# VICTOR SCHRAMM, CFS® 

 FEE ONLY INVESTMENT ADVISOR
## Investment Policy Statement

Prepared for Solomon \& Rachel Avraham

January 31st, 2019
Prepared By Victor A. Schramm

## VICTOR SCHRAMM, CFS® VICTOR SCHRAMM, LLC

You engaged us, Victor Schramm LLC, to create a comprehensive financial plan. We used the data that you gave us in the Fact Finders we filled out together to create a long-term plan that should satisfy your long-term planning goals.

This plan makes some important assumptions about inflation, your employment, your savings patterns, market conditions, your appetite for risk, etc. that could be updated over time to keep it accurate. For example, an addition to your family, an illness, a change in career/employment would change some of these assumptions. As these inevitable life changes occur, you can re-engage us to work these circumstances into your plan.

What we've created is a plan that assumes you are using your $401(\mathrm{k})$, IRA, and taxable brokerages as the primary savings vehicles for retirement savings goals. We expect that over the years, these circumstances will change, and your financial plan will become more complex.

Things that we can add to the plan in future years are insurance planning guidelines based on capital needs analysis, rental real estate cash flow analyses, budget and cash flow projections, and net worth analysis.

We look forward to collaborating with you to invest wisely and meet your financial goals.

## VICTOR SCHRAMM, CFS®

## CLIENT CONTRACT EXHIBIT 1

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## I. INTRODUCTION

A critical duty of a fiduciary or trustee is the creation of an Investment Policy Statement. This is an important written document that should clearly define your objectives and constraints over a relevant time horizon. The IPS is the linkage between you, financial advisors, investment managers, and your portfolio.

The IPS is the foundation of managing your investments, and serves as a structured process for us to make most all of your investment decisions. This helps to balance return seeking and risk taking; which increases the probability of success in achieving your long-term investment goals.

A well-constructed IPS provides support to follow a long-term investment discipline, rather than one that is based on ad hoc revisions. The presence of policy encourages all parties to maintain their focus on the long-term nature of the investment process, especially during turbulent, or exuberant, times.

Written investment policy helps to clearly and concisely identify your pertinent objectives and constraints. Once this is done, we can establish investment guidelines that we feel are appropriate, given the universe of strategies and reality of the marketplaces.

Having a professionally prepared IPS also helps provide a structured means of presenting investment performance, and provides continuity from current manager(s) to future ones.

Rate of return objectives are affected profoundly by your risk tolerance, but other factors also apply. For example, willingness to assume risk is not the same as the ability to assume risk, and vice versa. These are constraints, such as: time horizons, income/liquidity needs, tax considerations, legal and regulatory requirements, and unique preferences or circumstances. These objectives and constraints, considered in the light of capital market expectations (expected returns, return volatilities, and return correlations), will dictate the appropriate investment strategies to be followed (asset allocation, portfolio optimization, security selection, and/or market timing), the investment style to be pursued, and the appropriate way to monitor and evaluate performance.

Signing and returning the IPS will let us know that you concur with its contents. This IPS is not a contract of any kind, and it is not required to make trades in your account. It is only meant to be a summary of our agreed upon investment management techniques.

## II. BACKGROUND \& INVESTING PROFILE

- Client (32) \& wife (30) are in good health
- Client is currently working, wife works for a business she has equity ownership in
- Client has no children; wife is pregnant, with 2-3 children expected family size
- Client and his wife have both been identified as a moderately aggressive risk takers by our risk tolerance tests
- Client owns residence; mortgage balance but at favorable rate
- Client and wife report minimal/negligible risk of job loss
- For this plan, we're using taxable accounts, IRA's, and a $401(\mathrm{k})$ in an optimal tax order of growth and withdrawal


## III. CURRENT HOLDINGS

- A) $\$ 1,044$ in Stash account
- B) $\$ 1,888$ Robinhood app account
- C) $\$ 26,965$ in Adidas stock plan
- D) $\$ 8,000$ in E-Trade account
- E) $\$ 8,182$ in Adidas's Current plan
- F) $\$ 490,000$ home value (less $\$ 370,000$ mortgage balance)
- G) $\$ 50,000$ Equity in Rachel's company

Your current holdings total around \$46,000 in marketable securities, $\$ 50,000$ in business assets, and $\$ 120,000$ in home equity.

## IV. GOALS, OBJECTIVES, AND CLIENT CONCERNS

The goals for this plan are to secure a relatively early future retirement for Solomon and Rachel, accumulate wealth for the future, potentially support family members in the future, and afford Real Estate purchases.

## V. STRATEGY

Your current holdings ("A" through "G" in above section titled "current holdings") total about $\$ 216,000$. This is not bad for your age and income level. As such, the key to success for your financial plan is to maintain your income level (growing it as possible) and defer a level $17 \%$ of combined net income into tax privileged income into a mix of $401(k)$ options and taxable savings accounts.

Assuming a moderately aggressive level of risk, continuously saving for retirement from now until 55 will be the key to successfully replacing your income in retirement.

What I've created is a slightly complex yet straight-forward approach to achieving all of your goals that focuses on earmarking savings for defined goals and investing prudently for the defined time period the goals are funded for.

I don't recommend speeding up your payments on your mortgage. You have a decent interest rate and steady income. While it may seen intuitive that it will cost you more in the long run to continue on your mortgage schedule, in context of the alternatives I recommend pursuing, the math works out in favor of investing elsewhere.

## V. 1 OVERVIEW

I recommend aligning your portfolio broadly in line with a Moderately Aggressive investment profile. This means maintaining a mix of Equities to Fixed Income (stocks/bonds) of $75 \%$ to $25 \%$, with $22 \%$ of that total being International Equities and $53 \%$ being Domestic stocks.

In my analysis, your current level of living expenses is not unsustainable. That said, having three children in Portland may call for finding places to cut expenses, as it might get uncomfortable at your current level. My only real concern while creating this financial plan has been boosting the retirement asset pool while funding your other goals. What you'll see reflected by this dilemma is that as your saving for education needs tapers off in your later 40's, your ability to save for retirement will rise steeply. It's in that time you'll want to focus on saving aggressively leading up to retirement in addition to your gradual tax-advantaged saving.

This investment plan itself will be very straight forward- in all of my models, much of your saving is taking place in accounts with some degree of restrictions in terms of investment options. This makes for a unique investment plan- where I give advice for specific securities, I'm referring to non-Adidas accounts.

As you advance in your career, my hope is that there are greater opportunities to save in taxable investment accounts. Those accounts will have have enough funds to be broadly diversified, but I don't see much justification for having a complicated portfolio.

Fixed Income and Equity instruments will be used to balance risk, gain exposure to investment opportunities, and to achieve capital appreciation. That said, Fixed Income will be a smaller allocation until Solomon reaches age 42 . If both the savings plan I've detailed and the recommended investing strategy are implemented, I've calculated a $99 \%$ likelihood of meeting your goals assuming all of the strategies below are successful.

## V. 2 FIXED INCOME POSITIONS

I'm recommending a $25 \%$ allocation to Fixed Income overall. Given your risk appetite, it will be best to think of these positions as risk mitigating investments and exposures to diverse investment opportunities until you reach your mid 50's- at that point you'll want to re-orient your total portfolio toward lower risk assets.

All Fixed Income aside from Municipal bonds is tax inefficient. For much of the next couple of decades, you'll be doing the majority of your savings in tax privileged accounts, so the tax inefficiency of bonds will not be a concern. Having tax privileged accounts to hold Fixed Income is very important, as bonds generate most of their returns in the form of income that is taxed as ordinary income. In the future, when you have more taxable savings, you will likely need to reposition to hold your Fixed Income in your 401(k)'s and IRA's.

When investing outside your Adidas accounts, I'm recommending using a low cost Exchange Traded Fund (ETF) that tracks the Barclays Aggregate Bond Index for the bulk of your Quality bond allocation. This will give you access to the returns of the universe of quality bonds for a good price.

I'm also recommending further diversifying your Fixed Income allocation into High Yield ("junk") bonds (5\%). These bonds do well during strong economic conditions and are much less exposed to inflation risks than higher quality bonds. Though they historically provide higher returns, I prefer a smaller allocation to them because they are riskier.

A portion of your portfolio (5\%) should be in inflation protected bonds as a guard against a high inflation scenario and as an inflation-adjusted store of value. These bonds have their principal adjusted annually by the Treasury to keep pace with inflation. They have limited upside, however, and should be limited to a small allocation.

Other sections contain Fixed Income advice that are specific to the account (i.e. V5).

## V. 3 EQUITY POSITIONS

I'm recommending a $75 \%$ allocation to Equities overall. This creates a $75 / 25$ Equity/Fixed Income mix. Most of these assets can be held in either Taxable or Tax Deferred accounts, except for Real Estate stocks.

I recommend $26 \%$ of the total portfolio go to US Large Cap stocks. Within that asset class, most of that should go to a diversified portfolio of Socially Responsible stocks (NYSE: ESGV where possible; otherwise a Large Cap Value Fund such as Vanguard's). I also recommend that 6\% go to High Dividend stocks (NYSE: YLDE). High Dividend stocks are historically less volatile and provide returns in the form of current cash flow.

I'm not recommending Mid Cap stocks for this portfolio. According to research by institutions such as the Institute of Business \& Finance, Mid Cap stocks do not offer additional benefits in risk/reward or significant diversification over Large Cap stocks sufficient to justify holding them in a portfolio of this size.

Small Cap Value stocks will play a role in the long-term future of the portfolio. Small Cap Value stocks traditionally outperformed the other Equity styles by large margins on average over the past 30 years, and are likely set to continue doing so. I recommend a $16 \%$ allocation to them (NYSE: VBR when possible; otherwise either BlackRock or Fidelity's options). This need not be in a tax deferred account, as this asset class produces few distributions typically.

Despite the fact that much of the current net worth of your family is in home equity, I still recommend an $11 \%$ allocation to Real Estate Investment Trusts (REIT's). Given the higher rates of inflation we're seeing, REITs would appear to be one of the better assets to have for a period of rising rates and rising inflation. Also, the high balance of total return coming from dividend income has regulated the volatility of this asset class substantially. This should be in a tax sheltered account, as REIT dividends are very tax inefficient (and also make up most of the returns).

## V. 3 EQUITY POSITIONS CONT.

Over the long-run, until you end up reevaluating your strategies in your mid to late 40's, I recommend maintaining a $22 \%$ allocation to international equities. That rounds out the $75 \%$ equities mix and is still in line with a moderate strategy at your age. These should not be in tax deferred accounts when possible.

I recommend breaking these exposures into manageable "slices" of the international market covering each of the major, most desirable sectors of the international markets: Europe, Asia-Pacific Rim, Emerging Market, and International Small Cap Value equities. This will allow for strategic allocation should one or more of these over or under perform. These sectors typically produce discrete, varied returns from each other and each add unique diversification benefits to the whole portfolio.

At the moments, I don't recommend over or under weighting any particular International sector, but I occasionally do- after all, one of the benefits of dividing International stocks up this way is the ability to tactically allocate in a very dynamic segment of the investment world.

I recommend an even $5 \%$ to International Small Cap Value stocks. This sector is one of the least correlated to other asset classes in the world, and acts as an attractive hedge to developed market down-side as well as an array of emerging opportunities.

## V. 4 COLLEGE SAVINGS

The core of college savings should revolve around tax advantaged accounts, given the length of time as far as investing time-horizon. You don't want to pay more than a decade's worth of taxes for college savings at the rates you're currently being taxed.

Fortunately, Oregon has a decent 529 savings plan. I recommend starting a 529 savings account for each child and funding it annually. The Oregon 529 plan has a low expense rate ( $0.31 \%$ annually, less than the national average). That said, the average return for the average enrollee is only $6.31 \%$, which is a bit lackluster.

