



COMMENTARY

A Report of TIFF EDUCATION FOUNDATION

FALL 2005

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Legend

TEF	TIFF Education Foundation a tax-exempt private operating foundation
TAS	TIFF Advisory Services the registered investment advisor for all TIFF vehicles
TIP	TIFF Investment Program a mutual fund family open to charities only

HIGHLIGHTS

- This Fall 2005 *Commentary* and the Winter 2005 *Commentary* to be published in the coming weeks comprise excerpted transcripts of presentations made by some of the money management profession's leading lights at a seminar on endowment management conducted in late September by the TIFF Education Foundation.
- Two such presentations are excerpted here: one by Jack Meyer, a valued member of the cooperative's governing board circa 1993–2005 who recently completed a highly successful 15-year run as Harvard's chief investment officer; and the second by Steve Galbraith, a highly respected investment strategist who shifted not long ago from a leading "sell side" firm (Morgan Stanley) to a leading "buy side" firm (the much-respected hedge fund manager Maverick Capital).
- In order to make the seminar proceedings available to as wide an audience as possible, TEF has posted the unabridged audio recordings and handouts from the presentations of all five seminar speakers at www.tiff.org/TEF.

ABOUT TIFF

Origins. In 1991, a network of foundations founded an investment cooperative whose organizational structure and eligibility criteria have evolved over time but whose core mission has not. Known colloquially as TIFF, the cooperative seeks to improve the investment returns of endowed charities by making available to them a series of multi-manager investment vehicles plus resources aimed at enhancing fiduciaries' knowledge of investing.

The cooperative comprises three regulated entities at present: a tax-exempt private operating foundation whose d/b/a (TIFF Education Foundation) is more descriptive of its focus on education and research than its formal legal name (The Investment Fund for Foundations); the TIFF Investment Program (TIP), a registered mutual fund family; and TIFF Advisory Services (TAS), a taxable non-stock corporation and registered investment advisor that administers all investment vehicles bearing the TIFF name. As noted at left, there is substantial but not complete overlap among these three entities' boards, all of whose members except Richard Flannery and David Salem serve as unpaid volunteers.

Inquiries. For more information, please call TIFF at 434-817-8200 or visit www.tiff.org.

JACK MEYER

Jack Meyer, a valued member of the cooperative's board circa 1993–2005, recently completed a highly successful 15-year run as president and CEO of Harvard Management Company, Inc. (HMC). HMC manages the university's endowment assets and pension funds as well as charitable trusts and pooled income funds generated by planned gifts. These assets totaled roughly \$25.5 billion as of June 30, 2005. Mr. Meyer's bio can be found at www.tiff.org/TEF.

Modus Operandi. We have a plan today: I'm going to give you a quick tour of Harvard Management Company. This might be my last official tour of Harvard Management Company, so you'll forgive the occasional tear — or perhaps I'll jump up and down and shout, "Yes, yes!" In any case, I hope this degenerates into a raucous question-and-answer session. But I will pose the first question.

Why Is HMC So Large? One hundred seventy-five people work at HMC. What on earth do they all do? There are three reasons why Harvard Management Company employs so many people. The first is that we manage more than 50% of our assets internally.¹ This is sharply different than most other foundations and endowments, which hire external managers, monitor them, and occasionally even fire them. The second reason why we've hired so many people is that we cover a lot of different asset classes: domestic stocks, foreign stocks, emerging market stocks, emerging market bonds, private equity, timber, real estate — we invest in multiple asset classes and need investment professionals and support staff to carefully monitor all of them. The third reason why we have as many people as we do is that the transactions we execute are often complex. A typical transaction may involve not only several securities but also derivatives to offset risks we don't want to incur, including perhaps foreign currency risks. We need a strong back office to keep track of all this complexity, and we have one.

On the HMC organization chart [Exhibit A], portfolio managers are shown in the red boxes. They report to me. Our operations staff is shown in green boxes. In no case does a green box report to a red box. Now, I sense that you're stunned at how profound this observation

¹The amount of Harvard's assets managed internally is decreasing dramatically. Seven years ago, HMC managed almost 85% of assets internally. When Mr. Meyer spoke on September 28, this had dropped to just over 50%. Soon, it will fall to approximately 30%.

is, but the next time you read about a financial debacle, if you read closely you will find it's almost always due to green boxes reporting to red boxes. Take Barings and Nick Leeson: green boxes were reporting to Nick Leeson, who was himself a trader. That's why it took Barings management a year and a half to discover \$1.4 billion in losses. We make a lot of mistakes at HMC, but this isn't one of them.

