

# Approximating Total Stock Market

## From Bogleheads

Investors wishing to invest in Vanguard Total Stock Market Index Fund often face a situation where they have to approximate it with the funds available in their employer sponsored plans and quite possibly some other funds available in other accounts such as a Roth IRA.

This page shows a few examples of approximating Vanguard Total Stock Market Index Fund with funds covering specific parts of the market.

## Examples

Funds	Morningstar Style Box		
100% Vanguard Total Stock Mkt Idx (VTSMX) (0.15%)	24	25	23
	6	7	7
	3	3	3
80% Vanguard 500 Index (VFINX) (0.15%) 20% Vanguard Extended Market Idx (VEXMX) (0.24%)	24	25	23
	6	7	7
	3	3	3
81% Vanguard 500 Index (VFINX) (0.15%) 6% Vanguard Mid-Cap Index (VIMSX) (0.21%) 13% Vanguard Small-Cap Index (NAESX) (0.22%)	24	25	22
	6	7	6
	3	3	3
83% Vanguard 500 Index (VFINX) (0.15%) 17% Vanguard Small-Cap Index (NAESX) (0.22%)	25	26	22
	5	6	5
	4	4	4
86% Vanguard 500 Index (VFINX) (0.15%) 14% iShares Russell 2000 Index (IWM) (0.20%) ( <a href="http://www.ishares.com/product_info/fund/overview/IWM.htm">http://www.ishares.com/product_info/fund/overview/IWM.htm</a> )	26	27	23

	<table border="1"> <tr><td>4</td><td>4</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>5</td></tr> </table>	4	4	3	4	4	5			
4	4	3								
4	4	5								
<p>82% Vanguard 500 Index (VFINX) (0.15%)                  11% iShares S&amp;P MidCap 400 Index (IJH) (0.20%) (<a href="http://www.ishares.com/product_info/fund/overview/IJH.htm">http://www.ishares.com/product_info/fund/overview/IJH.htm</a>)                  7% iShares S&amp;P SmallCap 600 Index (IJR) (0.20%) (<a href="http://www.ishares.com/product_info/fund/overview/IJR.htm">http://www.ishares.com/product_info/fund/overview/IJR.htm</a>)</p>	<table border="1"> <tr><td>24</td><td>25</td><td>22</td></tr> <tr><td>6</td><td>7</td><td>7</td></tr> <tr><td>3</td><td>3</td><td>2</td></tr> </table>	24	25	22	6	7	7	3	3	2
24	25	22								
6	7	7								
3	3	2								
<p>85% Vanguard 500 Index (VFINX) (0.15%)                  15% Vanguard Tax-Managed Small-Cap Inv (VTMSX) (0.13%)</p>	<table border="1"> <tr><td>25</td><td>26</td><td>23</td></tr> <tr><td>5</td><td>4</td><td>4</td></tr> <tr><td>3</td><td>5</td><td>4</td></tr> </table>	25	26	23	5	4	4	3	5	4
25	26	23								
5	4	4								
3	5	4								
<p>88% Vanguard Large Cap Index (VLACX) (0.20%)                  12% Vanguard Small-Cap Index (NAESX) (0.22%)</p>	<table border="1"> <tr><td>24</td><td>25</td><td>23</td></tr> <tr><td>6</td><td>7</td><td>7</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> </table>	24	25	23	6	7	7	3	3	3
24	25	23								
6	7	7								
3	3	3								

- These percentages were computed on Aug 16, 2008.
- The style box numbers were computed by Morningstar Instant XRay (<http://portfolio.morningstar.com/NewPort/Free/InstantXRayDEntry.aspx>).
- Computation was done by the method of least squares ([http://en.wikipedia.org/wiki/Least\\_squares](http://en.wikipedia.org/wiki/Least_squares)).
- Investors contemplating on using an S&P MidCap 400 fund, for example, may consider the example above that uses IJH. However, there may be slight implementation differences between the S&P MidCap 400 fund you have access to and IJH.
- Two funds may appear to track the same portion of the market (say, mid-cap), but their holdings may differ depending on the indexes they track.

Stocks	
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<b>Vanguard US Stock Funds</b>	<b>Large Cap</b> Total Stock Market Index • 500 Index Fund • Tax-Managed Capital Appreciation • Tax-Managed Growth and Income • Value Index • Large Cap Index • Growth Index
	<b>Mid Cap</b> Extended Market Index • Mid-Cap Value Index • Mid-Cap Index • Mid-Cap Growth Index
	<b>Small Cap</b> Small-Cap Value Index • Small-Cap Index • Small-Cap Growth Index • Tax-Managed Small-Cap
	<b>Sector</b> REIT Index

**Research  
Resources**

Vanguard SEC Filings: U.S. Stock Index Funds

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