Discussion of:

Disagreement, Tastes and Asset Prices

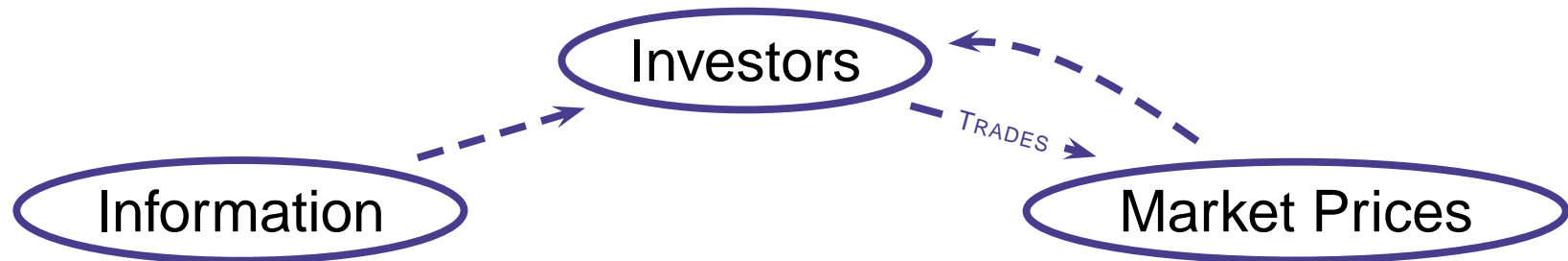*by Eugene Fama and Kenneth French*

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The Standard EMH Model

- This standard EMH model posits that *all* investors perfectly process all cash flow-information available to them

  - *e.g.,* Grossman (1976), Grossman and Stiglitz (1980)
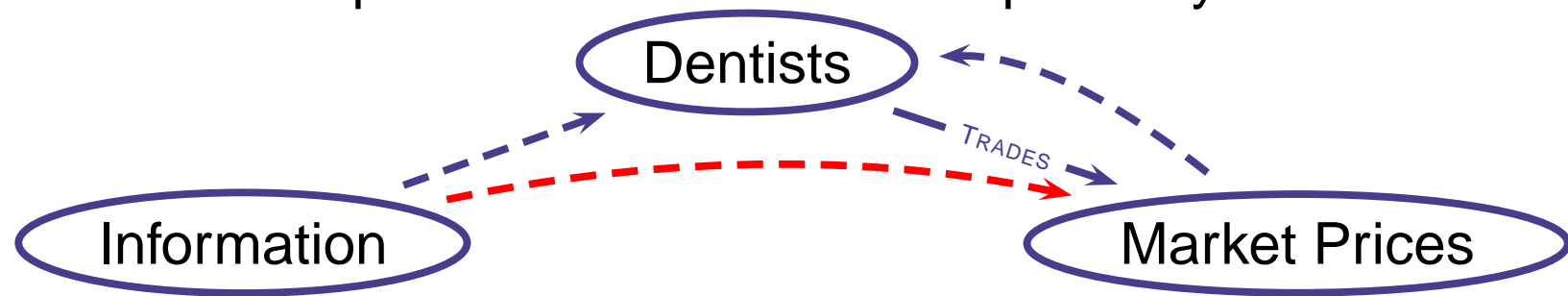
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The "Sophisticated" EMH Model