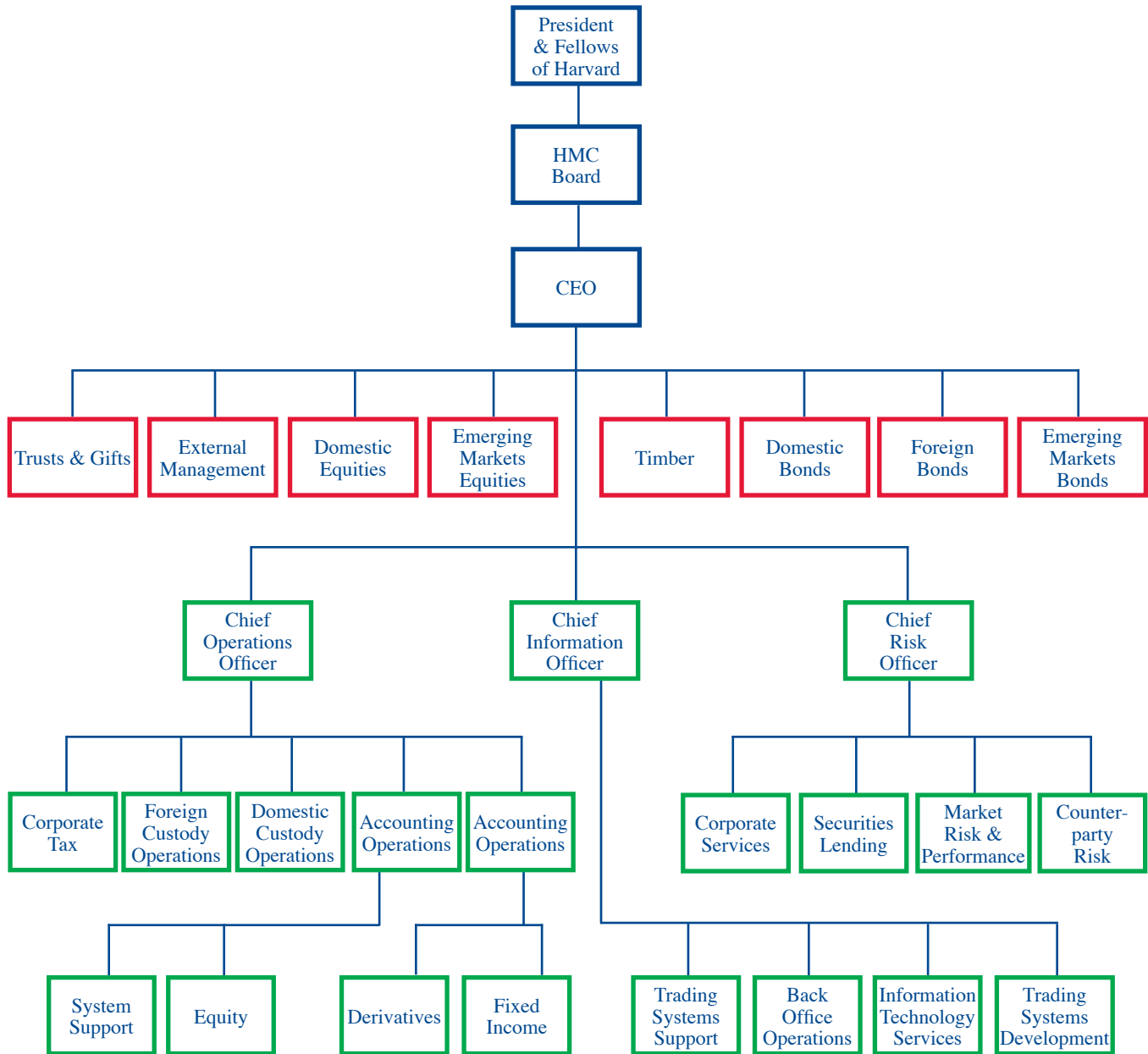
The Policy Portfolio. What exactly do we do with the \$25 billion plus that HMC controls?

The **policy portfolio** [Exhibit B] is the cornerstone of how we manage assets at Harvard. If you use a policy portfolio that doesn't align precisely with your return goals, risk tolerance, and basic asset mix, no amount of clever trading will save you. Therefore, we spend a lot of time at HMC getting our policy portfolio right. And we would prefer this portfolio to change as infrequently as possible because it's a long-term policy portfolio.

When I arrived at Harvard in 1990, we didn't have a policy portfolio. I spent about eight months talking to the university about its return goals and its risk tolerance. We talked to investment professionals and consultants about what they thought were realistic real returns, risks, and correlations for the major asset classes. We talked to other universities to see how they were allocating their assets. Then, we used an optimization model to generate well-diversified portfolios — portfolios with good return to risk ratios — and we ended up with what we call the policy portfolio. We think this portfolio will generate an adequate real return for Harvard over time without violating our risk tolerance. We think it will outperform the typical institutional fund by about a half percent per year because it's more diversified and it doesn't incur transaction costs. If we could then add 100 basis points of value on top of that, we would outperform the typical institutional fund by a point and a half. If you can do that over long periods of time, you tend to rise to the top of the pack.

Historically, you'll see that we've done better than this. Going forward, I think that outperforming the typical fund by a point and a half will be a fine objective. Most funds are far more diversified than they used to be (so our edge there will be diminished), and I think it will be much harder to add value going forward than it has been over the past 10 years to 15 years simply because a lot of money has flocked to hedge funds [more on hedge funds later]. A lot of the opportunities that were just so juicy in the 1990s and early 2000s are gone.

