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The value of asset allocation advice: Evidence from *The Economist*'s quarterly portfolio poll

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Abstract

This study analyzes the economic importance of portfolio advice for an investor with an international and multiple-asset investment strategy. We construct portfolios based upon the asset allocation and security market advice of major international investment bankers and analyze the performance using weight-based techniques. Our results indicate that portfolio advisers are not able to outperform passive benchmarks. They do not realize superior performance either through appropriate timing or selection skills. Apparent market timing skills as measured by the Portfolio Change Measure are to a large extent an artifact caused by serial correlation in the return indices used. Likewise, the apparent short-run performance persistence is more due to the serial correlation in returns than to active portfolio selection strategies.

JEL classification: G110; G115
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1. Introduction

Measurement and evaluation of investment performance has received considerable interest in the finance literature (see Grinblatt and Titman, 1995; Ippolito,

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1993, among others). Most academic studies mainly focus on the performance of relatively homogeneous equity portfolios of mutual or pension funds and try to establish whether such portfolios succeed in earning abnormal performance. Abnormal performance is usually defined with respect to an equilibrium or relative pricing model or, less formally, to one or more benchmarks. The consensus in the literature is that mutual and pension fund managers are not able to systematically secure positive abnormal returns net of costs. Some evidence exists that even gross of costs and expenses, no positive abnormal return is earned (Elton et al., 1993). Although some papers have considered domestic bond portfolios (e.g. Cornell and Green, 1991; Elton et al., 1995) and others more balanced funds (Ibbotson and Kaplan, 2000), most have only studied the returns of domestic equity portfolios, for which equilibrium models are readily available (e.g., the four factor model in Carhart (1997)). These studies therefore focus on the security selection and/or market timing ability of the fund manager from a return-based regression approach. To date, remarkably little is known empirically about the investment performance of international multiple-asset-class portfolios. Cumby and Glen (1990), Elton et al. (1993) and others provide some interesting insights into the returns of more internationally oriented mutual funds. Again, the data samples used in those studies are subject to a clear equity and US bias, so the issue of asset allocation performance from a multiple-asset and international perspective remains largely unexplored.

In contrast, research on performance attribution indicates that the largest part of the return earned in mixed funds can be attributed to (strategic) asset allocation, by which the long-run allocation across asset classes is understood (Brinson et al., 1986; Brinson et al., 1991). In a study of UK pension fund performance, Blake et al. (1999) attribute more than 90% of time-series variation in portfolio returns to strategic asset allocation decisions. From an economic perspective it is therefore important to study whether the asset allocation decisions by investment managers add value relative to passive investment strategies.

The literature on this issue is scarce, probably because no well-established equilibrium models exist to evaluate mixed portfolios where domestic and foreign cash, bonds, stocks, and perhaps other risky assets are combined. Of course, some evaluation techniques do not require equilibrium or relative pricing models as they try to infer abnormal performance from asset holdings (Cornell, 1979; Elton and Gruber, 1991; Grinblatt and Titman, 1993). Yet, empirical applications of these techniques are limited since databases containing portfolio asset holdings are much less common than return databases and are more costly to acquire.

Contributing to the literature on asset allocation, this study approaches the issue of performance evaluation from a different perspective. Instead of focusing on managed portfolios of mutual or pension fund managers, we build fictitious portfolios based upon *asset allocation advice* given by major international investment bankers. This information is gathered and published in *The Economist* on a quarterly basis. Although the published advice does not necessarily relate to actual managed portfolios, we assume that given the widely respected and read publication outlet, the investment bankers do not take the portfolio poll light-heartedly. The data enable us to examine several issues on asset allocation performance from a multiple-asset-

class perspective rarely studied before. Is asset allocation advice different across investment bankers and how is it related to performance? Are these investment bankers able to shift between bonds, stocks and cash in a timely manner or do they just 'jump on the bandwagon'? In addition, as the quarterly poll also reports the recommended international composition of the bond and stock portfolios, we can investigate whether investment *advice* is most valuable in the stock or the bond market. The poll does not contain information about individual securities, so we cannot test security selection skills.

Given the international nature of the portfolios as well as the mix of bonds and stocks, it is not clear which equilibrium model to apply to evaluate performance. We therefore apply an absolute performance measure, the Sharpe ratio, to compare recommended portfolios to passive benchmark portfolios. In addition, we compute the performance measures introduced by Grinblatt and Titman (1993) and Grinblatt et al. (1995), which are based on recommended portfolio weights. These weight-based performance measures test whether managers anticipate returns correctly when changing their portfolio holdings. They allow testing for market timing skills or momentum behavior without explicitly estimating risk.

We find that portfolio advisers are not able to outperform our benchmarks, neither at the asset allocation level nor at the bond and stock market level. We do find apparent market timing skills as measured by the portfolio change measure of Grinblatt and Titman (1993). However, this is largely due to the combination of serial correlation in returns used to measure performance and advisers following a buy-and-hold strategy. We do not find evidence that advisers actively 'chase returns' by increasing (decreasing) portfolio holdings of outperforming (underperforming) markets by more than warranted by simple buy-and-hold strategies. Finally, although we do find a positive return for a 'buying the winner, selling the loser'-strategy (winner–loser strategy for short), this is not due to short-run performance persistence. It rather follows from a combination of relatively stable asset recommendations and serial correlation in relative returns. Mechanical trading strategies are able to replicate the winner–loser strategies.

The structure of the paper is as follows. In the next section, we discuss the nature and content of *The Economist*'s portfolio polls as well as the indices used to compute our portfolio returns. In the third section, we elaborate upon the methodology. We explain how to assess performance on an absolute and relative basis. The fourth section discusses the results, both for the consensus portfolio and for the individual portfolios. Finally, we summarize and conclude.

2. Data

2.1. The quarterly portfolio poll

Since early 1989, *The Economist* has conducted a portfolio poll among a select group of international portfolio managers/advisers from the US, Europe and Japan. In the poll, *The Economist* asks managers to design a portfolio of assets for an investor with

no existing investments, no decisive currency considerations – which implies that our data should not be subject to a home bias – and an objective of long-term capital growth.

The survey is conducted on a quarterly basis. Before the start of every quarter, *The Economist* asks the selected investment advisers for their one-quarter-ahead opinion on the best mix of investments for the next 12 months. Interestingly, portfolio guidance is not restricted to the level of asset allocation recommendations. From the second quarter of 1992 onwards, *The Economist* expanded the portfolio poll to a more detailed level of international security markets. Since the focus of this study is on the analysis of the value of asset allocation advice from a multiple-asset-class perspective, this extension is taken as the starting point. The research period ends in the second quarter of 2001.

The sample contains the weights recommended by every investment banker for the asset allocation level restricted to the three broad asset classes of stocks, bonds and cash. For stocks and bonds, these asset allocation data are supplemented with weights at the more detailed security market level by country. The list of stock and bond markets is predetermined. