

Harvesting Illiquidity Premiums

Andrew Ang

Columbia Business School and NBER

Email: aa610@columbia.edu

www.columbia.edu/~aa610

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Four Ways To Capture Illiquidity Premiums

- By setting a *static allocation* to *illiquid asset classes* [real estate] at the *aggregate level*
- By engaging in *dynamic strategies* at the *aggregate level*, by purchasing risky assets [equities] when others want to sell
- By being a *market maker*, which supplies immediate liquidity by acting as an intermediary
- By choosing securities within an asset class that are more illiquid, that is by engaging in liquidity *security selection* [see Ibbotson's presentation]

- A comparative advantage for GPFM is harvesting liquidity premiums because it has few immediate liquidity needs

Dynamic Aggregate Liquidity Provision

- GPFG does this already via the rebalancing rule (and very successfully). The rebalancing rule forces GPFG to buy equities when equity prices have declined, relative to bonds. This supplies liquidity to the market.
- Rebalancing is counter-cyclical
- This has the biggest impact, by far, on GPFG's returns because it is an asset allocation, portfolio-level decision. Collecting a liquidity premium this way has a much bigger impact than illiquidity security selection.
- GPFG can afford to be a more aggressive than simply rebalancing to constant weights
 - Investigate rebalancing strategies that have slowly moving, predictable factor weights
 - Time-varying weights set by simple valuation rules

Use Unique Indices

- GPFG currently demands liquidity by following standard indices, especially with its low tracking error limit. It should be reaping this index reconstitution premium, not paying it. GPFG should provide liquidity to all those forced to follow standard indices.
- GPFG can collect a liquidity premium by using its own proprietary indices.
- Candidate indices can be built around harvesting *factor risk premiums*, at the cross-sectional level. Even an index without a liquidity premium tilt would allow GPFG to harvest a liquidity premium coming from index effects.

Illiquid Asset Classes

- Long-horizon investors have an advantage in investing in illiquid asset classes [real estate]
- But, having a long investment horizon does not automatically mean investing in illiquid asset classes is optimal
- Investment in illiquid assets should be made by properly accounting for the opportunity cost of liquidity
- The premium for investing in illiquid assets should be investor-specific because the illiquidity cost depends on the liquidity demands of liabilities, governance structure, skills required to tap illiquid asset investment returns (which are bundled with active management skills), and considerable agency issues with existing illiquid asset investment vehicles

Harvard Endowment: A Cautionary Example

“Liquidating Harvard” Columbia Case available from
<http://www4.gsb.columbia.edu/caseworks/abstract/7217806/Liquidating+Harvard>

Harvard Endowment

- Performance of Harvard endowment June 2008 to June 2009: -27%. Fund shrank from \$36.9 billion to \$26.0 billion [Note S&P500 performance was -30% during this period]
- At June 2008, endowment distributions totaled \$1.2 billion, representing 35% of the University's \$3.5 billion revenue. For some schools, the reliance on the endowment was even higher:

Radcliffe	83%
Faculty of Arts and Sciences	52%
- Spending rate (payout rule) is variable, but it is smooth and at June 2008 was 5%

Harvard Endowment

- Harvard was an early adopter of the “endowment” model based on diversification concepts extended to illiquid assets

Harvard Endowment Asset Allocation June 2009

	Policy Portfolio	Actual Portfolio	
Liquid	36%	27%	Dev Mkt Equity, Liquid Commodities, Govt Bonds
Semi-Liquid	33%	35%	Emg Mkt Equity, High-Yield Bonds, Hedge Funds
Illiquid	31%	39%	Private Equity, Timber/Land, Real Estate
Total	100%	100%	

- The losses from the financial crisis mean Harvard’s budget had to shrink by approximately 20%, not including the massive cash outflows Harvard is taking from its swap positions. Harvard found out it can’t “eat” illiquid assets!

Optimal Holdings of Illiquid Investments

- Ang, Papanikolaou and Westerfield (2011)* consider the effect of illiquidity on asset allocation
- Illiquidity causes the investor to behave in a more risk-averse manner with respect to both liquid and illiquid assets. The solvency ratio of illiquid to liquid wealth affects portfolio decisions (and payout rules). As Harvard found out in 2008, you cannot “eat” illiquid assets.
- Illiquidity risk makes illiquid assets much less compelling than the standard endowment model (which ignores illiquidity risk)
- Investors should demand steep premiums to bear illiquidity risk

* “Portfolio Choice with Illiquid Assets,” available at <http://www.columbia.edu/~aa610>

Optimal Holdings of Illiquid Investments

- Illiquidity markedly reduces optimal holdings relative to the standard setting where rebalancing is possible at all times

<u>Average Time Between Rebalancings</u>	<u>Optimal Rebalance Value</u>
10 years	0.05
5 years	0.11
2 years	0.24
1 year	0.37
½ year	0.44
Continuous Rebalancing	0.59

Illiquidity Premiums

- How much does an investor need to be compensated for bearing illiquidity risk?

Average Time Between Rebalancings	Illiquidity Premium (per annum)
10 years	0.060
5 years	0.043
2 years	0.020
1 year	0.009
½ year	0.007