Research Statement

Daniel Eduardo Díaz Espinosa, November 2026

My research focuses on the intersection of monetary economics and expectations that deviate from the standard Full Information Rational Expectations (FIRE) hypothesis. This agenda is motivated by the large body of empirical research challenging FIRE, and my contribution has been to build models that reconcile theory with this evidence.

1. Deviations of FIRE and Monetary Economics

In **"Target-Based Communication under Credibility-Distorted Beliefs" (job market paper)**, I ask what a central bank gains by investing intensively in target-based communication—talking about its inflation target—rather than instrument-based communication about the policy rate, as theory recommends (Angeletos and Sastry, 2021). Using the Bank of England's Inflation Attitudes Survey since 2001, I empirically document three facts for U.K. households: more of them react to the interest rate than to the inflation target, they under-react to new information, and the cohorts that lived through the strongest inflationary episodes assign the central bank less credibility. To rationalize these facts, I propose an expectation mechanism in which households endogenously evaluate the central bank's past errors, which determines its credibility, and distort their beliefs with the diagnostic expectations of Bordalo et al. (2018), which generates the under-reaction. Then, I embed this mechanism into a Representative Agent (RANK) and a lifecycle Heterogeneous Agent (HANK) New Keynesian model. Three results emerge. First, in both models every cohort under-reacts to an inflationary shock, but the welfare loss falls on the cohorts under 55, while communication mostly reaches the older cohorts, who over-predict inflation through the credibility channel. Second, communicating the target intensively is not generally optimal: it removes the over-prediction of the older cohorts together with the part of it that was offsetting their under-reaction, so the optimal intensity balances both effects and is higher in the HANK model, where the older cohorts over-predict inflation for longer. Third, target communication and an aggressive interest rate response are complements only in the HANK model, where inflation returns to the target faster and anchoring the older cohorts becomes more valuable, and communicating early, once the shock hits, yields the lowest cost. The central message is that implementing target-based communication involves distributional and cost dimensions that should be considered in its design.

In **"Sticky Information Meets Wealth in Utility: Implications for Monetary Policy"**, I build a New Keynesian model that combines two frictions: agents update information infrequently, and they derive utility from wealth. Then, I analyze how this combination may change standard results in monetary economics for two types of monetary rules: a Taylor rule and a Wicksellian rule. This paper demonstrates that equilibrium determinacy can be achieved under a Taylor rule even with a passive monetary policy, while price-level rules require both information frictions and a small inflation response. The transmission of monetary policy is modified, since agents' preference for wealth and information frictions extend the effects of shocks, requiring longer periods of low interest rates. Welfare analysis shows that inflation targeting becomes more desirable than price-level targeting when wealth enters utility, even when price-level targeting performs better in the standard New Keynesian model. Finally, optimal policy rules remain robust, but wealth in the utility function would shift the central bank's preference towards output stabilization.

2. Work in Progress

Two lines of in-progress work extend this agenda. The first takes an emerging-economy perspective, at the intersection of monetary policy, central bank communication, and informality. The second studies heterogeneous pricing behavior in the U.K.

In **"Unanchoring Regimes under Social Learning"**, I study why inflation expectations become

unanchored quickly but re-anchor slowly, and what this asymmetry implies for monetary policy. Using microdata from the Bank of Mexico's Survey of Professional Forecasters, I build a New Keynesian model in which forecasters form social learning expectations, as in Grimaud et al. (2025) and Bullard et al. (2026). While other deviations from FIRE, such as cognitive discounting and diagnostic expectations, fail to generate any unanchoring episode, social learning generates them with the frequency and persistence seen in the data. The bottom line is a Brainard (1967)-type prescription for caution in monetary policy.

In **"Monetary Policy Surprises, Central Bank Information, and the Distribution of Inflation Expectations: Evidence from Mexico"**, I identify monetary policy and central bank information shocks from high-frequency movements in interest rate futures around 185 Bank of Mexico announcements between 2005 and 2026, following Jarociński and Karadi (2020), and analyze their effects on the full distribution of professional forecasters' inflation expectations.

In **"Optimal Simple Monetary Policy Rules and Equilibrium Determinacy under Informality"** (M.A. thesis, El Colegio de México, 2016), I build a two-sector New Keynesian model with formal labor market frictions to study how informality shapes the design of monetary policy. The informal sector buffers the formal economy against shocks, so a simple Taylor rule that responds only to formal inflation and output delivers welfare gains without requiring the central bank to measure the informal sector. However, informality narrows the determinacy region, so economies with large informal sectors must respond to inflation more aggressively to avoid welfare-reducing multiple equilibria.

In **"Is a Dual Mandate Optimal under Informality and Capacity Constraints?"**, I extend the New Keynesian model with informality and an occasionally binding capacity constraint on formal employment, capturing the idea that the informal sector absorbs the workers the formal sector cannot hire, and study whether adding output stabilization to the central bank's mandate is justified. Preliminary results show that a dual mandate delivers less stabilization and costs more inflation in an economy with a large informal sector.

Finally, in **"State-Dependent Pricing, Firm Heterogeneity, and the Slope Puzzle"**, I ask why the Phillips curve is nearly flat in normal times but steeper during shocks. Using the micro price quotes underlying the U.K. consumer price index from 1996 to 2025, a dataset to which I contribute (ukmicrocpi.com), I document that large national retail chains adjust prices almost four times as often as independent local retailers and account for the vast majority of the steepening of the slope during crises. A menu-cost model in which firms differ in their exposure to aggregate shocks is proposed to replicate this behavior.

References

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