Exhibit A: Harvard Management Company Organization Chart (Abridged)



Because we flank our policy with a minimum allocation and a maximum allocation, we don't have to sit right on the policy portfolio if we have a tactical insight that we think is worthwhile. As a practical matter, we don't often move our actual asset allocations far from our policy portfolio because we don't think we're particularly good at making tactical bets [i.e., "we think the stock market is going down"]. As a matter of fact, we aren't certain that anybody is very good at it anymore. I think George Soros was once pretty good at it, but he had sources of information the rest of us didn't have. It's a tough way to make money, and so we typically don't move the asset mix very far from the policy portfolio — a 3% bet tactically is a pretty big bet for us.

Benchmarks. A subcommittee of our board selects appropriate benchmarks for each asset class. The board looks at the policy portfolio return essentially as a passive return, recognizing that you can't invest in the illiquid asset classes passively. The policy portfolio return is our benchmark for performance and compensation purposes. There are two ways we can outperform this passive benchmark. The first is by making tactical asset allocation bets and being right — and I've already confessed that we don't do a lot of this. The second is by outperforming our benchmark within each asset

class. This is what we've been pretty good at, and this is what we spend most of our time trying to do.

I'm sure you've all wrestled with how to measure the return of your absolute return managers. Our benchmark has three parts. The first part, 20% equity composite, recognizes that most absolute return managers have some exposure to asset class returns. They'll have some embedded stocks — domestic, foreign, emerging — they'll have some distressed bonds, and they might even have some real estate. The second part of our AR benchmark, LIBOR +5%, appeared when some of our board members said, "well, these are absolute return managers; they're always going to produce positive returns, and we expect a premium." And the third part, which is most heavily weighted (60% funds of funds), came about when some board members decided, "if you're choosing external hedge funds, you'd better choose funds that do better than most other funds. Therefore, you should measure your performance against a universe of funds." We don't want to choose a "universe" of specific funds because there's enormous survivorship bias in that sort of sample, so we use funds of funds returns adjusted upward to reflect the middleman fees they charge.

Exhibit B: Harvard Management Company Policy Portfolio

	Minimum	Policy	Maximum	Benchmark
1. Domestic Equities	10	15	25	80% S&P 500, 8% S&P 400, 12% Russell 2000
2. Foreign Equities	5	10	15	93% EAFE, 7% MSCI Small Cap ex US ex EAFE
3. Emerging Markets	2	5	8	80% MSCI EM Investable, 20% MSCI EM Investable + 5%
4. Private Equities	<u>8</u>	<u>13</u>	<u>18</u>	Cambridge Associates Weighted Composite
Total	30	43	60	
5. Absolute Return	8	12	16	20% Equity Composite, 20% LIBOR + 5%, 60% Funds of Funds
6. High Yield	2	5	8	60% Salomon HY/Bankrupt Wtd Composite, 40% EMBI+
7. Commodities	8	13	18	23% GSCI, 77% NCREIF Timberland Index
8. Real Estate	<u>6</u>	<u>10</u>	<u>14</u>	50% CPI + 6%, 25% NCREIF, 25% REIT, Leverage Adjusted
Total	25	40	50	
9. Domestic Bonds	6	11	21	Lehman 5+ Year Treasury Index
10. Foreign Bonds	0	5	10	JP Morgan Non-US
11. Inflation-Indexed	0	6	15	Salomon 5+ Year TIPS
12. Cash	<u>-10</u>	<u>-5</u>	<u>10</u>	One-Month LIBOR
Total	0	17	30	

Effective October 1, 2002

A Valuable Lesson. Let's look at Harvard's performance history in fiscal year 1999. The policy portfolio drubbed our General Investment Account in 1999:² we returned 12.2% while the policy returned 18.9%. Why? HMC entered fiscal 1999 about three points underweight in venture capital [included in HMC's private equity asset class]. We were actively seeking to put our money to work with the best venture managers, but our size was (and increasingly is) a huge problem. As you know, the top venture funds are capital constrained and tend to work with their clients on an equal dollar basis. Consequently, it's hard for us to get as much money as we'd like into the best venture funds.

At that time, we didn't think a whole lot about it — we thought, “gee, venture could do 20% and it's going to cost us about 20 basis points versus policy.” Well, our venture capital in 1999 returned 250%, we were 3% underweight our policy, and it cost us 750 basis points: we were toast.

The lesson we learned is that we can't control precisely our weightings in illiquid asset classes (timber, real estate, and private equity). Consequently, starting in 2000, we began **floating** the weights of illiquid asset classes in our policy portfolio at their actual weights in the portfolio. This eliminates a lot of noise. Since we can't control how much capital the illiquid asset managers whom we hold dear will accept, we want to keep that uncontrollable variable from affecting too materially our relative returns.

Let's say that you have a 13% allocation to private equity in your policy portfolio, but you've only been able to put 9% of your endowment to work with private equity managers in whom you have confidence. Since you don't want to throw money at managers whom you don't truly favor, you take the four percentage points that you're underweight in private equity and allocate this across other asset classes in your policy portfolio. You're essentially floating the weight of the private equity allocation in your policy portfolio — in this case at 9% — because that's the weight achieved in your actual portfolio.

A Giant Hedge Fund? So Exhibit B says that we have 12% in hedge funds [i.e., absolute return vehicles]. Well actually, it's more like 400% (!), which isn't as

scary as it seems. It's best to look at the liquid [i.e., public securities] portion of our portfolio in two pieces: the first piece is the allocation to the policy portfolio (which we can almost get passively); the second piece is the large long/short book in which we try to add value. We look at this value added as independent from the policy portfolio, and in fact, this distinction is crucial to the success we've achieved at HMC.

In short, Harvard Management Company is a giant hedge fund. But I think most of you already knew that. Approximately \$25 billion invested long in the policy portfolio coupled with \$100 billion invested in the above-mentioned long/short transactions creates our 400% “hedge fund” exposure. The 12% that you see in the policy portfolio pertains only to external hedge funds.

Long Volatility. Let's talk about a trade that's allowed us to add value on a reasonably consistent basis. I'm going to use the example of Grand Union because there's a good lesson here. We noticed that there were two classes of Grand Union debt: senior and subordinated.³ Since they were selling at very similar yields, our trade was to go long senior debt, short junior debt, then sit back and wait for something terrible to happen to Grand Union. Well, eventually it declared bankruptcy. Our long positions, which we had bought at \$103, immediately dropped to \$90. We've lost 13 points. Our junior debt, which we'd shorted at \$103, dropped to \$30. We make 73 points on this leg of the trade. We call this a **long volatility trade** because if nothing happens to Grand Union — if there's no volatility — we don't make money. In fact, we lose money because the yield on the junior debt we've shorted is slightly more than the yield on the senior debt that we hold long. We like trades that are long volatility (i.e., taking positions that increase in value if the volatility of Grand Union debt increases).

If you're picking hedge funds, you should pay attention to this because it's very seductive for hedge fund managers to make short volatility trades. Take Long Term Capital as an example. It was shocking when you looked at the proportion of their trades that were short volatility trades. They were reporting nice returns month by month, but as soon as volatility spiked upward they were in serious trouble.

² The General Investment Account is a large account that commingles pension money, trust money, gift annuity money, and Harvard's working capital alongside the endowment.

³ The trade being described is: long Grand Union 11½ Senior Debt; short Grand Union 12½ Subordinated Debt.

If you keep a long volatility bias in your portfolio, and there's a lot of financial stress in the world, odds are you'll come out ahead.

Commodities? Some of you may ask what the rationale is for including an allocation to commodities in your policy portfolio when there are many academic studies showing that commodities produce negative returns over time. If you look at our commodity line, you can infer from our benchmarks that we have 10% of our commodity exposure in timber and 3% in commodities tracked by the Goldman Sachs Commodity Index [GSCI]. So when we were looking at commodities, we thought, "Well, all right, what's the real return on spot commodities relative to the CPI? It's probably negative. It's been negative historically and it'll probably be negative in the future." Let's say it's negative one. Therefore, we're starting out at negative one. Then we say, "What does it cost to replicate the GSCI?" Well, to do this you must roll your exposures to the near-term futures contracts of all commodities that the GSCI tracks. This might cost you half a point. So, you're a point and a half, maybe two points, in the hole starting out. This brings us back to the key question: why do you want exposure to an asset class that offers a minus 1.5% to minus 2.0% real return?

If you look back historically, you'll see that commodity returns seem to be higher than this. What's going on? What's going on is **backwardation**, which is when a commodity shows a negatively sloped term structure, near-term prices spike, and you can roll forward into cheaper futures contracts and positive returns.

This is what's happened historically, and it's given some pretty good returns to the GSCI. So, what this really comes down to is: do you think you're going to have backwardation in the future? We think you will. We think there will be near-term price shocks without big near-term dips. You'll get these price shocks just often enough to allow you to push that minus 1.5% to minus 2.0% up to maybe 2.0% to 2.5%. And, if you have a positive 2.0% to 2.5% with commodities and you look at their diversification benefit, the optimization model begins to like them. That's why we have a little commodity exposure.

Tim-ber! Now we get to talk about timber! We have a 10% allocation to timber (within the 13% allocation to commodities). There are three reasons why we've liked timber so much at HMC. The first is that it's been mispriced as an asset class. Unfortunately, this

mispricing is correcting pretty quickly, although it may remain slightly mispriced — particularly outside the US. Several years ago, you could buy timber at an 8.0% to 8.5% real return, assuming flat real log prices. Now, I think US timber is down to 6.0% real.

The second reason we've liked timber is that it's the only asset class where our size is an advantage. It's very hard for most people to go to New Zealand and spend \$600 million buying timber — a transaction of that size would overwhelm most investors. Also, we can bid on large properties without worrying about how to finance the purchases, and this luxury creates an enormous advantage for us.

The third reason we've liked timber is that we have three professional lumberjacks on staff who have managed forests, purchased forests, and sold forests. When you start dealing with timber people, well, you gotta love 'em. The problem is that they love trees. And they'll pay anything for them. So you say, "Well here's \$100 million. Will you buy some trees?" And sure enough, they'll go out and they'll buy about \$60 million worth of trees with that \$100 million. And by the way, once they buy these trees, they'll never sell them.

It's very nice to have timber managers on staff who can negotiate these transactions up front and on whom you can rely to actually manage your forests. Forest management is a key part of the investment because it's a sleepy industry — I'm not going to tell you all our secrets, but I'll explain an obvious factor in timber investing that many investors miss. Log prices are very volatile and you really don't want to harvest trees on a straight-line basis. You want to be very sensitive to price and in order to do this, you need to have your forests prepped so when prices do spike you can harvest immediately and hit the spike. If forests aren't prepped, it takes six months to a year to do it. All of our forests are prepped, and when prices move up, we harvest immediately. About six months later, we notice more supplies coming on — people are finally catching on that prices are up — and we're ready to throttle back our harvesting when prices fall.

Peer at Peers? Peer comparisons are important because if Harvard's performance varies dramatically from that of other leading universities, its competitive position can erode. If I managed a foundation's endowment instead of a university's, I'm not sure I'd feel the same way: there wouldn't be competition for faculty or students.

Also, the folks who manage our peer endowments are smart, and we don't want to ignore what they're doing. For example, let's say inflation indexed bonds emerge as a new asset class that we want to add to our policy portfolio. So we run the risk, return, and correlation parameters through our optimization model and it tells us to invest 35% of our endowment in inflation indexed bonds. Well, we're not going to do that — we're going to look at what our peers are doing — maybe putting 4% in inflation indexed bonds — and then we'll decide to put, say, 6% or 7% of our assets in this new asset class. So we end up with a portfolio that doesn't look markedly different from our peers but that's tilted in the direction the optimizer suggests. In other words, we're constrained by what our peers are doing.

Compensation. We pay a base salary, a neutral bonus (at year-end if the manager makes the benchmark), and an incentive bonus (at year-end based on performance relative to the benchmark). First point: The salary component of our compensation structure is modest (certainly by investment management standards), and we like that. No one is making a \$35 million salary at HMC. We think that the salary should be modest and that the **incentive** should be where our investment pros can make a significant chunk of change. Second point: Our incentives are based on **value added**, not absolute returns. If a manager earns the benchmark return, his or her incentive bonus will be zero because we don't pay extra for benchmark performance. Third point: The incentive bonuses are **symmetrical**, meaning that every time a manager earns a positive bonus, a significant portion of that bonus is withheld, kept in escrow, and subject to clawback if his or her future performance is negative. This is sharply different than the way most compensation systems work. With most compensation systems, if you perform well you make a big pile of money; if you perform poorly, you simply don't make a big pile of money. But we think our way is the way compensation should work — every time a portfolio manager makes a bet, he or she stands to lose as well as to win. This system attracts managers who are confident of their ability to add value, and it nicely aligns the interests of each portfolio manager with those of Harvard.

There are two things that I'm very confident in regarding our compensation system and one thing that I'm not confident in at all. The first thing in which I'm confident is that the design is sound (low salary,

big incentive based on value added, and symmetrical). I've never seen a system that I thought was better. The second thing in which I'm quite confident is that it has been a good deal for Harvard over time. If HMC had used external managers who had achieved the same results as our internal managers, it would have cost Harvard roughly twice as much over the past 10 years. The point in which I'm not at all confident is whether or not one can maintain world-class portfolio managers in an academic setting.

Harvard Management Company is a wholly owned subsidiary of Harvard University. Therefore, we must report the salaries of our five highest paid employees, plus me (as CEO), on Harvard's Form 990. When people compare Harvard's 990 to our peers', they see a huge discrepancy. Because we manage a much larger portion of our assets internally than do peer institutions, **our** managers appear on our 990. External managers employed by peer endowments do not appear on their 990s. This creates enormous tension — and it might not work going forward.

Top Talent. In terms of our track record retaining world-class portfolio managers, we were doing very well until 1998: we just weren't losing **anybody**. And we still don't lose people to other firms — it just hasn't happened. But we've had five groups spin out, there's a sixth group that's about to spin out, and so our track record in retaining top talent isn't so good anymore. The real problem is this: back in the 1990s, HMC was a great place to work. It was very, very hard to start your own hedge fund. Nobody would give you money; and if you managed to attract money, you didn't have the operational support to do long/short stuff — and doing it in the first place was enormously expensive. At HMC, the structure and support was right there, and we were investing across all asset classes so managers could talk to one another every day. It was terrific. The world has changed. It's so easy to start a hedge fund now. Today, you could come work at HMC, and instead of getting a 1% management fee, you are going to get your expenses covered — which is about 20 basis points. Instead of getting a 20% carry, you get a 15% carry. Instead of having a benchmark of zero, you get a true benchmark to which you must add value. You have no equity in the firm, **and** if you do very, very well, you get pilloried in the press. So if anybody wants to sign up just see me after my talk.

STEVE GALBRAITH

Prior to joining Maverick Capital in 2004, Steve Galbraith served as chief investment officer and chief US investment strategist at Morgan Stanley. One of the most respected investment strategists of our generation, Mr. Galbraith has been in the business long enough to truly know all parts of it. Mr. Galbraith's bio can be found at www.tiff.org/TEF.

Mr. Galbraith's presentation took the form of a "conversation" with TEF's president, David Salem.

