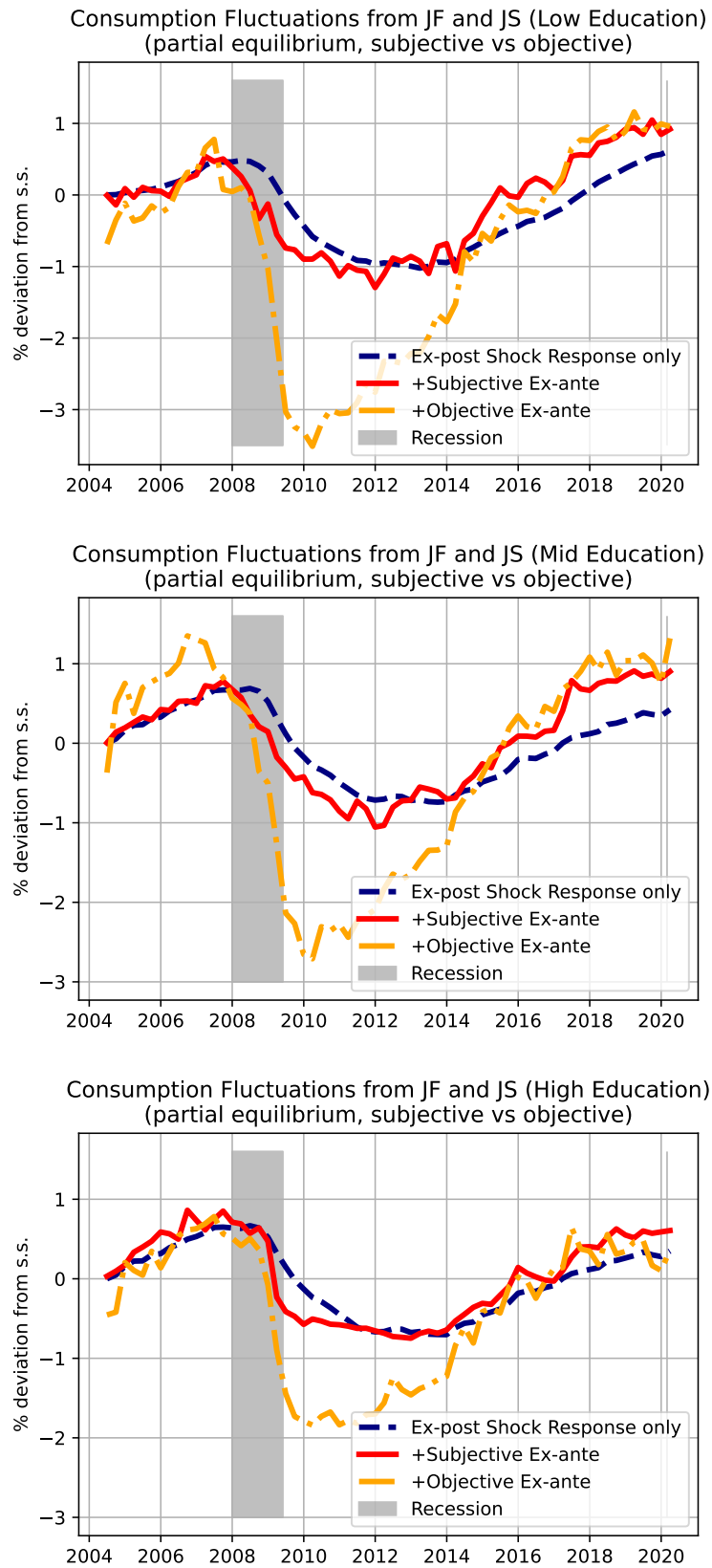
- In 2020, there was an immediate sharp rise in job loss rate, but most job losses were temporary, and many workers were rehired within months.

- Since these job risks were unexpected ex-ante but resolved quickly, there was little precautionary saving response.

- This explains why the consumption recovery in 2020 was swift and strong, unlike the prolonged recovery in 2008.

Taking Stock

My research highlights the critical role of income and job risk perceptions in macroeconomic outcomes.

- **At the steady state**: Differences in perceived risk drive disparities in precautionary saving, borrowing constraints, and wealth inequality.

- **Over the business cycle**: Fluctuations in job risk perceptions influence aggregate demand, explaining why recessions persist longer than standard models predict.

