Adding exchange traded funds (ETFs) that track broad share market indices to a direct share portfolio can reduce risk by increasing diversification and lowering transaction costs. At the same time, ETFs enable direct share investors to retain control and flexibility over their portfolios.

This brief provides a background on the concepts underpinning this strategy and a summary of Vanguard’s historical returns analysis.

**Introduction**

Many investors hold concentrated portfolios of direct shares, regardless of the index weighting. Often they choose shares they believe are mispriced based on fundamental analysis. Alternatively, they might frame their decisions using behavioural biases, such as herding (following the crowd) or contrarian investing (going against the crowd).

Portfolio construction theory suggests that soft costs (portfolio risk) and hard costs (transaction costs) are higher in a concentrated portfolio relative to a diversified portfolio.

**Portfolio construction theory**

**Portfolio risk**

Portfolio risk represents the soft costs of holding a concentrated share portfolio. It comprises two key components:

- **Total risk**: the overall volatility of portfolio returns. It measures the range and likelihood of a portfolio delivering high or low total returns.
- **Active risk**: the volatility of portfolio returns less the benchmark return. It measures the likelihood of a portfolio realising a different return to the benchmark.

The volatility of the benchmark cannot be reduced through diversification – this is the systematic component of total risk. In other words, the investor has no control over this type of risk.
Diversification can reduce the active risk, or unsystematic component, in a concentrated share portfolio. This is something investors can control.

Choosing outperforming stocks is difficult

Figure 1 shows the annual return distribution of the S&P/ASX 300 Index over the three years to 30 June 2012. This was a difficult period for investors to pick outperforming stocks, with more than half of the shares underperforming the market.

While some investors might argue they have the skills necessary to pick outperforming shares, the odds of success are low. Add to this the costs of researching shares (time, research tools and advice), and most investors would be better off diversifying and reducing this risk.

Rebalancing costs

Investors with direct share portfolios incur transaction costs every time they rebalance their portfolio to their desired strategy. These hard costs include bid-ask spreads, brokerage/commissions and the opportunity costs of not executing efficiently. These costs can be high and drag on performance.

Soft and hard costs in practice

The following example shows how ETFs can lower the costs of holding a concentrated portfolio of direct shares. It compares the performance of three different portfolios:

- **Portfolio 1**: ten equal-weighted stocks selected randomly from the S&P/ASX 50 Index as at 30 June 2009.
- **Portfolio 2**: same stocks as portfolio 1 with the exception of two.
- **Portfolio 3**: Vanguard Australian Shares Index ETF (VAS), which tracks the S&P/ASX 300 Index.

The first two portfolios are typical of the holdings of many retail investors. The table below shows their composition, performance and total/active risk for the three years to 30 June 2012. By comparison, the ETF (portfolio 3) has a total/active risk of zero.

Table 1 on the next page illustrates how sensitive concentrated portfolios are to slight changes in share holdings. For example, portfolio 1 outperformed the market while portfolio 2, which is the same portfolio except two shares, underperformed. Both portfolios have higher total risk than the market, but portfolio 2 has higher active risk.

Figure 2 on the next page illustrates the risk-return trade-off between investing in a concentrated share portfolio and the Vanguard Australian Shares Index ETF (VAS). It shows the total risk and return and active risk for each of the three portfolios. It also shows how the risk/return profile of portfolio 1 (red line) and portfolio 2 (blue line) change as different weightings of VAS are added. After the addition of VAS, the reduction in total risk is higher than the impact on portfolio returns. Transaction costs would also apply as each share is sold down.

---

**Figure 1**  
Return dispersion for ASX 300 shares in 3 years to 30 June 2012

<table>
<thead>
<tr>
<th>Return Band</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; -50%</td>
<td>1</td>
</tr>
<tr>
<td>-50% to -40%</td>
<td>5</td>
</tr>
<tr>
<td>-40% to -30%</td>
<td>2</td>
</tr>
<tr>
<td>-30% to -20%</td>
<td>1</td>
</tr>
<tr>
<td>-20% to -10%</td>
<td>2</td>
</tr>
<tr>
<td>-10% to 0%</td>
<td>1</td>
</tr>
<tr>
<td>0% to 10%</td>
<td>4</td>
</tr>
<tr>
<td>10% to 20%</td>
<td>10</td>
</tr>
<tr>
<td>20% to 30%</td>
<td>8</td>
</tr>
<tr>
<td>30% to 40%</td>
<td>6</td>
</tr>
<tr>
<td>40% to 50%</td>
<td>7</td>
</tr>
<tr>
<td>&gt; 50%</td>
<td>1</td>
</tr>
</tbody>
</table>

Sources: Vanguard Investment Strategy Group, FACTSET, November 2012
Hard costs: A cost/benefit analysis

Market movements can trigger the need for regular rebalancing of direct share portfolios. Shares that are performing well will become overweight and underperforming shares will become underweight relative to investment strategy. Portfolio drift can result from infrequent rebalancing, which is illustrated in Figure 3 on the next page.

The size of transaction costs through time is directly related to the rebalancing decision. Brokerage fees are a function of the number of shares held and the rebalancing frequency. Investors need to rebalance their portfolios at least annually to restore their portfolio to its original investment strategy.

High-yield shares

Holding a diversified portfolio of high yielding Australian shares can provide a tax-effective income stream to investors with different tax circumstances. ETFs can also diversify the sources of potential dividend payments and franking credits for investors seeking a tax-effective income stream. The broader the portfolio of higher yielding shares, the more diversified the sources of potential dividend payments and franking credits.

Vanguard’s research has found that adding a high-yield Australian Shares ETF to a concentrated high yield Australian shares portfolio can also reduce soft and hard costs.
In summary
ETFs provide a low cost way to achieve broad diversification in concentrated share portfolios. When used this way they provide:

- An efficient way to reduce adverse performance impacts, rebalancing frequency and associated transaction costs.
- Diversified sources of potential dividend payments and franking credits for investors seeking a tax-effective income stream.
- Lower active risk than direct stocks.
- Investors with a means of retaining flexibility and control over stock selection.

Ongoing rebalancing costs can be higher than the cost of holding an ETF. As ETFs are automatically rebalanced to their market weights, transaction costs and rebalancing risks are reduced.