

Strategic Financial Planning over the Lifecycle

Chapter #9: Investment and Diversification

Narat Charupat, Huaxiong Huang and Moshe A. Milevsky

Ch. #9: Lecture Notes

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- Offer some guidance on what to do with your (investable) money once you finally get some...

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| RIM | \$65 | 1,000 | \$65,000 |
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- **Question:** Are Jose and Maria diversified?
- **Take-away:** The portfolio is too narrowly concentrated.

Largest Companies in the World: Fortune 500 List

| Company Name | 2009 Revenue (USD) |
|---------------------|---------------------------|
| 1.) ??? | ??? |
| 2.) ??? | ??? |
| 3.) ??? | ??? |

Largest Companies in the World: Fortune 500 List

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| 4.) British Petroleum | <i>\$367 Billion</i> |
| 5.) Chevron | <i>\$263 Billion</i> |
| 6.) Total | <i>\$234 Billion</i> |
| 7.) Conoco Philips | <i>\$230 Billion</i> |
| 8.) ING Group | <i>\$226 Billion</i> |
| 9.) Sinopec | <i>\$207 Billion</i> |
| 10.) Toyota | <i>\$204 Billion</i> |
| 11.) Japan Post | <i>\$198 Billion</i> |
| 12.) General Electric | <i>\$183 Billion</i> |

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Fortune 500 Companies Located in Canada

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|------------------------|---------------|---------------------------|
| | 211 | |
| | 226 | |
| | 254 | |
| | 276 | |
| | 284 | |
| | 325 | |
| | 340 | |
| | 343 | |
| | 353 | |
| | 354 | |

Fortune 500 Companies Located in Canada

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|------------------------|---------------|---------------------------|
| Royal Bank | 211 | <i>\$37 Billion</i> |
| Power Corp | 226 | <i>\$35 Billion</i> |
| George Weston | 254 | <i>\$32 Billion</i> |
| Manulife Financial | 276 | <i>\$31 Billion</i> |
| Encana | 284 | <i>\$30 Billion</i> |
| Suncor Energy | 325 | <i>\$28 Billion</i> |
| Petro-Canada | 340 | <i>\$26 Billion</i> |
| Bank of Montreal | 343 | <i>\$25 Billion</i> |
| Onex Corp | 353 | <i>\$25 Billion</i> |
| Toronto Dominion | 354 | <i>\$25 Billion</i> |

So, Canada is Quite Small

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- Why do you think?

Stock Market Sectors Around the World: What % of Market is in given industry?

| | Canada | U.S. | Europe & Pacific | Emerging Markets | Avg. |
|-------------------|--------|-------|------------------|------------------|-------|
| 1.) Financials | 29.7% | 15.3% | 26.5% | 25.4% | 24.2% |
| 2.) Energy | 27.6% | 11.4% | 8.1% | 15.3% | 15.6% |
| 3.) Materials | 20.5% | 3.9% | 9.3% | 14.9% | 12.1% |
| 4.) Industrials | 5.5% | 11.0% | 11.3% | 5.1% | 8.2% |
| 5.) Discretionary | 4.3% | 10.1% | 9.6% | 4.3% | 7.1% |
| 6.) Telecom | 4.1% | 2.8% | 5.9% | 9.7% | 5.6% |
| 7.) I.T. | 3.3% | 18.8% | 5.0% | 14.5% | 10.4% |
| 8.) Staples | 2.7% | 10.1% | 9.6% | 4.4% | 6.7% |
| 9.) Utilities | 1.6% | 3.7% | 6.0% | 3.7% | 3.8% |
| 10.) Health Care | 0.5% | 12.7% | 8.1% | 2.0% | 5.8% |

