Long-Term Investing: An Institutional Investor Perspective

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1. About the research

2. What characterises a ‘long-term investor’?

3. Benefits
   - Advantages and strategies
   - Drill down on illiquidity and dynamic strategies

4. Pitfalls to avoid, hurdles to overcome
   - What makes long-term investing difficult to do
   - Solutions to selected problems

5. Designing an investment organisation for long-term investing
About the Research

• Long-term investing from **perspective of institutional investors**
• Research undertaken by **CIFR; with the Future Fund** providing guidance, insight and examples based on its experience

**Outputs:**

*Major report, comprising three papers:*
  - Paper 1: Determinants of Investment Horizon
  - Paper 2: Benefits (and Pitfalls)
  - Paper 3: Designing an Investment Organization

*Additional papers:*
  - Long-term Investing as an Agency Problem (with David Neal)
  - Portfolio Construction & Performance Evaluation for Long-term Investors

Papers can be found on SSRN (via CIFR website)
Characterising Long-Term Investing

• **No clean and tidy definition.** No underlying theory either.

• **Two indicators** proposed:

  1. *Discretion over trading*
     - Almost a necessary condition. Closely related to funding.

  2. *Approach to investing, especially the information used*
     - Focus on drivers of long-term value and returns (*‘investing’*); as against drivers of near-term price changes (*‘trading’*)

• **Why not holding period?** Long-term investors need not hold for a long period. They only need to set their sights on the long-term. *(The optimal path need not be buy and hold – Merton, etc)*
Consider the following ....

• Imagine you are a “long-term investor”.

• You buy an asset that offers strong growth in cash flows over the next 20 years. Your long-run expected return is 15%.

• The asset price suddenly triples. The expected return is now 6%. And there are other assets out there offering much better returns.

• What do you do?
  
  A. Continue to hold. (You bought for the long-term.)
  
  B. Sell, and direct the proceeds elsewhere.
## Four Investors

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Approach</th>
<th>Focus</th>
<th>Investor A</th>
<th>Investor B</th>
<th>Investor C</th>
<th>Investor D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some Future End-Point (Medium-Long)</td>
<td></td>
<td></td>
<td></td>
<td>Willing to Trade Along the Way</td>
<td>Cash Generated + Reinvestment + Optimal Strategy</td>
<td></td>
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<tr>
<td>Perpetual (Infinite)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cash Generated + Reinvestment</td>
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Advantages Held By Long-Term Investors

Overarching advantage: a broader opportunity set.
Able to do everything that a short-term investor can do, plus some

Three specific advantages:

1. Capacity to adopt and hold positions with uncertain payoff timing
   Examples: value investing; long-term themes

2. Ability to exploit opportunities generated by short-term investors
   Examples: risk premium capture; providing liquidity when valued

3. Latitude to invest in unlisted and/or illiquid assets
   ⇒ Wider opportunity set / diversification* / value-add opportunities

* Although can be overstated in the data
Eight Strategies Suited to Long-Term Investors

1. Capture of **risk premiums** related to concern over short-term risks
   (Market risk premium; volatility; illiquidity; commodities (backwardation); reinsurance; pricing of relative performance risks)

2. **Liquidity provision** (e.g. be the buyer of last resort in crises)

3. **Value investing** (open-ended timing of payoff)

4. Pricing discrepancies across **segmented markets** (open-ended timing)

5. Long-term **thematic** investing (slow-moving, persistent trends)

6. Value-add via **control & engagement** (unlisted assets; universal owner)

7. **Complex assets** (discounts for opaqueness that will take time to resolve)

8. **Dynamic strategies** (buy when $E[r]$ high, sell when low; cash as an option)
Illiquid Assets – Source of the Opportunity

**Net Return** is what matters. But it tends to be unobserved, as transaction costs are investor-specific and often not visible.

It is the realization of **Gross Market Return** that is typically observed in the data.

