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Structural Asset-Price Dynamics from Income Concentration: A Concave-Consumption Framework with Endogenous Financialization

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Abstract

This paper develops a structural mechanism through which income concentration generates upward pressure on asset prices while simultaneously weakening aggregate consumption. The framework relies on three minimal assumptions: 1) consumption is concave in income, 2) real investment has a finite absorption capacity, and 3) financial assets are predominantly held by the top income group. When income shifts toward the top, aggregate consumption declines and aggregate savings rise due to declining marginal propensities to consume. The model distinguishes two structural regimes. In Regime I, aggregate savings remain below real-investment absorption capacity, so income concentration affects consumption but does not generate asset-price pressure. In Regime II, savings exceed this capacity, and excess savings are diverted into financial assets with inelastic short-run supply, raising asset prices despite weakening aggregate demand. Because asset ownership is concentrated, valuation gains feed back into the income distribution, reinforcing income concentration through a recurring structural loop. The framework abstracts from credit frictions, expectations, and crisis dynamics, isolating a recurring single-period mechanism that may operate repeatedly across periods. It provides a distributional explanation for asset-price inflation occurring alongside subdued consumption, characterizing asset-price inflation episodes without relying on speculative behavior as a necessary driver. The mechanism is particularly relevant for contemporary economies in which income concentration is reinforced by closed-loop revenue structures and high savings at the top, including those observed in AI-intensive production ecosystems.

Keywords

Income Distribution, Concave Consumption, Financialization, Savings Glut, Asset Price Dynamics, Inequality

1. Introduction

Asset prices in advanced economies have continued to rise even in periods characterized by weak aggregate demand and stagnant consumption. Standard explanations attribute this pattern to speculative behavior, credit expansion, or accommodative monetary policy. While these factors may matter, such accounts often overlook a more basic structural force: the distribution of income.

This paper shows that income concentration alone can generate systematic pressure on asset prices when the consumption function is concave. As income shifts toward higher-income groups, aggregate consumption declines and aggregate savings increase. Crucially, the implications of this shift depend on whether aggregate savings can be absorbed by real investment.

The framework distinguishes two structural cases. When aggregate savings remain below the economy's real-investment absorption capacity, income concentration reduces aggregate consumption but does not generate asset-price pressure. When aggregate savings exceed this capacity, excess savings are diverted into financial assets whose short-run supply is inelastic, mechanically raising asset prices. In this latter case, asset-price appreciation arises without speculation, leverage, or credit frictions.

Because financial assets are predominantly held by top-income groups, valuation gains accrue disproportionately to them, reinforcing income concentration. We refer to this self-reinforcing mechanism as endogenous financialization: financialization emerges endogenously from the interaction between income distribution, consumption concavity, and investment constraints, rather than from behavioral excesses or institutional change.

Recent evidence suggests that AI-driven productivity gains and economic rents accrue disproportionately to a narrow set of firms and high-income workers, reflecting skill-biased technological change and strong scale effects in data- and capital-intensive production (OECD, 2023). These features limit short-run spillovers to broad-based wages and consumption, contributing to rising income concentration at the top of the distribution. AI-intensive production structures therefore provide a concrete illustration of environments in which the high-savings case described by the model becomes empirically relevant. While the model is not AI-specific, such environments highlight how income concentration and excess savings can intensify even without an aggregate productivity collapse.

The framework deliberately abstracts from credit frictions, expectations, and crisis dynamics. It isolates a recurring, single-period structural mechanism through which asset prices may rise even as aggregate consumption weakens. This perspective reinterprets persistent asset-price inflation as a distributional outcome rather than a purely financial anomaly.

2. Contribution

This paper makes four contributions to the literature on inequality, financialization, and asset-price dynamics.

First, it identifies a purely distributional mechanism through which income concentration affects asset prices. The analysis shows that concave consumption alone is sufficient to link income concentration to higher aggregate savings, without invoking speculation, leverage, or credit-market imperfections.