Patsies, Hedge Funds, and America's Increasing Financial Income

David. As we ponder effective means of deploying endowment capital, it's important that we understand the boundary conditions under which we're working. There are some interesting things going on in the interplay between the buy side and the sell side, particularly as it relates to hedge funds, that it behooves us to ponder — and Steve is distinctively qualified to talk about this.

A lot of folks, including many in this room, think that too much capital has shifted into the hands of hedge fund managers. One plausible counter to this commonly heard lament is that hedge funds have attracted and continue to attract the money management industry's best and brightest talent, talent that gives them a sufficiently large performance edge relative to more traditional modes of investing even after adjusting for the incremental fees that hedge funds tend to command relative to these more traditional models. My question is this: Since alpha or excess return generation is ultimately a zero sum game, where are all the new patsies coming from?

Steve. The incremental patsies could very well be the latest investors into the game who are going to be paying excess fees relative to the return profile they're actually going to get. It's almost tautological that excess returns created by the hedge fund industry are going to go down. In fact, look at the data — if you look at the hedge fund aggregates over the last seven to eight years, their spread versus cash returns has been decreasing. All you need to know is the following: there are now more hedge funds than stocks in America, and there are now more hedge funds than mutual funds in America. The supply response to the demand has just been surreal, and

you can understand why given the economics. Many hedge funds have the payroll of the New York Yankees — quite literally sometimes — while many of our long-only counterparts have the payroll of the Washington Nationals.

The question one must ask is this: "Can this payroll be utilized prudently such that excess returns can be delivered to the end investor?" The jury is still out. In aggregate, there is no question everybody loses.

Where I would argue that the patsies still remain is in mutual fund land — the parts of mutual fund land that are overly focused on benchmarks and tracking error. What really depressed me as I left Morgan Stanley was how the "tracking error police" were basically running every large mutual fund complex. So in other words, rather than going out and trying to scout for the best stocks that would produce the highest absolute return, analysts would spend their entire day figuring out whether they should own 3.1% of General Electric or 3.0% of General Electric, such that they would minimize tracking error and hug their benchmark as closely as possible. That phenomenon still exists today. It's become inherent in the business. So I'd argue that this part of the market is still inefficient. There are still plenty of patsies in mutual fund land.

But it is not just mutual fund land that offers investment "patsies." I am an equal opportunity dart thrower. I have a similar fear of this emerging in the hedge fund industry for a slightly different reason, and I would ask your managers about this: many of us do not actually "invest" anymore. Hedge funds' holding periods have shrunk to such a level that we're all terrified of taking any **liquidity risk**. The "anti-patsies" are going to be the people who are willing and able to take liquidity risk.

David. I'd like you to comment on the growing tension between the "buy side" and "sell side." Instead of going out and paying your archetypical hedge fund manager two and twenty or even more these days and subjecting your capital to a lock-up, if the big investment banks have actually become giant hedge funds, why don't I just go out and buy their shares?

Steve. There's a case that you should because the big investment banks have a competitive advantage: giant information flows. That said, at the end of the day they're highly cyclical businesses, subject to the same

risks as hedge funds but with share price volatility greater than most top-quartile hedge funds! So if you can stomach the long-term volatility, you're probably not worse off buying shares of Goldman or Morgan Stanley. But, I don't think it's coincidental that many of the best and the brightest have left Goldman to set up their own funds. Part of it is economics, part of it is entrepreneurial.

David. It's taken something like 1,500 man-years to straighten out Fannie Mae's hedge book. How long would it take to do a complete audit of, say, JP Morgan's hedge book?

Steve. We'd all be dead. I know very little about Fannie, so I'll broaden this to a wider point of which I think the audience should be aware.

If you're thinking about systemic risk in America — and Fannie Mae is representative of this — it's very important to know that, for the most part, we don't actually make anything in America anymore. We just trade bits and bytes. Think about the implications of this: 20 years ago financial income in our country was probably only 10% of the market income. Today it is 50%. Five zero. You think GM makes cars. Well, actually no: it makes a lot more money financing those cars and selling mortgages, believe it or not. What is GE? Well, half of it is a financial company. This is where the derivatives and the hedge books tie in. Every company out there has embedded in their P&L increasing amounts of financial income in which they are a lender. In my experience the incremental lender, or the last lender to the table, tends to be less sophisticated. They tend to be the patsies, to use your phrase. It's these hidden derivatives that I worry about in some cases, and this is what's been going on at Fannie.

At Morgan Stanley, we had unbelievable rocket scientists from places like Cal Tech creating derivatives that they knew everything about but in a very narrow arena. People up at my level, or certainly higher than I, who were thinking about risk and risk management were expected to manage this entire process. We had a great understanding of the macro issues and general derivative-related concepts, but we had no idea what was really going on down below. There's an intellectual gap between the macro and the micro that you could drive a truck through, and the people in the two seats have very different skill sets. So I think the odds favor a blow up in the derivatives market at some point.

David. Could you give us your subjective assessment of Alan Greenspan's tenure as chairman of the Fed?