**Cost** is not readily observed in the data, and must be estimated. Further, it varies across investors and time.

Compensation for:
- a) Expected costs
- b) Illiquidity risk (illiquidity risk premium)

\[
E[\text{Net Return}] = f(E[\text{Gross Market Return}] - E[\text{Cost}])
\]

**Gross Market Return** = Return on Liquid Equivalent + Compensation for Illiquidity

\[
\text{Cost} = f(\text{Entry Cost}, \text{Exit Cost}, \text{Other Costs})
\]

**Exit Cost** is investor-specific. It depends on:
- When (or if) sale occurs, and ...
- Cost at time of sale (including market impact, tax)

Discretion over trading is critical:
- **Lack of discretion** => possibility of becoming a forced seller, potentially into a weak market
- **Full discretion** => capacity to compare exit cost vs. implications of continuing to hold

**Entry Cost** may be known upon investment; but effect on net return p.a. depends on how long asset is held.

Other Costs include aspects like research, search, monitoring, and maintaining positions; including any liquidity and capital commitment costs. These costs are typically larger for illiquid assets.
Illiquid Assets – Advantage Held By LT Investors

- Long-term investors are **less impacted by costs and risks** of illiquidity.
- Discretion over trading is central.
- Lower exposure to the **higher costs** of investing in illiquid assets:
  - Mainly relates to **transaction costs**:
    - Amortized over longer expected holding period
    - Discretion to choose conditions of exit => can manage the trade-offs
  - **Other costs** relate to locating and maintaining investments, including liquidity management and capital commitment
- Lower exposure to the **higher risk** of investing in illiquid assets:
  - Never a forced seller
  - Can ride through (if not exploit) liquidity crises
Illiquid Assets – The Premium Available

• Identity of the marginal investor is what matters:
  – Central is the premium required to compensate the marginal investor for expected costs and risks of illiquidity
  – Long-term investors can benefit if marginal investor has short horizon

• Implications:
  – There need not be a premium available in some markets
  – The premium may fluctuate over time, and ...
  – Ebb and flow of illiquidity => source of opportunity for LT investors
Dynamic Strategies – Underlying Concepts

- **Exploiting time-varying expected returns**, with a view to maximising the outcome over the long term. *(Not just mispricing: see Merton, Campbell & Viceira)*

- Consider **two strategies**:
  a) Go ‘long’ – to capture high expected returns
  b) Hold cash – low expected returns; holding out to buy at lower price

(Question: Is there an optimal mix?)

- **Motivations**:
  - If you are thinking capturing mean reversion, you are partly right. *Also …*
  - Cash as an option; controlling risk *(sitting aside if market is overheated)*
  - Likely source of opportunity is short-term investors being forced to trade due to funding flows, etc *(both inward and outward)*
  - Many investors are hampered by limited discretion over trading; partly through being anchored by mandates or peer comparisons
Dynamic Strategies – Analysis and Concepts

• Analysis (Paper 2):
  – Simple “tree” model, and
  – Applied example: direct property

• Concepts:
  – Dynamic strategies can reduce risk, as much as increase return
  – Cash has an option value; but there is a time dimension. It matters how soon an opportunity to buy might arise.
  – Optimal mix depends on pricing at start. It may be partially invested.
  – Relative performance risks: could underperform the buy and hold for extended periods. A long-term perspective is required.
Pitfalls to Avoid, Hurdles to Overcome

• Investing for payoffs that may not arrive anytime soon brings forth a whole range of challenges:

1. Forecasting over long horizons

2. Agency issues

3. Staying the course

4. Commitment required

Implementation issue, that interacts with organisational and behavioural effects.

Related to organisational structure.

Problems heightened by need to monitor agents; and respond under uncertainty over whether long-term investments will pay-off eventually.
Long term hard to forecast, and highly uncertain

• When I started my career as an Australian analyst in the 1980s:
  – Markets were driven by inflation fears; interest rates were 15%-20%
  – PE ratios above 10X were considered far too expensive
  – Media companies were highly prized; and the Australian banks were considered as uninspiring, low-return investments
  – The PC had just been invented; and there was no internet

• Forecasting the long term is hard!!!
  – Potential for regime shifts; outcomes proliferate with horizon; etc
  – Hazy feedback loops -- spotting any error may take time

• When long-term expectations go awry, it can go pear-shaped …
  – You may discover the issue when it is too late
  – Getting out can be problematic
  – Whereas … short-term investors can use stop losses, and reset often
# Dealing with Difficulty of Predicting the Long Term