To combat this and take fuller advantage of the tax deferral benefits of using such a plan, I recommend opting for what the Oregon 529 calls the Target Risk: Aggressive portfolio for each of the 529's for the first 12-15 years. When each account reaches that maturity, opt for the Target Risk: Moderate until 2 or so years out from needing the funds. You'll switch to Target Risk: Conservative at that point.

You'll find detailed funding amounts in the Financial Plan l've created, but the topline number that I found funded the education goals was $\$ 1,385$ a month per child into the 529. A CPA can help you properly document the annual amounts, as you may need to report this amount (depending on how the funding is carried out) and claim it as part of your Lifetime Gift Tax Exemption.

## V. 5 EMERGENCY FUND

Your Emergency Fund is best funded with the Adidas stock purchase plan. I'd say given the complexity of your planning needs, funding the Adidas ESOP plan should be a low priority. You'll have enough outflows and better tax-saving opportunities going forward that I would wait until the childrens education accounts are being funded comfortably to get back into the Nike stock plan.

When the Emergency Fund is created and funded, I recommend investing it in taxprivileged investments that are relatively conservative. I would have $80 \%$ in either a Municipal Money Market fund or Short Term Municipal Bond fund (example:Vanguard Intermediate-Term Tax-Exempt Fund Investor Shares (VWITX)), $10 \%$ in a GNMA fund (example: Vanguard GNMA Fund Investor Shares (VFIIX)), and 10\% in Equities (as a hedge against inflation risks). An Equity fund that makes few Capital Gains distributions and focuses on Large-Cap stocks is optimal: I recommend the Vanguard ESG U.S. Stock ETF (NYSE:ESGV).

I tend to recommend Vanguard Brokerage Services as a good place to keep such funds, as they have offered the check-writing privileges you'll want on this account for decades. TD Ameritrade and Fidelity are good alternatives, though you'll want to check if they're offering check-writing on Mutual Funds to new accounts ahead of time.

## V. 6 RENTING CURRENT HOME

In your financial plan, I assumed a very modest level of income from your current property beginning in 2024/2025. With that said, there are considerations you'll want to make over time: namely, occasionally making sure that you're getting the kinds of returns-on-assets that you need from this property.

What you'll need to do annually is to calculate the Cap Rate of the property. This is the classic Real Estate asset return model that will ensure you're getting decent value from this property. Traditionally, 4\% to $10 \%$ Cap Rates are considered adequate, with anything lower than $4 \%$ being inadequate and inefficient use of capital. I would add that given your Risk Tolerance, the real comparison you should make is to your average investment returns on capital- this should be between 7$9.5 \%$. If your property provides lower returns than this, you may be better off selling the property and pooling the proceeds with your market accounts.

One way to do this in a tax-efficient manner would be to purchase a Variable Annuity with the proceeds after paying Capital Gains. With this account, your money will be sheltered from taxation until you take it out. It would give you flexible options of providing income when needed- you can take a lump-sum from it, annuitize it (which generates an automatic annual income stream), or leave it for heirs. Full disclosure: I don't sell annuities or insurance products, but I do work with the Fee Only version of Variable Annuities.

Another option would be to sell it and make a more efficient Real Estate investment in an area with a higher Cap Rate. For example, a beach home that is rented when not used, or a Condo-Hotel that sits in a rental pool anytime you're not occupying the unit.

## V. 7 RACHEL'S BUSINESS \& SAVINGS

One question from your Fact Finder that dovetails with a couple of other questions very nicely in my analysis is Amanda's business income. We can address both the requirement savings project and some taxation concerns with this.

I recommend that Rachel take an additional \$6,000 a year in business income and defer that income into retirement savings. Depending on how you will be filing your taxes, there's a possibility that a Traditional IRA would be available for this purpose. You'll definitely want to check in with your accountant to make sure you can take advantage of the tax savings of a Traditional IRA- if so, this would be my first recommended option. If not, there are other opportunities.