Second, the paper establishes a general concavity-based result: for any given aggregate income level used as a normalization benchmark, a mean-preserving spread of the income distribution reduces aggregate consumption and increases aggregate savings. This result is structural and holds independently of institutional detail, providing a transparent link between inequality and excess saving.

Third, by explicitly distinguishing between cases in which aggregate savings do or do not exceed real-investment absorption capacity, the model clarifies when income concentration translates into asset-price pressure. Asset prices rise only in the high-savings case, where excess savings must be absorbed by financial assets with inelastic short-run supply. This distinction allows the framework to capture both growth-compatible environments and financialization-prone environments within a single unified structure.

Fourth, the paper derives an endogenous financialization loop in which higher top income shares raise asset prices, and asset-price appreciation further reinforces income concentration. This feedback operates in a frictionless and fully rational setting and offers a structural interpretation of persistent asset-price inflation in highly unequal economies, including technology- and AI-intensive production structures.

3. Environment and Assumptions

Total income in the economy is normalized to 1. A top group receives income share $s_T \in (0,1)$, and a bottom group receives income share $1-s_T$. All agents share a common consumption function $C:\mathbb{R}_+ \to \mathbb{R}_+$ that is twice continuously differentiable, strictly increasing, and strictly concave:

$$C'(y)>0 \quad \text{and} \quad C''(y)<0 \quad \text{for all} \quad y>0.$$

Aggregate consumption in the two-group setting is

$$C_{\text{tot}}(s_T)=C(s_T)+C(1-s_T).$$

Aggregate savings are

$$S(s_T)=1-C_{\text{tot}}(s_T).$$

Real investment opportunities are bounded by a finite absorption capacity $I_{\max} \in (0,1)$. Excess savings that cannot be absorbed by real investment are allocated to financial assets:

$$S_{\text{fin}}(s_T)=\max\left\{S(s_T)-I_{\max},0\right\}.$$

Financial assets have inelastic short-run supply. The price of the representative financial asset, denoted P_A, is an increasing function of excess savings:

$$P_A=P_A(S_{\text{fin}}) \quad \text{with} \quad P_A'(S_{\text{fin}})>0.$$

The top group is assumed to hold a dominant share of financial wealth. Let $\alpha > 0$ capture the sensitivity of the top income share to asset-price gains. Then the law of motion for the top income share is given by

$$s_T' = s_T + \alpha P_A\left(S_{\text{fin}}\left(s_T\right)\right).$$

Investment Absorption Capacity

Real investment is subject to adjustment frictions and capacity limits within a given period. Accordingly, the model allows for regimes in which aggregate savings can be fully absorbed by real investment, as well as regimes in which this capacity is exceeded and excess savings are allocated to financial assets. The assumption of a finite real-investment absorption capacity reflects well-documented adjustment frictions in capital formation, including planning delays, organizational constraints, and the limited scalability of productive projects within a given period. Empirical and theoretical work emphasizes that investment responds sluggishly to increases in available savings, particularly in advanced economies where large-scale projects face regulatory, technological, and coordination constraints (Caballero, Farhi, & Gourinchas, 2017). The parameter $I_{\max}$ captures these short-run limits in reduced form, without imposing specific micro-level frictions.

4. Aggregate Consumption and Income Concentration

The key step in the mechanism is the effect of income concentration on aggregate consumption. Consider the two-group allocation $(s_T, 1-s_T)$. Aggregate consumption is

$$C_{\text{tot}}\left(s_T\right) = C\left(s_T\right) + C\left(1-s_T\right).$$

Differentiating with respect to s_T yields

$$\frac{\mathrm{d}}{\mathrm{d}s_T} C_{\text{tot}}\left(s_T\right) = C'\left(s_T\right) - C'\left(1-s_T\right).$$