<table>
<thead>
<tr>
<th>Actions</th>
<th>Quant-Speak</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Favour positions that arise from the actions of short-term investors:</td>
<td>Base your analysis and decisions on a reputable theory</td>
</tr>
<tr>
<td>– Long-term investing likely to work when the long term is undervalued by the market</td>
<td></td>
</tr>
<tr>
<td>– Trace opportunity back to short-term behaviors, e.g. forced sellers / buyers; reaction to transitory effects</td>
<td></td>
</tr>
<tr>
<td>2. Invest with a ‘margin of safety’</td>
<td>Insist on a confidence interval</td>
</tr>
<tr>
<td>3. Evaluate investments against range of scenarios</td>
<td>Consider the whole distribution</td>
</tr>
<tr>
<td>4. Continually test the foundation for a position</td>
<td>Keep updating</td>
</tr>
<tr>
<td>(don’t just set &amp; forget)</td>
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</tbody>
</table>
Agency Problems Can Disrupt A Long-Term Focus

Long chain of delegations, with each link being a principal-agent relationship

Related alignment and monitoring problems:

- **Principals** must monitor agents. The natural tendency is to **evaluate the flow of short-term results** (which are tangible and salient)
- **Incentive structures** reinforce the focus on short-term results: they feed into bonuses, career prospects, and even status
- **Fund flows** respond to short-term performance. This impacts on organisation profitability, and perceived capacity to sustain long-term positions.
- **Benchmarks and peer comparisons** used for performance evaluation, and act as anchors
Managing the Agency Problems

Remote Monitoring
- End-Investors or Beneficiaries
  - Governing Board
  - CEO / CIO
  - Asset Class Heads
  - Investment Managers

Immersed Monitoring
- End-Investors or Beneficiaries
  - Governing Board
  - CEO / CIO
  - Asset Class Heads
  - Investment Managers

- Understanding of decisions through engagement
- Communication and transparency
- Commitment to manager (agent)
- Reward actions, not just short-term returns

=> avoid managing to short-term returns & enhance resilience
Designing an Organisation for Long-Term Investing

<table>
<thead>
<tr>
<th>Building Block</th>
<th>Key Elements</th>
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</thead>
<tbody>
<tr>
<td>1. Orient the organisation</td>
<td>• Align the organisational settings</td>
</tr>
<tr>
<td></td>
<td>• Engage to build understanding</td>
</tr>
<tr>
<td>2. Set the right incentives</td>
<td>• Measure &amp; reward progression towards long-term goals</td>
</tr>
<tr>
<td>3. Establish a long-term investment approach</td>
<td>• Focus on the long-term …</td>
</tr>
<tr>
<td></td>
<td>… and filter out the short-term noise</td>
</tr>
<tr>
<td>4. Harbour discretion over trading</td>
<td>• Managers should not be required to trade</td>
</tr>
<tr>
<td></td>
<td>• Increase security of funding</td>
</tr>
<tr>
<td></td>
<td>• Commit</td>
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</tbody>
</table>
PROJECT OUTPUTS

Initial project outputs:

Paper 1: Determinants of Investment Horizon
Paper 2: Benefits (and Pitfalls)
Paper 3: Designing an Investment Organization

Follow-up papers:

Long-Term Investing as an Agency Problem (with David Neal)
Portfolio Construction and Performance Evaluation for Long-Term Investors

(See CIFR website, or SSRN)
Supplementary Slides
Dynamic Strategies – A Simple Tree Model

- Two periods, two assets (illiquid risky asset; Rf ... no borrowing)

- Two investor types:
  - Long-term: invests over 2 periods in either asset; may trade period 1
  - Mutual funds: receive flows period 1, must fully invest in risky asset

- Asset performance: 3 * 3 states each period (= 81 paths)
  - Cash Flow: Up, Expected, Down
  - Discount Rate (=> P/CF Multiple): Low, Medium, High

  *Note:* Period 1 asset return => mutual fund flows => impacts P/CF Multiple

- Aim of the analysis:
  - Find the strategy that optimises the Sharpe ratio for the LT investor
  - Examine the characteristics of investing in cash initially
  - Compare asset-weighted returns for the two investor types
**Basic Tree Model – Baseline Results**