If you determine you can't use a Traditional IRA, I recommend consulting with someone in the area of where the business is domiciled. It may be prudent to use a Canadian Registered Retirement Savings Plan (RRSP) to take advantage of entitylevel tax deferral and reduction in taxable income. My expertise in Canadian retirement planning is more limited, but as far as I understand, this could be an appropriate solution.

The idea is to take advantage of more opportunities to save money and get a tax benefit for it. If it did work out to do one of these options, you'd save a lot of money while putting little to your taxable income. For American domiciled businesses, I often recommend this exact solution, where income can be fully deferred for retirement use.

Were this solution to be successful, you'll be able to add between \$300,000 and $\$ 450,000$ in retirement assets, which is a relatively large sum compared to your current projected retirement income pool.

Since funds in American Traditional IRA's are self-directed, I recommend following the overall investment strategy in this account, focusing on Fixed Income.

## V. 8 FUTURE HOME PURCHASE FUND

When it comes to saving for your future home purchase in 2024, the sooner you can start saving, the better. I would prioritize this over the Emergency Fund for now, because your home purchase fund could be used in the same way an emergency fund would be used should you have an emergency situation (loss of employment, illness, etc.) In my view, something that would cause you to use your emergency fund would also be likely to push your home purchase goal further out in any case.

I identified $\$ 1,750$ a month in savings as the minimum you'll want to save to meet the lowest expected down-payment on time. Optimally, between \$2,000 and \$2,500 a month would allow for a larger down payment and afford more flexibility in home choice (in case of higher than expected home price) or savings in long-term financing costs.

Invest in this account with a low-risk strategy. Resist the temptation to achieve high returns with a large balance of Equity investments: your investing profile here is defined less by your natural inclinations toward moderately aggressive investing and much more by the time horizon of the investing goal. 2024 is sooner than the average Equity investing cycle in the Developed markets (between 6 \& 10 years).

I recommend one of two strategies for this, with both of them focused on safety of principle and minimization of tax-impact:

1. Invest in a steady mix of $80 \%$ Municipal Bonds, $10 \%$ GNMA or Government Bonds, and $10 \%$ Domestic Large Cap stocks. Rebalance annually to maintain this mix.
2. A more complex yet tailored, tax-savvy strategy that I detail in Portfolio Summary V .3 for this specific goal.

## V. 9 IMPLEMENTATION

- 1. Sol: Contribute $\$ 1,583 /$ month maximum to 401 (k) until retirement.
- Rachel: Take extra $\$ 6,000$ annually in salary and defer to retirement
- 2. In the long run, you'll want to save an additional 5\% of your total gross income to retirement savings, favoring the Adidas Current Plan and whichever taxable investment accounts you utilize.
- 3. Position entire allocation to Moderately Aggressive risk profile.
- Some accounts will have less aggressive positioning due to time horizons (namely, Emergency Fund \& the House Purchase Fund)
- 4. Keep Tax inefficient assets in Tax Privileged accounts such as $401(\mathrm{k})$ 's and IRA's.
- Keep REIT's, H.Y. bonds, TIPS, and high income stocks in tax deferred accounts.
- 5. Rebalance long-term portfolio at least every 22 months- ideally once a year.
- Rebalancing can help keep your portfolio in line with your risk tolerance, as different asset classes tend to return different amounts year-to-year. Those unbalanced growth tendencies can cause distortions in allocations over many years if not occasionally rebalanced.
- 6. Keep $\$ 28,800$ in your Emergency Fund
- 7. Take Social Security as soon as possible.
- Social Security payments are structured to distribute an equal present-dollar sum no matter when you take benefits, so taking them early will permit earlier retirement while paying an equal total, inflation-adjusted sum.
- Social Security will cover a large amount of current expenses, saving retirement accounts for future needs.
- 8. Retire at 57or 58 if possible.
- This will give you a few more years to save for retirement. There's a need to accumulate more assets to replace your income.
- Additionally, you'll be taking Social Security at that point, which will reduce the need to take money from savings.