Because C is strictly concave, marginal consumption $C'(y)$ is strictly decreasing in income. When s_T increases, income is shifted toward the group with lower marginal propensity to consume and away from the group with higher marginal propensity to consume. Thus $C'\left(s_T\right) < C'\left(1-s_T\right)$, implying

$$\frac{\mathrm{d}}{\mathrm{d}s_T} C_{\text{tot}}\left(s_T\right) < 0.$$

It follows that aggregate savings are increasing in the top income share:

$$\frac{\mathrm{d}}{\mathrm{d}s_T} S\left(s_T\right) = -\frac{\mathrm{d}}{\mathrm{d}s_T} C_{\text{tot}}\left(s_T\right) > 0.$$

The same logic extends to more general income distributions via standard majorization arguments: for any fixed aggregate income, a mean-preserving spread of the income distribution reduces $\sum_i C(y_i)$ when C is concave, thereby increasing aggregate savings.

5. Excess Savings and Asset-Price Pressure

Given the relationship between income concentration and savings, we now incorporate the real-investment constraint. Excess savings are defined by

$$S_{\text{fin}}(s_T) = \max\{S(s_T) - I_{\max}, 0\}.$$

If for some baseline s_T we have $S(s_T) > I_{\max}$, then any further increase in s_T raises $S_{\text{fin}}(s_T)$.

With inelastic short-run supply of financial assets, the asset price satisfies $P_A = P_A(S_{\text{fin}})$ and $P_A'(S_{\text{fin}}) > 0$. Thus increases in s_T beyond the threshold where $S(s_T) > I_{\max}$ induce higher asset prices. In this regime, income concentration is mechanically associated with asset-price appreciation.

6. Endogenous Financialization and Feedback

We now close the loop by allowing asset-price changes to feed back into the income distribution. Let the top group own the majority of financial assets. Valuation gains from an increase in P_A accrue disproportionately to this group, raising its subsequent income share.

We represent this in reduced form as

$$s_T' = s_T + \alpha P_A\left(S_{\text{fin}}(s_T)\right),$$

and denote the corresponding feedback map by

$$\Phi(s_T) = s_T + \alpha P_A\left(S_{\text{fin}}(s_T)\right).$$

In a regime where $S_{\text{fin}}(s_T) > 0$ and the derivative $\frac{\mathrm{d}}{\mathrm{d}s_T} S_{\text{fin}}(s_T)$ is positive, the mapping Φ is locally expanding: small increases in the top income share generate further increases through the financial channel. This produces an endogenous financialization loop in which income concentration and asset-price inflation reinforce each other.

7. Empirical Motivation

This paper does not aim to provide new empirical estimates. Instead, it builds on well-established empirical regularities that motivate the model's assumptions.

First, a large literature documents that marginal propensities to consume decline with income, implying that income concentration mechanically reduces aggregate consumption and increases aggregate savings (Deaton, 1992; Friedman, 1957).

Second, savings flows and financial-asset ownership are highly concentrated at the top of the distribution, so changes in asset valuations primarily affect high-income groups (Saez & Zucman, 2016).

Third, many advanced economies have experienced prolonged episodes in which asset prices grow faster than median wages or broad consumption measures, especially during periods of uneven income growth (Piketty, 2014; Shiller, 2000).

These stylized facts support the model's focus on distributional structure rather than speculative behavior. The framework interprets persistent asset-price pressure as a structural outcome of income concentration interacting with concave consumption and limited real-investment absorption, rather than as an empirical anomaly requiring additional financial frictions.

8. Relation to Existing Theories

The mechanism proposed here complements existing theories of inequality and financial instability. Unlike Piketty's framework, it does not rely on a particular relationship between the rate of return on capital and the growth rate of the economy. Unlike Minskyan or behavioral models, it does not depend on leverage or irrational expectations. Instead, it emphasizes a purely distributional channel: given concave consumption and finite investment capacity, shifts in the income distribution mechanically alter the balance between consumption, savings, and financial flows.