Source: Financial Post Magazine, February 2010

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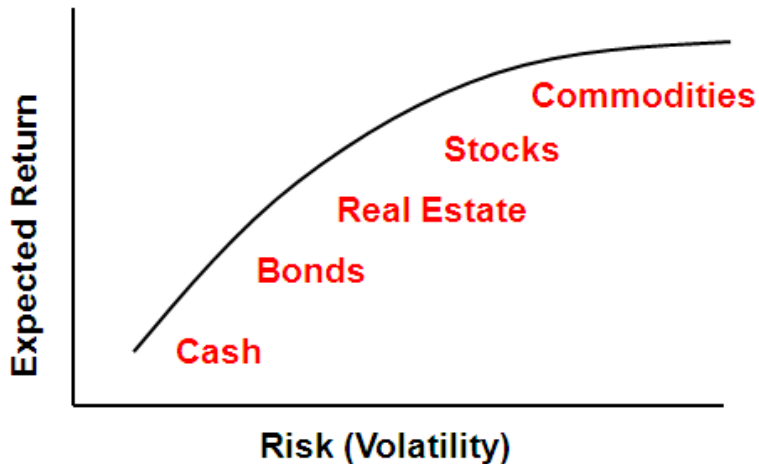
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- **Real Estate:** Physical real estate – like your house, a cottage, rental property, a condo, a shopping plaza or an office building – as well as proxies such as real estate investment trusts (REITS).

Graphical Representation: Risk and Return



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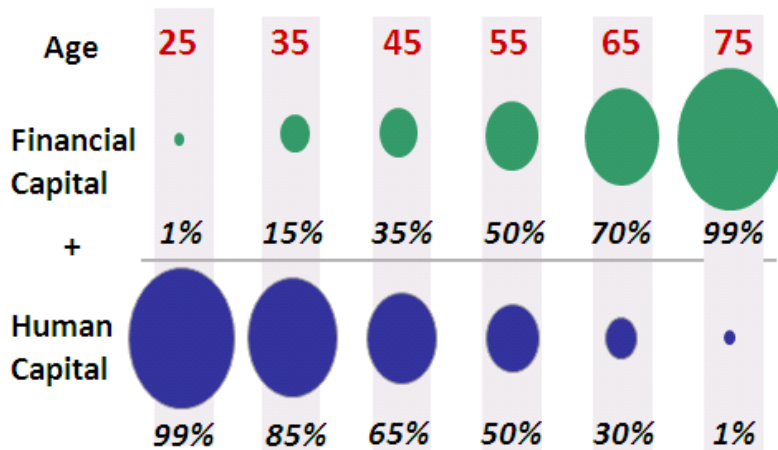
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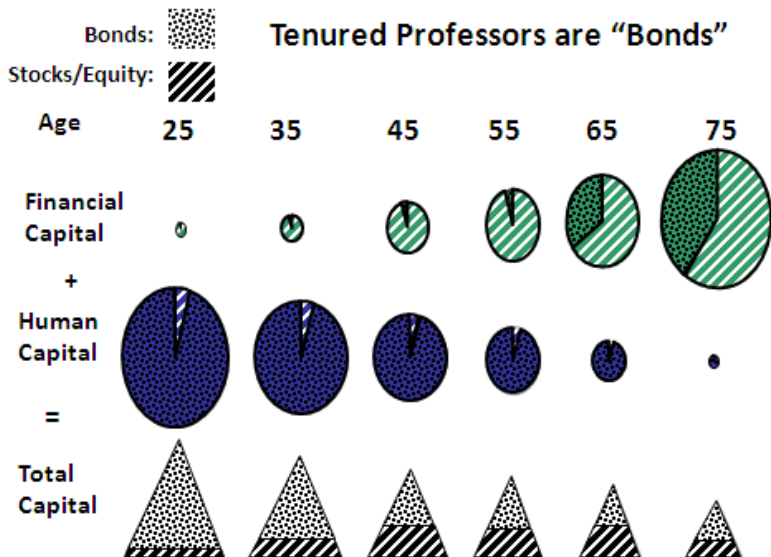
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- Remember: **Human Capital** vs. **Financial Capital**...