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Information

Market Prices

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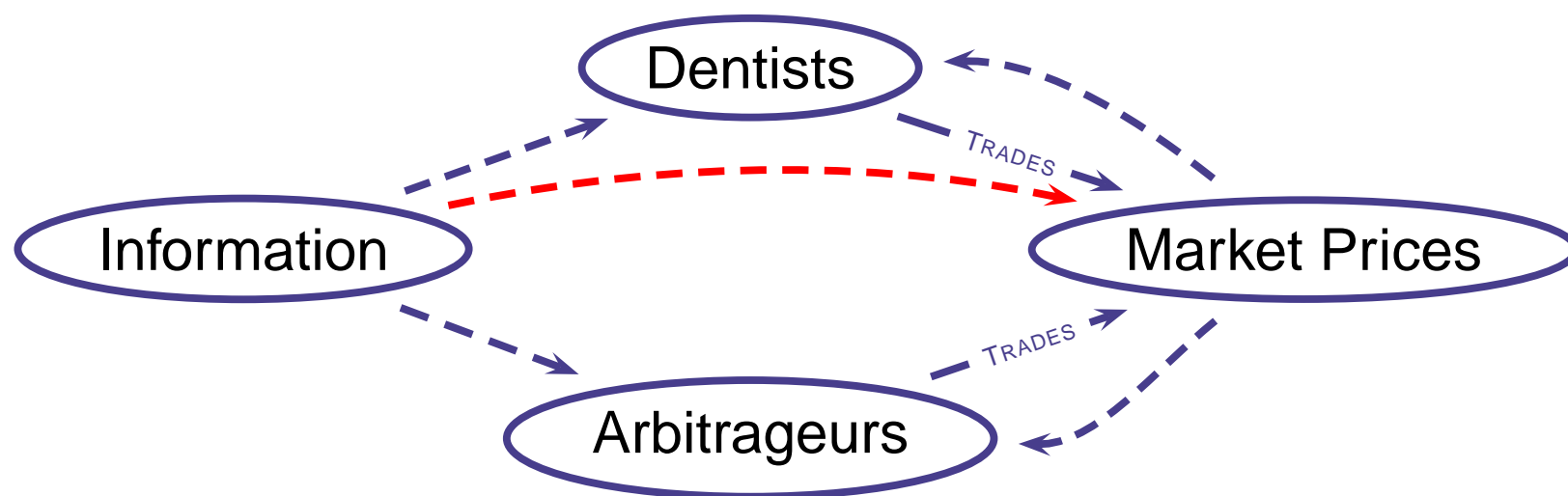
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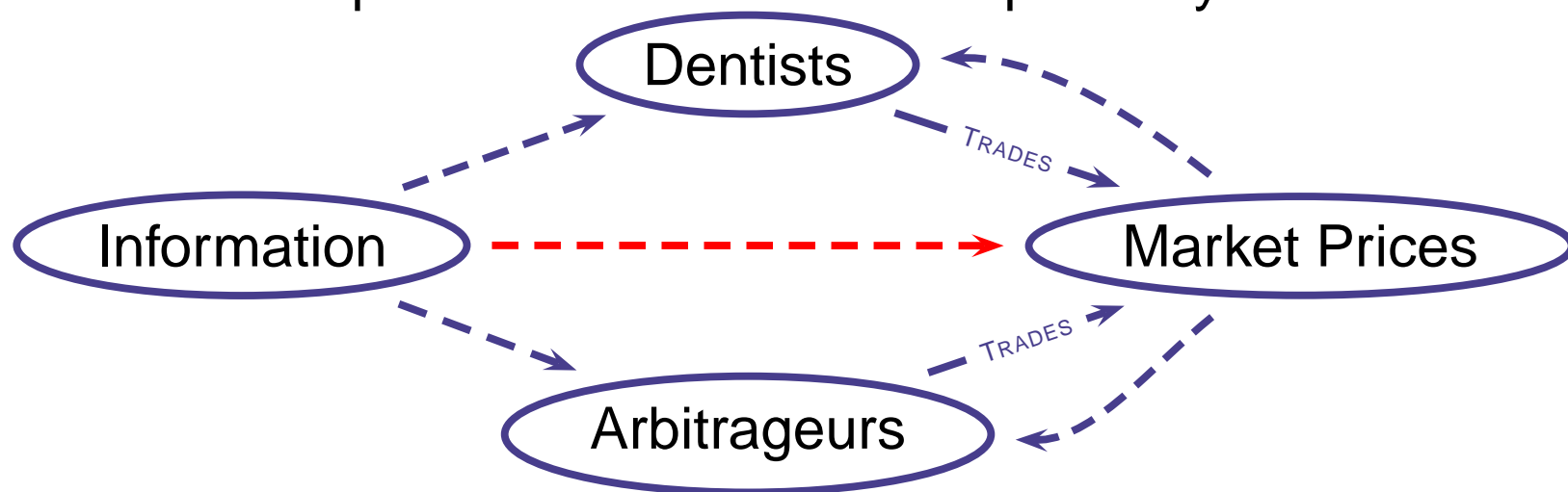
Arbitrageurs

The standard response to this argument is that, if prices were wrong, competition between Arbitrageurs would force the prices back into line,

- re-establishing the link between information and prices, and again allowing us to ignore Dentist (and Arb) behavior.

Can the Market be Perfectly Efficient?

- Here, Fama and French argue the Dentist behavior *will* affect prices and returns.

  - Dentists are either *Uninformed*, or have *Tastes*.

- Here, simple risk-aversion prevents the Arbitrageurs from eliminating the mispricing.

Model – *Setup*

There are types of investors in the single period FF model:

- **Type D** – "Uninformed", "Less Informed," or investors with "Tastes" for particular kinds of assets (really "**D**entists")

  - D's "misinterpret current information or do not have all information."

- **Type A** – "Informed" (really "**A**rbs")

  - A's have all knowable information, and process it perfectly to get the joint distribution of one-period asset payoffs.

  - A's are mean-variance optimizers, and therefore combine the riskfree asset and Tangency portfolio (T)

  - The fraction of all risky assets held by A's is x.

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- What are *Tastes*?
  - Would the D's money flow to the A's if they saw and understood the investment opportunity set?
    - Are the "tastes" permanent?

Implications – *Taste Structure*

- The FF framework is very useful on some dimensions, but the framework obscures the intuition on some others.

- For example, in DHS (2001):

  - Two types: overconfident and rational (risk-averse) Arbs.
  - Uncertainty is described by a factor structure

- Overconfidence (mispricing) that is unrelated to the factor structure is eliminated by arbitrageurs.

  - Why? a mispriced portfolio with purely idiosyncratic risk would have arbitrarily large weight in T.

- Thus, if tastes are not correlated with loadings on systematic factors, arbitrageurs will eliminate them.