Steve. I give him good marks for the most part because he's shown a pretty firm hand on the till. That said, the Fed should have raised margin rates during the height of the bubble. I actually testified before Congress in March 2000 and said that the easiest and most elegant way of addressing the bubble was to raise margin requirements to force all of the nutso day traders out of the market. I think the entire Congress was in REM sleep during my presentation, and sure enough, six months later the stock market was imploding and I got a call saying, "Would you mind coming back and repeating your testimony?" I said, "No. You didn't listen to me the first time. Now you deal with it."

Foreign Economies and Market Sectors

David. The Bank for International Settlements [BIS] reports that the Asian governments' foreign exchange reserves today total about \$2.5 trillion, which is about two-thirds of the world's FX reserves. And the BIS also tells us that dollar-denominated assets today account for roughly two-thirds of the world's total FX reserves, which is actually more than double America's share of the global economy — the point you made earlier that we are not as much manufacturing in America as we are simply shuffling paper. Can this kind of an imbalance be sustained over time horizons appropriate for the investment of perpetual life charity endowments, and if it cannot, how heavily, if at all, would you overweight foreign stocks relative to domestic ones if you had unilateral control over an endowment portfolio?

Steve. Without question the imbalance is untenable. And it's not only untenable, it's the single **biggest** investment issue all of you must face. I would argue that all returns globally — all financial returns globally at some level or another — are going to lever off of real interest rates in the US. And today, real interest rates are running at half of their long-term levels. There are linkages to a knock-on effect such that if the dollar falls, interest rates will go up. The most direct linkage is the fact that there is way too much liquidity in the system. If investors lose confidence for whatever reason, we'll have a knock-on effect in the form of rising interest rates.

Well, I just told you half of the income in the country is made financially. When interest rates go up, financial

income goes down; so without question this is the single biggest investment risk today. Returning to your question, if you could just hold a portfolio over a long period of time — and this strategy would have blown up in your face this year because the dollar strengthened — I would short the dollar outright, and I would look to go long in various parts of the world outside the US.

David. How much would relative prices have to change for you to either go neutral or reverse that judgment and overweight the US?

Steve. If you're trying to put the US *pari passu* with a country like India or China in terms of labor costs, forget it. The US dollar has to go down something like 90%. But more broadly speaking, thinking about purchasing power parity where you get equivalency for like goods and services, we have to be looking at a 25% to 30% depreciation of the dollar to get back into the relative ranges versus the emerging market currencies where I would reverse my judgment.

What is also interesting on the valuation side is this: if you look at the valuations ex US, you'll typically find discounts ranging from 10% in the UK to 40%, 50%, or 60% in emerging markets. Historically these have been totally justified because (a) our rule of law has been far better, (b) our liquidity has been better, and (c) our returns on capital have been better.

In the future, the rule of law justification will probably still hold, but the gap should be narrowing. One can argue that the New York Stock Exchange is actually behind some foreign markets now, so I think the liquidity gap is narrowing. More importantly, profitability gaps are shrinking significantly. Emerging markets are actually doing a pretty darn good job of closing the return on equity gap. So, I'd argue that if you look at the objects set in motion, they suggest we'll have a collapsing of the valuation gap.

David. If you were forced to invest all of your personal capital over, say, the next decade in a cap-weighted passively managed index of a certain economic sector, which would it be based on current prices?

Steve. I wouldn't put it in utilities. I wouldn't put it in consumer staples. I wouldn't put it in banks. If your time horizon is truly 10 years, I'd look to healthcare, biotech — particularly smaller biotech companies

— and emerging energy. Fuel cells are probably still a bit speculative over this time horizon. The way that I'm answering the question I hope is fairly obvious: I'm asking myself what are the big demand constraints, and what are industries today that will materially impact the nation's ability to grow? Energy, healthcare — and, of course, education. But education is tricky.

David. Hopefully you will have as much fun answering this question as I did writing it out: If you were forced to invest all of your personal capital over the same hypothetical 10-year holding period in a cap-weighted index of airline stocks, and you were given the choice between going long or selling short for the next 10 years, which would you do?

Steve. I'd go short. I think what you need in that industry is chapter seven, not chapter eleven. And for those of you who don't know, a chapter seven bankruptcy is an actual liquidation. You actually need the company to be put out of business completely and everything to be liquidated. Instead, we just seem to see these rolling chapter elevens.

David. The next question is the same question but substitute energy stocks for airline stocks: Over 10 years, would you go long or short if you had to make that binary choice?

Steve. I would probably go short because I think we'll have solutions in 10 years. Look, I know this decision is what you all face — maybe over the next three years, energy stocks will be spectacular. But within a 10-year horizon, we could have forms of ethanol that completely replace oil.

David. If you had to pick one developed stock market from which to ring alpha for the rest of your career, which would it be? Which is the least efficient in a valuation sense?

Steve. In terms of the developed markets it's probably still Japan. You still see a herd mentality there, and you still have episodic periods where foreigners are controlling the market instead of the Japanese themselves. So if I were thinking about the ability to add alpha over a cycle, Japan is where I'd go. The UK is pretty efficient. Some of the continental European markets are less efficient than the US, so I'd prefer them to the US.