Human Capital vs. Financial Capital

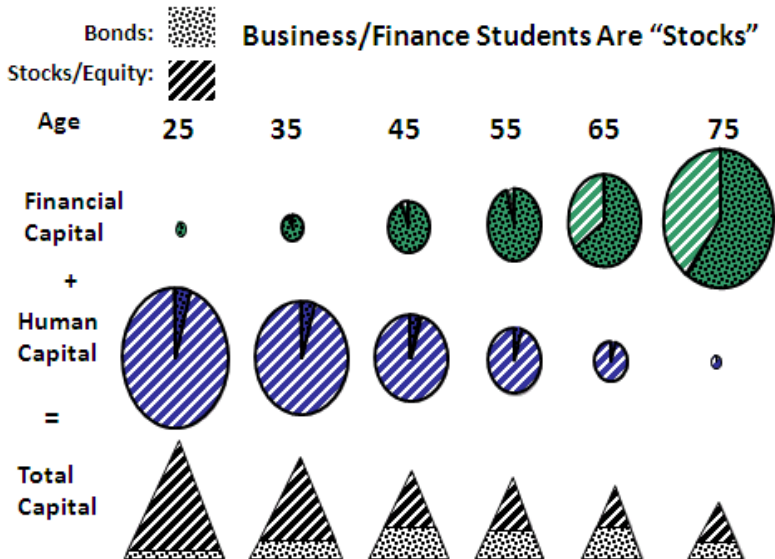
Diversification of all forms of capital...



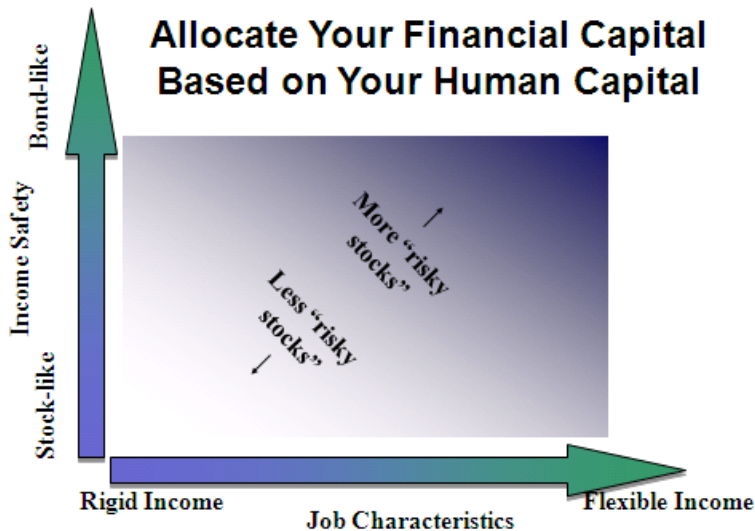
I am (a) Bond...



But, Most of You are Stocks...



Take Both HC and FC into account.



So, Which Stocks Do I Invest In?

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Vanguard Total World Stock ETF

VT

04 | As of December 31, 2009

> Quick facts

Benchmark

FTSE All-World Index

Expense ratio¹

0.30%

Dividend schedule

Annually

ETF total net assets

\$584 million

Inception date

June 24, 2008

Short selling²

Yes

> Trading information

Ticker symbol

VT

CUSIP number

922042742

IIV (intra-day ticker)

VT.IV

Index ticker

FTAW01

Leader Market Maker

Kellogg Capital Group, LLC

Exchange

NYSE Arca

Investment approach

- Employs an indexing approach to provide broad exposure to the global equity markets.
- Designed to track the FTSE® All-World Index.
- Applies a sampling methodology to select a portfolio of securities that approximates the index's key risk factors and characteristics.
- Uses efficient, cost-effective index management techniques.

About the benchmark

- The FTSE All-World Index measures the market performance of large- and mid-capitalization stocks of companies located around the world.
- Includes approximately 2,900 holdings in nearly 47 countries, including both developed and emerging markets.
- Covers more than 90% of the global investable market capitalization.

| ETF attributes | Vanguard Total World Stock ETF | FTSE All-World Index |
|---------------------------------|--------------------------------|----------------------|
| Number of stocks | 2,731 | 2,745 |
| Median market capitalization | \$33.5B | \$32.6B |
| Price/earnings ratio | 32.5x | 33.8x |
| Price/book ratio | 1.9x | 1.9x |
| Return on equity | 19.9% | 19.7% |
| Earnings growth rate | 11.2% | 11.2% |
| Foreign holdings | 58.8% | — |
| Turnover rate ³ | 5.3% | — |
| Standard deviation ⁴ | N/A | 22.2% |

What are this ETF's Major Holdings?