This perspective suggests that financialization and asset-price persistence in modern economies may reflect deeper structural forces rooted in income distribution, rather than being solely the outcome of monetary policy, credit booms, or speculative sentiment.

9. Policy Implications

The framework yields policy implications that follow directly from its structural assumptions rather than from behavioral frictions or financial instability. Importantly, these implications concern the *transmission limits* of standard policy tools under specific distributional and investment conditions, rather than their general effectiveness.

First, when aggregate savings exceed real-investment absorption capacity, monetary easing primarily operates through financial channels. Liquidity injections increase the availability of funds to asset holders, but do not necessarily translate into higher real investment or broad-based consumption. In the model, this outcome arises because additional income accruing to high-income agents—who exhibit low marginal propensities to consume—raises savings more than consumption, while real investment opportunities remain bounded. As a result, monetary expansion may elevate asset valuations without proportionately strengthening aggregate demand. This represents a *structural limitation*, not an absolute ineffectiveness, of monetary policy in highly unequal, high-savings environments.

Second, the model clarifies that this limitation does not stem from expectations, leverage, or financial market imperfections. Even in a frictionless setting, asset-price pressure emerges whenever income concentration interacts with concave consumption and a binding investment absorption constraint. Policies that operate solely by adjusting interest rates or credit conditions therefore leave the core configuration unchanged: income continues to concentrate, aggregate consumption remains subdued, and excess savings are diverted into financial assets. Stabilizing asset markets under these conditions requires altering either the income

distribution or the economy's capacity to absorb savings through real investment.

Third, the framework highlights a distinct role for policies that expand real-investment absorption capacity. Measures that facilitate the creation of new productive investment opportunities—particularly those characterized by long horizons, high uncertainty, and positive externalities—can relax the binding absorption constraint Imax. By increasing the scope for real investment, such policies reduce the structural diversion of savings into financial assets, thereby mitigating asset-price pressure without directly suppressing financial activity. In this sense, policies that raise effective investment capacity operate on a different margin than conventional monetary easing.

More broadly, the analysis suggests that asset-price inflation in highly unequal economies should not be interpreted solely as a failure of monetary discipline or as a speculative excess. Instead, it may reflect a structural configuration in which income concentration, concave consumption, and limited investment absorption jointly shape the allocation of savings. Policy debates that focus exclusively on financial conditions risk overlooking these deeper constraints.

These implications should be interpreted within the limits of the model. The analysis abstracts from dynamic adjustment, expectations, and crisis dynamics, and does not prescribe specific policy instruments. Rather, it clarifies the structural conditions under which commonly used tools are likely to have muted real effects and identifies the margins along which policy interventions are more likely to influence aggregate outcomes.

10. Conclusion

This paper has presented a simple structural mechanism linking income concentration, concave consumption, bounded real-investment capacity, and asset-price dynamics. The key insight is that more unequal income distributions reduce aggregate consumption and increase aggregate savings when the consumption function is concave. If real investment opportunities are limited, the resulting excess savings must be absorbed by financial assets with inelastic supply, leading to persistent asset-price appreciation relative to aggregate consumption. Concentrated financial wealth then feeds back into higher top income shares, creating an endogenous financialization loop.

The framework helps explain why modern economies with rising inequality and rapid technological change tend to exhibit persistent asset-price booms, even in the absence of credit expansion or speculative dynamics. It underscores the importance of income distribution as a determinant of financial stability and long-run macroeconomic dynamics.

11. Concluding Remarks

The structural mechanism developed here is intentionally stylized, but it highlights an underexplored dimension of financialization: its roots in the shape of the income distribution and the concavity of consumption. Future research could em-

bed this mechanism in fully dynamic general-equilibrium models, incorporate heterogeneous agents and multiple asset classes, and empirically quantify the feedback strength using micro data on consumption, savings, and wealth. In particular, future work could micro-found the reduced-form feedback parameter α by explicitly modeling portfolio holdings, payout structures, and institutional channels through which asset-price gains translate into income concentration.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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