## V. 4 IMPLEMENTATION (CONT)

- 9. In 2028-2030, defer income into the Adidas ESOP plan if possible
- 10. Prioritize long-term (retirement/undefined goal) savings in this order:
- A. Sol's 401 (k)
- B.Sol's Adidas Current Plan (Deferred Compensation Plan)
- C. Rachel's Retirement Savings (either IRA or RRSP/401(k))
- D. Adidas ESOP Plan
- E. Robinhood / Stash
- F. Emergency Fund until a maximum of $\$ 46,000$; minimum $\$ 28,800$.
- 11. Maintain Insurance coverage of between $\$ 385,000$ and $\$ 850,000$ (term life)
- 12. When looking at insurance, leverage Adidas's ability to negotiate rates for employees; they can get you the best deal.
- Avoid Whole or Universal Life Insurance; if you want tax-advantaged cashbalance insurance products for long-term savings, opt for a low-cost, fee only Variable Annuity. You may want to add Long Term Care riders if you buy one.
- 13. Once you've paid down at least 1 child's 529 pan savings and feel comfortable doing so, increase savings to your taxable savings accounts as much as possible.


## VIO. PORTFOLIO SUMMARY

The portfolio I am recommending would bring your current stock/bond mix to bonds to a $75 / 25$ stock/bond weighting. The portfolio would be composed of the following:

## TOTAL PORTFOLIO (NON 401(K))

| Asset Class | Security | Ticker | Allocation |
| :--- | :--- | :--- | ---: |
| Large Cap Core | Vang. US ESG Stock ETF | ESGV | $20 \%$ |
| High Div. Lg. Cap | Clearbridge ESG Dividend ETF | YLDE | $6 \%$ |
| Small Cap | Vang. Small Cap Value ETF | VBR | $16 \%$ |
| Real Estate | Vanguard REIT Ind. ETF | VNQ | $11 \%$ |
| Pacific Rim | Vang. Asia Pacific ETF | VPL | $6 \%$ |
| Europe | Vang. Europe ETF | VGK | $5 \%$ |
| Foreign (Sm. Val) | VG. Int'l Sm. Cap Val. ETF | VSS | $5 \%$ |
| Emerging Mkts | Vanguard EM ETF | VWO | $6 \%$ |
| Investment Gr. | Vanguard I.G. Bond ETF | BND | $15 \%$ |
| Hi Yield | Van Eck Fallen Angel ETF | ANGL | $5 \%$ |
| Inflation Prot. | Schwab TIPS Bond ETF | SCHP | $5 \%$ |

## V10.2 PORTFOLIO SUMMARY (401(K) \& DEFERRED PLAN)

Your 401(k) and Adidas Deferred Compensation Plan allocations should look similar, but with fewer options. I've given you a broader, asset class based system given that securities will change over time in these plans.

## TOTAL PORTFOLIO (401(K) \& DEFERRED PLAN)

| Asset Class | Allocation |
| :--- | ---: |
| Domestic Large Cap | $26 \%$ |
| Small Cap | $16 \%$ |
| Real Estate/ Real Asset | $11 \%$ |
| International | $16 \%$ |
| Emerging Mkts | $6 \%$ |
| Investment Gr. Bond | $18 \%$ |
| Hi Yield Bond | $7 \%$ |

## V.10.3 PORTFOLIO SUMMARY HOME FUND OPTIONAL ALTERNATIVE STRATEGY

This is a fairly straight-forward way to save for a specific date that will be easy to implement and have a more predictable return of principle at the date of your home purchase.

In this plan, you make monthly or quarterly purchases of two funds that have targeted liquidation dates and 1 Equity fund to manage inflation and interest rate risk. The two bond funds with defined liquidation dates will either self-liquidate at the end of 2024 or can be sold with relatively low principal risk in that year (always use limit-sell orders with these, as their liquidity in 5 years can't be predicted.