Figure 15: Aggregate consumption response to unemployment risk and shocks BY EDUCA-TION: reproduced from Du et al. (2024)

Consumption Fluctuations from JF and JS (Low Education)
(partial equilibrium, subjective vs objective)

Consumption Fluctuations from JF and JS (Mid Education)
(partial equilibrium, subjective vs objective)

Consumption Fluctuations from JF and JS (High Education)
(partial equilibrium, subjective vs objective)

- Sticky perceptions exacerbate downturns by causing insufficient ex-ante preparation for job losses.

Understanding these subjective perceptions helps refine macroeconomic models, improve policy responses, and better anticipate how households react to labor market shocks.

5.3 Macroeconomic policy and income risk perceptions

It is important to differentiate between **perceptions that induce precautionary behaviors, self-insurance, and extensive responses** from those that are **entirely driven by anticipated heterogeneity**.

Why This Distinction Matters

- Individuals take **extra caution and engage in self-insurance** when they perceive **risk**.

- If income differences are purely **anticipated heterogeneity**, they **do not involve insurance behavior**.

This distinction is critical because **macroeconomic fluctuations are not solely driven by expected changes in income**. Instead, fluctuations arise because **people perceive risks differently across business cycles**.

How Perceived Risk Drives Economic Fluctuations

A defining feature of a **recession** is not just that many individuals lose jobs and suffer income loss but also that:

- **Everyone potentially exposed to risk begins engaging in self-insurance behaviors**.

- This **amplifies economic fluctuations**, as people adjust consumption and savings in anticipation of higher risk exposure.

Implications for Macroeconomic Policy

There are different ways to consider how monetary and fiscal policy affect the economy through the lens of (perceived) **income risk**.

A key idea is that both policies may **impact the degree of idiosyncratic risk**, providing **counter-cyclical insurance** that mitigates business cycle fluctuations.

Role of Fiscal Policy: Counter-Cyclical Unemployment Insurance

- **Fiscal policy is inherently redistributive** and often takes the form of **public insurance**, such as unemployment benefits.

- **Unemployment insurance** already provides some buffer against recessions by stabilizing income and aggregate demand.

- If perceived income risk rises significantly in recessions, then unemployment insurance should be state-dependent—that is, its generosity should increase in downturns.

- This ensures that the level of support provided matches the increased risks faced by workers during recessions.

Role of Monetary Policy: Indirect Risk Mitigation

- **Monetary policy does not directly provide insurance** because it operates at an aggregate level and does not explicitly condition on risk.

- However, by lifting the labor market and reducing employment risks, monetary policy effectively provides some level of insurance to households.

Perceptions and the Role of Central Bank Communication

- Throughout this discussion, I have emphasized that perceptions of risk are crucial in driving behavior.

- This suggests that monetary policy can influence perceived idiosyncratic risk and job risk through:

  - Interest rate changes.
  - Forward guidance and central bank communication.

- By shaping expectations about future risk, central bank communication can have a stabilizing effect on the economy.

Heterogeneous Exposure to Business Cycles and Policy Trade-Offs

- Idiosyncratic risk exposure is highly heterogeneous.

- Different workers and households face varying degrees of exposure to aggregate fluctuations.

- This means that individuals also experience different trade-offs between inflation and unemployment, which is central to themonetary policy mandate.

Implications for Central Bank Decision-Making

- If the trade-off between inflation and unemployment is borne differently across the population, then central banks must recognize this heterogeneity in their policy decisions.

- Understanding the distributional implications of monetary policy is essential for effective communication with both the public and policymakers.

Taking Stock

Both monetary and fiscal policy have important roles in influencing how income risk is perceived and mitigated.

- **Fiscal policy** can play a direct role by adjusting unemployment insurance and other redistributive measures to be more counter-cyclical.

- **Monetary policy** indirectly influences risk perception by stabilizing the labor market and shaping **forward-looking expectations**.

- **Central bank communication** plays a critical role in managing expectations of risk and uncertainty.

- The heterogeneous nature of idiosyncratic risk should be considered when designing and implementing macroeconomic policy.

Understanding these dynamics is essential for improving macroeconomic stability and enhancing policy effectiveness.

6 Conclusion

Studying income risk perceptions is an exciting research agenda going forward.

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