Key Result – Graphically

$$\mathbf{w}_M = x\mathbf{w}_T + (1-x)\mathbf{w}_D$$

Expected Return

Standard Deviation

R_f

T

M
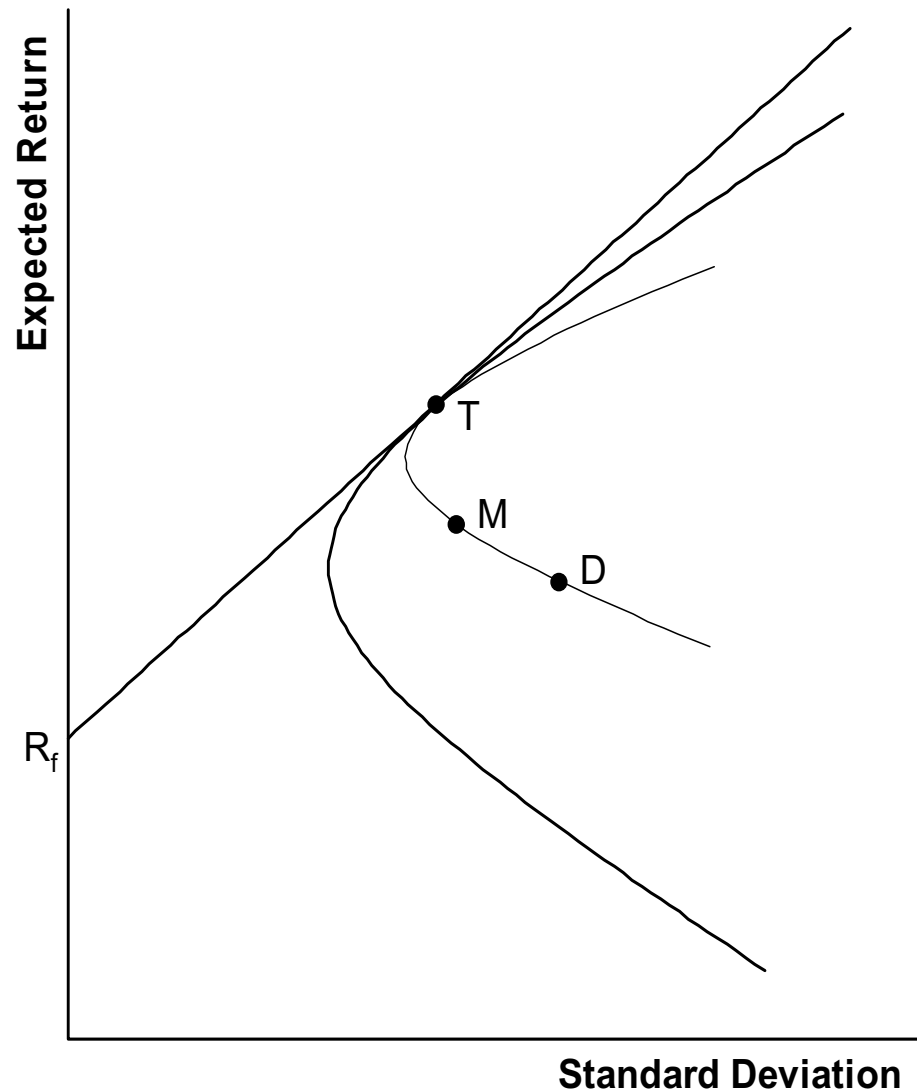
D

Implications – *Models*

- "Complete agreement is pretty much a necessary ingredient of testable asset pricing models – unless we are willing to specify the nature of the beliefs of the uninformed and exactly how they affect prices"

Implications – *Magnitudes*

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- In fact, the FF setup is very useful in providing a good, intuitive framework for thinking about magnitudes.

Magnitudes

- We can't observe D, but we can examine proxies for M and T, based on these anomalies:

  - Size

  - Book-to-Market

  - Earnings Momentum

  - Accruals

  - Issuance

Strategy Sharpe Ratios

This table shows the weights in the *ex-post* tangency portfolio (in %), and the *ex-post* monthly Sharpe-Ratio, and $\rho(r^*, r_M)$, 1968:07-2003:12.

Portfolio Weights (%)						Ex-Post	$\rho(r^*, r_M)$
MKT	SMB	HML	UMD	ISU	ACR	SR	(%)
100.00	–	–	–	–	–	0.091	100
75.07	24.93	–	–	–	–	0.093	97.8
28.19	14.63	57.18	–	–	–	0.232	39.1
21.13	10.16	41.92	26.79	–	–	0.342	26.5
18.82	15.33	13.87	9.55	42.44	–	0.448	20.3
17.35	14.47	12.32	8.18	36.65	11.04	0.461	19.7

- ISU (ACR) are from Daniel and Titman (2004); they are effectively VW, rebalanced annually, and exclude $P < \$5$.

Arbitrageur Performance

- We don't see arbitrageurs with Sharpe Ratios like this.

- If there were any, we could identify them quickly.

  - For the full portfolio (and using the *ex-post* weights).

  $$\frac{\hat{\alpha}_T}{\sigma_\epsilon} = 0.452$$

  - A fund holding portfolio T would have an expected $t(\alpha)$ of 2 after:

  $$\left(\frac{2}{0.452}\right)^2 = 20 \text{ months}$$

  and an expected $t = 4$ after 78 months (6.5 years).

Arbitrageur Performance (2)

- High Sharpe Ratios mean that:

  - Even for relatively small Arb wealth, x should be high.

    - $x \sim W_A \cdot \mathrm{SR}_T / \gamma_A$

  - Money should flow to well performing strategies (?)

- Yet, unless portfolio D has a really lousy performance, x can't be that big:

$$\alpha_D = -\left(\frac{x}{1-x}\right)\alpha_T$$

- What are the frictions that prevent x from being bigger?

  - Can it be just risk aversion?

Other Hypotheses

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- There were (almost) no arbitrageurs?

  - Dynamics

  - Learning about price patterns?

References

Grossman, Sanford J., 1976, On the efficiency of competitive stock markets where trades have diverse information, *Journal of Finance* 31, 573–585.

——— , and Joseph E. Stiglitz, 1980, On the impossibility of informationally efficient markets, *American Economic Review* 70, 393–408.