I recommend a mix of 80\% Muni bond (NYSE: IBMM); 10\% Corporate bond (NYSE: IBDP); 10\% Large Cap stocks (NYSE ESGV)

## TOTAL PORTFOLIO (HOME PURCHASE FUND)

| Asset Class | Security | Ticker | Allocation |
| :--- | :--- | :--- | ---: |
| Muni (2024) | iShares ${ }^{\text {2 }} \mathbf{2 0 2 4}$ Muni Bond ETF | IBMM | $80 \%$ |
| Corp. (2024) | iShares ${ }^{\text {2024 }}$ Corporate ETF | IBDP | $10 \%$ |
| Equity | Vanguard ESG U.S. Stock ETF | ESGV | $10 \%$ |

## V10.4. RISKS \& RETURNS

Standard deviation is the most commonly used measurement of investment risk. The following table shows historical returns since 1972 of asset classes I have recommended next to standard deviation data (from the IBF CFS® Course books). I've included range of returns figures, illustrating the largest historical returns and losses of a given asset class. Finally, I have calculated an average return of your portfolio: 8.5\%

In the following table, I list asset class correlations to each other. Attached to the end of that table are the serial correlations of asset classes to their own returns year-to-year.

| Asset Class | Weight | Avg Return |  | St. Dev. | Range of Returns |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Large Cap | $26 \%$ | $10 \%$ | $18 \%$ | $-37 \%$ | $38 \%$ |  |
| Small Cap | $16 \%$ | $14 \%$ | $32 \%$ | $-37 \%$ | $61 \%$ |  |
| Real Estate | $11 \%$ | $12 \%$ | $19 \%$ | $-38 \%$ | $36 \%$ |  |
| Int'l | $16 \%$ | $6 \%$ | $20 \%$ | $-43 \%$ | $39 \%$ |  |
| Emerging Mkts | $6 \%$ | $9 \%$ | $23 \%$ | $-53 \%$ | $59 \%$ |  |
| Investment Gr. | $15 \%$ | $7 \%$ | $7 \%$ | $-4 \%$ | $8 \%$ |  |
| Hi Yield | $5 \%$ | $9 \%$ | $9 \%$ | $-18 \%$ | $20 \%$ |  |
| Inflation Prot. | $5 \%$ | $8 \%$ | $6 \%$ | $-5 \%$ | $29 \%$ |  |

## V10.5 ASSET CLASS CORRELATIONS

|  | REIT | F/EMS | Large Cap | Small Cap | L. T. Bond | Mid T. Bond | T-Bills |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REIT | 1.0 |  |  |  |  |  |  |
| F/EMS | 0.4 | 1.0 |  |  |  |  |  |
| Large Cap | 0.6 | 0.7 | 1.0 |  |  |  |  |
| Small Cap | 0.8 | 0.5 | 0.7 | 1.0 |  |  |  |
| L. T. Bond | 0.0 | -0.1 | 0.1 | -0.1 | 1.0 |  |  |
| Mid T. Bond | 0.0 | -0.1 | 0.1 | 0.0 | 0.9 | 1.0 |  |
| T-Bills | 0.0 | -0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 1.0 |
| Serial Correlations | 0.14 | 0.00 | 0.02 | 0.03 | -0.28 | -0.03 | 0.73 |

- Notes: $\cdot$ F/EMS $=$ Foreign + Emerging Market stocks
- Mid Term Bonds = 3-9 year maturity bonds of Gov't issue
- L.T Bond = Long Term Bond.
- T-Bills = Treasury Bills (extremely short term Government bonds, less than a year maturity). This is the "Risk Free Rate" for all calculations involving risk free rates of return. Current yield on T-Bills: ~ $0.13 \%$
- In interpreting Correlations, negative numbers indicate returns that head opposite directions from each other
- In interpreting Serial Correlations, any number in the 0.3 to -0.3 range is considered random. This means that the only asset class with remotely predictable year-to-year correlated returns, from a statistics stand-point, is TBills
- Finally, asset class correlations change over time. This is the current data. I will keep you posted on changes as data becomes available in future Investment Policy Updates and Reports
- Correlation coefficients increase their correlation in a steep economic decline (Bear Market)