Top 10 stocks

| | |
|---------------------------------------|------|
| Exxon Mobil Corp. | 1.2% |
| Microsoft Corp. | 1.0 |
| HSBC Holdings PLC | 0.8 |
| Apple Inc. | 0.7 |
| BP PLC | 0.7 |
| Johnson & Johnson | 0.7 |
| Procter & Gamble Co. | 0.7 |
| Nestle SA | 0.7 |
| International Business Machines Corp. | 0.7 |
| AT&T Inc. | 0.6 |

What Countries Do I Own?

| Country diversification | | | |
|-------------------------|------|----------------|------|
| Argentina | 0.0% | Japan | 7.9% |
| Australia | 3.5 | Korea | 1.9 |
| Austria | 0.2 | Luxembourg | 0.0 |
| Belgium | 0.4 | Malaysia | 0.4 |
| Brazil | 2.4 | Mexico | 0.7 |
| Canada | 3.6 | Netherlands | 1.1 |
| Cayman Islands | 0.0 | New Zealand | 0.1 |
| Chile | 0.2 | Norway | 0.4 |
| China | 2.4 | Peru | 0.1 |
| Colombia | 0.1 | Philippines | 0.1 |
| Czech Republic | 0.1 | Poland | 0.1 |
| Denmark | 0.4 | Portugal | 0.2 |
| Egypt | 0.0 | Russia | 0.9 |
| Finland | 0.4 | Singapore | 0.7 |
| France | 4.9 | South Africa | 1.1 |
| Germany | 3.3 | Spain | 2.1 |
| Greece | 0.2 | Sweden | 1.1 |
| Hong Kong | 1.2 | Switzerland | 3.1 |
| Hungary | 0.1 | Taiwan | 1.5 |
| India | 1.4 | Thailand | 0.2 |
| Indonesia | 0.3 | Turkey | 0.2 |
| Ireland | 0.1 | United Kingdom | 8.6 |
| Israel | 0.4 | United States | 41.0 |
| Italy | 1.6 | | |

Main (Qualitative) Take-away for Today

RISK MANAGEMENT

Beware the hidden connectivity of your assets



BOYD ERMAN
TAKING STOCK

berman@globeandmail.com

With \$500-billion (U.S.) in writeoffs and counting, the world's bankers have made a farce of the idea of risk management. Investors can only hope the financial types have learned something from it all.

Individual investors had better pay attention too, because many painful lessons about risk apply directly to a typical Canadian household.

Banks track houses

S&P/TSX financials

INDEX, MONTHLY CLOSE



more correlated than managers realized or were willing to admit. They made loans on homes and invested heavily in securities based on those loans. When the tall risk event hit – the sudden popping of the U.S. housing bubble – cor-

Residential homes

AVERAGE PRICE, MONTHLY, \$'000



top two assets on household balance sheets are tightly tied together. The biggest is almost always the home. Retirement savings are a close second. This paints a picture of diversification: All the eggs aren't in the housing basket.

match the index's returns.

So far, those investments are holding up. A bank rally after better-than-expected earnings reports pushed the S&P/TSX composite index 2.4 per cent higher for the week. The housing numbers weren't as pretty, with a report yesterday showing Canadian home prices declined 2.4 per cent in July as houses flooded the market.

Should the housing market really crack, banks will be hammered on mortgage losses and investors will have to watch their largest assets sell off in tandem.

There are regional variations on this theme. Albertans are bringing home big paycheques from the oil business, sitting on portfolios laden with hot oil stocks and living in houses

at risk. Ask a former Enron Corp. or Nortel Networks employee what it's like to lose a job and the money they invested in shares of their employer.

Bulls will argue that it's not a big risk to bet on housing and the banks, or on a continued run in oil and potash.

There are plenty of convincing arguments why none of those assets should plunge, and certainly not all at once. Besides, recent history shows things bounce back fast.

Those arguments miss the point of good risk management. Investors must think of every scenario, especially the unlikely ones, says Mr. Hull, who recently won a History Maker award from the Professional Risk Managers' International Association.

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- **Next week:** We will examine the historical returns and behavior of the various asset classes, discuss the value (if any) of professional money management and present a (much) more mathematical approach to analyzing risk and return.