**Introduction**

**Question:**
- What is the implication of market power in product and labor markets on average stock returns?

**Methodology:**
- First, construct a Real Business cycle (RBC) model with firms that possess oligopoly power in product markets and oligopsonisy power in labor markets.
- Second, provide empirical support using univariate and multivariate portfolio analysis.

**Preview of Results:**
- In the RBC setup, the presence of market power in either market associated with a lower equity premium.
- Empirical results suggest that investors demand a premium for holding stocks that are in low labor and product market concentration industries.

**Theoretical Model Summary**

Augment the standard RBC setup with:
- Oligopolistic competition in product markets (Jaimovich and Floetotto, 2008; Corhay et al., 2020).
- Firm-specific labor supply, and oligopsonistic competition among firms in labor markets (Berger et al., 2019; Alpanda and Zubairy, 2020).
- Epstein-Zin preferences for households.
- Stochastic growth and capital adjustment costs.

**Results from Theoretical Model**

- No significant effect of market power on output volatility, \( \sigma(\Delta \log y) \), or average risk-free rate, \( E(\rho) \).
- Baseline model with wage markdowns (\( \mu_w < 1 \)) and price markups (\( \mu_p > 1 \)) generate a lower average equity risk premium, \( E(r - \rho) \), relative to alternatives.

**Product and Labor Market Concentration Measures (PMC and LMC) based on sales and employment HHI indexes**

**Empirical Methodology**

Employ portfolio analysis to test the systematic relationship between labor market concentration (LMC) and cross-section of expected returns in U.S. between 1972-2019.

- At the beginning of each year, sort 3-digit NAICS industries into quintile portfolios based on the change in LMC measure as in Grollin et al., 2019), and then follow monthly equally- and value-weighted returns on these portfolios.
- "High – Low" LMC portfolio takes long position in the highest LMC and short position of equal size in the lowest LMC quintile portfolio.
- Test for excess returns on the zero-investment High-Low LMC portfolio, controlling for the standard "4 factors": market (\( R_m \)), size (\( SMB \)), value (\( HML \)), and momentum (\( UMD \)).

**Factor Tests for Univariate Portfolio Returns (LMC)**

<table>
<thead>
<tr>
<th>Panel A: Equally Weighted Portfolios</th>
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<tr>
<td><strong>Low</strong></td>
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<td>( \rho_0 )</td>
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**Summary of Empirical Results**

- Results suggest an equally- (value-) weighted monthly premium of 26 (27) basis points for risks associated with labor market concentration (LMC), even after controlling for standard asset pricing factors.
- Economically meaningful as the risk premium associated with LMC corresponds to ¼ of the average monthly return in our sample, which is around 1%.
- Results hold in multivariate portfolio setting where we control for variation in shocks to product market concentration (PMC).
- Similar results with univariate portfolios based on PMC only, as well as sorting portfolios based on the levels of LMC or PMC instead of their changes.

**Conclusions**

- Theoretical model suggests market power in product and labor markets is associated with lower average stock returns, as firms’ cash-flows and profits become safer.
- Empirical results confirm the above, and suggest a quarter of a percentage point excess returns in zero-investment market concentration portfolios.

**References**