Corporate Asset Pricing

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Question

What must the world be like for asset pricing anomalies to be possible?

In Walrasian equilibrium, the consumption CAPM and the investment CAPM should deliver identical expected returns:

$$R_{ft} + \beta_{it}^{M} \lambda_{Mt} = E_t[R_{it+1}] = \frac{E_t[\Pi_{it+1}]}{1 + a(I_{it}/A_{it})}$$

In the data:

$$R_{ft} + \beta_{it}^{M} \lambda_{Mt} \neq E_t[R_{it+1}] = \frac{E_t[\Pi_{it+1}]}{1 + a(I_{it}/A_{it})}$$

Why? The hard problem of asset pricing

The Big Picture

Is there a "theory of everything" that unifies our diverse research programs?

The CAPM fails to explain asset pricing anomalies

The consumption CAPM performs often worse than the CAPM

Workhorse factor models formed on firm characteristics

The investment CAPM does a good job in micro finance

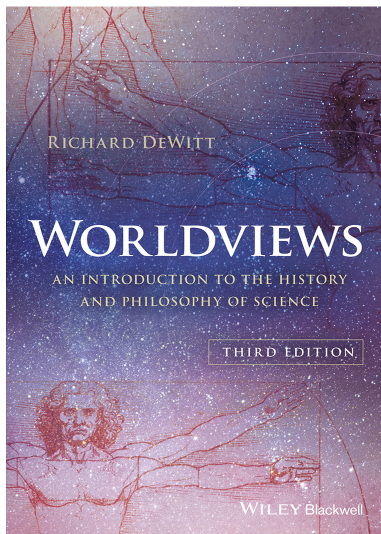
The consumption CAPM does a good job in macro finance

Boundedly rational investors in behavioral finance

Despite their prevalence, difficult for active managers to outperform

Meta-theory

What is a worldview?



Worldview: An intertwined, interrelated, interconnected system of beliefs (jigsaw)

Core vs. peripheral beliefs

Beliefs as a continuum on the empirical vs. philosophical facts

Metaphysical presuppositions as empirical facts (geocentrism)

Equilibrium

The standard theory, descended from Walras (1874)

Only investors price assets (setting discount rates for firms)

In **equilibrium**, sufficient to study only investors

Who is the marginal investor? The **representative** investor (homogeneous expectations) as idealization

Flat ontology: The right SDF applies everywhere (macro, micro)

SDFism: Asset pricing is all about (nothing but) the SDF

The risk doctrine: **Only** risk matters; SMB, HML as risk factors

Rational expectations (equilibrium of beliefs, Occam's razor)

The world is a system of open, adaptive systems (Simon 1962)

Corporate actors as primary causal powers of their own asset prices

The invisible hand as **spontaneous order** (coordination) via **the market process**, not a set of simultaneous equations

Emergence from interacting, heterogeneous actors: The marginal investor not an investor (an ant colony not an ant)

SDFism: Greedy (eliminative) reductionism (Dennett 1995)

EMH: Unpredictable abnormal returns $\neq$ rational expectations

Bounded rationality (Simon), subjective expectations (Mises)

Unification

A systems synthesis of finance (systems finance)

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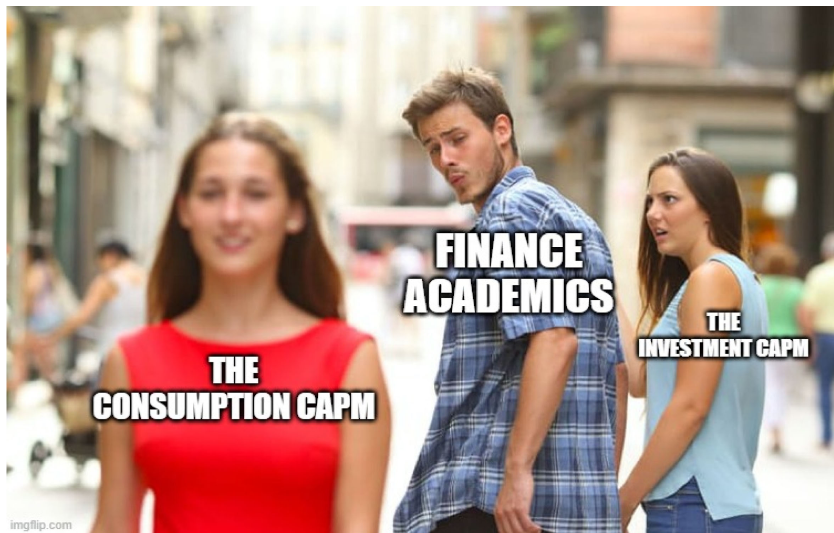
Presuppositions

Underlying SDFism: Micro-reductionism, macro-reductionism, equilibrium



Micro-reductionism

Only investors price assets: Eliminative individualism

What is the relation between individuals and society? The individualism-holism, agency-structure, micro-macro debate

Mill's (1843) psychologism: "The laws of the phenomena of society are, and can be, nothing but the laws of the actions and passions of human beings united together in the social state ([1974], p. 879)"

Social atomism: Jevons (1871), Menger (1871), Walras (1874)

Hayek (1960, 1973): Self-organizing (social) structures

Keynes (1934) founds macro; Lucas (1976) wants microfoundation

No (Austrian) microfoundation with the representative agent

The "marginal investor," Lu's demon, à la Laplace's demon

The demon's SDF prices everything: S&P, firm equity, corporate bonds, government debts, derivatives, FX, private equity, etc

Top-down control vs. bottom-up coordination

Equilibrium

The deepest philosophical fact in the standard theory

The representative agent ignores heterogeneity and nonequilibrium

The Sonnenschein-Mantel-Debreu theorem

Only existence of equilibrium, no uniqueness, no stability: Walras's tâtonnement as tendencies at best (Hahn 1970; Fisher 1983)

Kirman (1992, 2011); Arthur, Durlauf, and Lane (1997)

Socialist calculation: Mises, Hayek vs. Neurath, Lange, Lerner

Future?

How to explain the hard problem of asset pricing?

An agent-based model

Heterogeneous investors and firms, local information and knowledge, learning, adaptive expectations

Firms seek value via heuristics, which the first principle (the investment CAPM) likely approximates

Investors use heuristics to seek utility

Market prices arise from the market process, not equilibrium

Even if the consumption CAPM emerges in macro, it fails in micro

The world is a system of open, adaptive systems in evolution

Corporate actors as primary causal powers of their own asset prices

- Intra-system stronger than Inter-system causal forces

In a complex system, emergentism resolves most debates

From equilibrium to systems as the next "theory of everything"

Paraphrasing Orgel, **the market is cleverer than you are**