Toward a national default option for low cost superannuation

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Agenda

• Why a national default option?
• How to approach its creation? How does it work?
• Why would anyone choose it?
  • Optimal strategy
  • Minimize cost, maximize net return
• What do we need to do to create it?

Why a national default option?

• High cost of super due to complex financial intermediation
• Profit driven markets abhor simplicity and commoditization
• Complex products at high costs lead to sub-optimal growth of national wealth
• Structural inefficiency and information asymmetry lead to inertia in making choices
• Simple products are needed for the simple needs of those less 55 years
• Need a simple low-cost product to promote competition and efficiency in superannuation

Proportionate Shareholding Approach (Not Indexing)

• More flexible, more passive and lower-cost than standard cap-weighted indexing
  \[ V_i = \sum \pi_i p_i = \pi C_i \]

• For a fixed set of stocks, it is same as cap-weighted indexing
• But can vary in stock selection and number
• Not dependent on an external indexer concerns (e.g., weight adjustments for liquidity)
• Not induced to trade unnecessarily due to index changes
• Flexibility avoids gaming by the rest of the market
• Fully scalable to include all investors
### Why should anyone choose it?

- **It is a collective optimal strategy**
  
  (Maximizes net return to all investors collectively)

- **It is also an individual optimal strategy for most investors**
  
  - Markets are inefficient in price, information, risk and cost  
    (Reason for passive investing cannot be based on the efficient market hypothesis)

  - Professional investment managers do not beat the market, because financial intermediation has structural inefficiencies

### Collective Optimal Strategy

- **Bogle’s “Cost Matters Hypothesis” becomes a “Cost Matters Theorem”**

\[
\overline{R} = R - \tau
\]

<table>
<thead>
<tr>
<th>Asset weighted average return of all investors (active or passive)</th>
<th>Market return from the portfolio of all securities</th>
<th>Total cost (incl. taxes) incurred by all investors</th>
</tr>
</thead>
</table>

Result has been stated before (e.g., Bogle and Sharpe)

The proof is easier if trading and repricing are at the end of the period

As more and more investors adopt our passive approach total cost falls and in the limit it is costless and therefore collectively optimal

### Individual Optimal Strategy

- **Why is there still so much active investing?**

- **Most common reason (Malkiel) for passive investing is the assumption of efficient markets**

- **Markets are obviously NOT efficient on**
  
  - Price: excessive volatility (e.g., Shiller, Buffett)
  
  - Information: e.g., false rumours, cost (Grossman & Stiglitz)
  
  - Risk: most market portfolios are not mean-variance efficient (Arnott, Hsu et al.)
  
  - Cost: we show we can reduce the total cost of investing

- **Hence at the behest of advisors and consultants, individuals seek active managers**

  But professional investment managers have not beaten the market

  Is this evidence of an efficient market? Irrational investors?

### Financial Intermediation

The market is **NOT** explained by the aggregate actions of individuals

Most individuals are dependent on a structurally inefficient industry of financial intermediaries

- **Information asymmetry:** product information not available or understood by investors. Short term performance statistics may be misleading. "fooled by randomness"

- **Constraints of size and cost:** it is difficult for a large fund to beat the market in the present of transaction costs

- **Asymmetric incentive:** professional investment managers are maximizers of business profits, who are not necessarily the same as maximizers of investment performance
Information Asymmetry

On average passive out-performs active at a rate (p.a.):

\[ m = t \left/ (1 + R) \right. \]

But manager returns are affected by market volatility, which limits information, potentially "fooled by randomness."

<table>
<thead>
<tr>
<th>Years</th>
<th>1%</th>
<th>2%</th>
<th>5%</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25.6</td>
<td>29.8</td>
<td>34.4</td>
<td>41.1</td>
</tr>
<tr>
<td>3</td>
<td>33.1</td>
<td>38.5</td>
<td>44.0</td>
<td>51.1</td>
</tr>
<tr>
<td>5</td>
<td>37.1</td>
<td>42.7</td>
<td>50.1</td>
<td>58.0</td>
</tr>
<tr>
<td>10</td>
<td>48.3</td>
<td>55.3</td>
<td>64.4</td>
<td>75.0</td>
</tr>
<tr>
<td>15</td>
<td>55.0</td>
<td>62.7</td>
<td>72.6</td>
<td>84.0</td>
</tr>
<tr>
<td>25</td>
<td>66.5</td>
<td>76.5</td>
<td>90.1</td>
<td>105.0</td>
</tr>
<tr>
<td>30</td>
<td>72.0</td>
<td>82.2</td>
<td>97.0</td>
<td>115.0</td>
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<tr>
<td>50</td>
<td>87.0</td>
<td>100</td>
<td>122.6</td>
<td>145.0</td>
</tr>
</tbody>
</table>

But manager returns are affected by market volatility, which limits information, potentially "fooled by randomness."

Constraints of Size and Cost

The arithmetic of winner and loser capital

\[ C(R - \tau) = C_1(R + \alpha_1) + C_2(R + \alpha_2) \]

How much do the losers have to lose just to cover the transactions costs of the winners?

\[ -\alpha_2 > \frac{C}{C_2} \]

If one third are losers and transaction costs is 2% then losers have to return -6% just to cover transaction costs of winners and -8% if winners perform just +1% above market.

Bogle: "Nothing fails like success"

Asymmetric Incentive

(Model of manager profit incentive)

Asymmetric Incentive

(Excess Gross Return Hurdle to cover cost)

<table>
<thead>
<tr>
<th>Reward</th>
<th>1%</th>
<th>2%</th>
<th>3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>2.8</td>
<td>5.5</td>
<td>8.2</td>
</tr>
<tr>
<td>0.4</td>
<td>1.6</td>
<td>3.2</td>
<td>4.7</td>
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<td>0.6</td>
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</tr>
<tr>
<td>0.8</td>
<td>1.1</td>
<td>2.2</td>
<td>3.3</td>
</tr>
</tbody>
</table>

The more asymmetric the incentive the higher the hurdle to make risk taking worthwhile

Large funds have greater asymmetry and more difficulties in finding losers to beat the market

High real cost of active investing, benchmark hugging, closet indexing, boutique managers...
### Toward a national default option

- Government should create a low-cost growth fund (Retirement Growth Account, RGA) based on the proportionate shareholding approach applied to one or more growth asset classes.
- \((115 - \text{Age})\% \text{ in RGA} \text{ and balance in RSA or a better performing RFIA (Retirement Fixed Income Account) as a national default option.}\)
- The national default option is simple, easy-to-understand and available to all and operated by authorised service providers.
- Real wealth is created, not by speculation which merely re-distributes earnings but by better corporate governance to increase business profits.
- Overall cost of investing can be substantially reduced by having a larger share of passive investing through the national default option.

### Conclusions

The proportionate shareholding approach is more flexible and lower-cost than standard cap-weighted index approach.

The approach is a collective optimal strategy.

Markets are inefficient in price, information, mean-variance and cost; there will always be active investors.

Professional investment managers maximize business profit which is different from trying to beat the market.

The collective optimal strategy is also the individual optimal investment strategy due to the impact of size, cost and asymmetric incentives of managers.

A national default option based on the proposed approach will be simple, easy-to-understand and optimal for most individuals and will promote competitiveness and efficiency in the industry.