<table>
<thead>
<tr>
<th>Investment Strategies</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sharpe Ratio</th>
<th>Two-Period Wealth Change (pa)</th>
<th>IRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-Free Asset (Rf)</td>
<td>Rf</td>
<td>Rf</td>
<td>4.0%</td>
<td>0.0%</td>
<td>0.00</td>
<td>4.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Risky Asset (A), Buy &amp; Hold</td>
<td>A</td>
<td>A</td>
<td>10.4%</td>
<td>13.2%</td>
<td>0.49</td>
<td>10.0%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Short-Term Investor</td>
<td>A ± Flows</td>
<td>A ± Flows</td>
<td>8.8%</td>
<td>12.0%</td>
<td>0.36</td>
<td>8.0%</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic Strategies:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Start with Risky Asset</td>
<td>A 100%</td>
<td>P/CF High =&gt; Rf</td>
<td>11.3%</td>
<td>12.2%</td>
<td>0.60</td>
<td>11.0%</td>
<td></td>
</tr>
<tr>
<td>(B) Start with Rf</td>
<td>Rf 100%</td>
<td>P/CF Low =&gt; A</td>
<td>8.3%</td>
<td>12.0%</td>
<td>0.36</td>
<td>8.0%</td>
<td></td>
</tr>
<tr>
<td>(C) Optimal Combination</td>
<td>A 71%, Rf 29%</td>
<td>P/CF High =&gt; Rf</td>
<td>10.5%</td>
<td>10.2%</td>
<td>0.63</td>
<td>10.2%</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- **Being willing to sell out can improve returns, plus reduce risk**
- **Starting with only cash is not too attractive, but ...**
- **Holding cash in combination with the risky asset can be beneficial**
- **Mutual funds underperform on asset-weighted basis due to flows**
Basic Tree Model – The Starting Point Matters

Optimal Risky Asset Weight, Conditional on Value

Risky Asset Weight for Period 1

Price / Cash Flow Multiple at Period 0

P/CF in baseline calibration (14.3X)
Dynamic Strategies – Unlisted Property Example

### Outline of Dynamic Strategy - Unlisted Property Example

<table>
<thead>
<tr>
<th>Unlisted Property</th>
<th>Cash</th>
<th>Total</th>
<th>Realized Portion of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Position</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Neutral</td>
<td>80%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Short Position</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Realized Average</strong></td>
<td><strong>77%</strong></td>
<td><strong>23%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### Trading Rules
- **Go Long**: Cap rate crosses into top quintile
- **Go Short**: Cap rate crosses into bottom quintile
- **Move back to Neutral**: Cap rate crosses the median
- **Lag from Signal to Trade**: 4 quarters (1 year)
- **Transaction Cost - Property**: 6%
- **Rebalancing**: Only when a trade occurs

*Note: Median and quintiles for cap rate are 'estimated dynamically*
Unlisted Property Example – How Wealth Evolves

**Wealth Indices (Log Scale)**

Cash component partly protects from fall

Strategy protects from volatility, but doesn’t add much net return

Waiting in cash can have an opportunity cost
1. Orienting the Organisation

Organisational settings directed toward the long-term:

a) Guiding principles – mission, purpose, beliefs

b) Culture – lead from the top; encourage non-consensus views; trust

c) Governance & decision structures – long-term objectives; framing; manage temporal trade-offs and behavioural issues

d) People – employ those with predilection towards long-term; tenure

e) External managers – extend the principles downwards
2. Setting the Right Incentives

a) **Subjective bonus component** *(use to reinforce the message)*

b) **Calculating bonuses**
   - Outright deferral is problematic, however ...
   - Regular awards plus long-term conditional vesting is interesting

c) **Measuring performance**
   - De-emphasize relative performance
   - Measure progress towards long-term objectives
   - Attribution into cash flow and discount rate effects
     \[
     \text{Return} = E[R] + \Delta E[R] + \Delta CF
     \]

d) **Direct and co-investment**
3. Establishing a Long-Term Investment Approach

• Difficult to be prescriptive
  – Value and growth styles can both be long-term
  – Long-term investors might use momentum: the Future Fund does

• Key attribute is being focused on the long term
  – Long-term cash flows and long-term expected returns
  – Potential path of expected returns might be considered

• Risk defined differently from long-term perspective
  – Shortfall versus long-term objectives
  – Permanent loss of value
4. Harbouring Discretion Over Trading

- **Increase stickiness of funding**, if possible:
  - Control over funding depends on the nature of the organisation or the regulations, and may be non-negotiable
  - *Stronger actions will lock-in the funding*:
    - Use closed-end fund structures
    - Provide facility to opt-out of the right to redeem
  - *Weaker actions throw grit in the wheels*:
    - Establish capacity to defer redemption (e.g. gates)
    - Raise switching costs

- **Abstain from pressuring managers** to trade – show commitment