David. Let's keep your passport out for a minute if you would. In a recent strategy piece, your former colleague, Byron Wien, wrote the following: "China is on its way to becoming the second most important economy in the world relatively soon and the leading economy before the middle of the century. They will accomplish this not because they are doing everything right, but rather because the rest of the world is not responding to the Chinese challenge." Agree or disagree?

Steve. He's broadly correct. I want to share one story about China though. I met with the chairman of the Shanghai Stock Exchange, and I'm not making this up, he used to run a hedge fund in New York. He's a very bright guy, and the comment that he made to me was: "Chinese companies do not like debt because there is a cost to it. They love equity because it's free." For those of you who may have lived through the bubble, this sounds suspiciously like perceptions of internet stocks back then. There's a lot of this mentality in China. Byron is right long term, but the path back along the way will be incredibly rocky.

The financial system in China is archaic — very unsophisticated. But what's interesting is that some of the smartest money, Goldman Sachs, AIG, and so forth, is over there every single day. And this is one of the "great things" about a command economy: the Chinese, in their typical fashion, are diverting all of their engineers into financial training. You're no longer allowed to be an engineer — you must go get your MBA! There's been a massive shift in China from learning engineering towards learning capitalism and financial systems.

The pace of change over there is mind-blowing, but it won't progress linearly. There'll be many setbacks. China is still predominately a command economy, but the Chinese people seem to be genuinely entrepreneurial.

David. Has Japan finally turned the corner in recovering from the economic malaise that it's undergone over the last 15 years, or is this just another false start in Japan's effort to revive?

Steve. Japan is on the right path. It's financial results are far improved. Look at return on capital. That said, Japan is never going to be like it was in the '80s. It's just so different in terms of mindset.

David. If you were, hypothetically, CEO of France Incorporated or Germany Incorporated, what would be your strategy for these seemingly troubled economies?

Steve. Tough question! I don't want to be too anecdotal about Morgan Stanley, but for those of you who don't know, its chief economist is a guy named Steve Roach. — probably the gloomiest human being I've ever met. When I went to Germany on one of my last trips with Morgan Stanley, I wrote a little note to our investors saying, "I think Roach should move to Germany so that both the US and Germany can become more optimistic." The problems [in France and Germany] are structural. They must allow companies to fail. Porsche, the most successful auto company in the world that sells 100,000 cars a year, wildly profitable, a company you would want to own as an investor, just bought 20% of VW. Just think GM with a German accent. A complete disaster. They claim they're doing it as an investment, but I don't think they are doing it as an investment: it is Germany Inc., and it should not be allowed to happen. Capitalism needs failures.

Expected Returns If We "Stay the Course"

David. We administered a survey to the folks in the room not too many hours ago and the question I posed to them was: "Assume hypothetically that you have unilateral control over an endowment and you were offered the opportunity to swap the entire endowment for a contract from a risk-free creditor to get a guaranteed return with no possibility of default. And assume further a 50-year holding period. What would be the minimal guaranteed real return that would induce you to make the swap?" We surveyed everybody in the room, and the median answer was 5.5%. The arithmetic average, which by definition is unweighted, was 6.3%. So, Steve, are these achievable numbers?

Steve. I think relative to some of your peers in corporate America, those are more realistic than I'm used to seeing, but they're probably still a touch high. Historically, the nominal bond yield you start with predicts 95% of your subsequent return. Today nominal treasury yields are about 4.3%, and you're really going to have to get a pretty good pickup in the other parts of your portfolio if you want to get up to 5.5% overall. So in aggregate I think those numbers may be a touch aggressive, but not totally beyond reason.

David. You've stated explicitly that if you had a binary choice — US stocks versus foreign stocks for the long term — you'd invest abroad. Question: The US stock market on an indexed or passive basis is priced to produce what level of return for a truly long-term buy-and-hold investor?

Steve. About 7%. That's a nominal return, of course. If you think about it, the starting dividend yield is about 1.9%, you get a little bit more due to net stock repurchases so that gets you up to maybe 2.5%. Historically, you've gotten just 1.8% real earnings growth, but let's say we're more efficient now and you get around 4.5% earnings growth and assume the multiple holds. By the way, I assume inflation will be 3%, so I'm essentially forecasting a 4% real return on stocks. That gives you about 7% nominal.

David. Do you want to slap a comparable estimate on foreign stocks?

Steve. It varies a lot. In Japan you can argue it should be north of 10%. Emerging markets are all over the charts, but should certainly be in the double digits. The more mature European markets would be similar to the US — maybe a touch higher because their starting dividend

yield is higher, and the productivity improvements they could achieve if they get their act together could be better.

David. Why is there so much turnover of industry analysts at big mutual fund houses? Has the problem gotten worse since you left being a single industry analyst and became a strategist?

Steve. It's terrible. It assumes almost no benefit from accumulated knowledge. What really distinguishes great investment houses from the good or poor ones is consistency. Successful investing is about successful **pattern recognition** — "I've seen this before, but it's a little bit different here." Well, if you're whipping analysts in and out every six months, which is what some of the larger shops do, it's very hard to develop any sort of pattern recognition at the sector level. It's a big problem.

David. And by extension, excessive turnover on investment committees deprives them of the pattern recognition needed to help convince them to stay the course.

Steve. It certainly does. ■



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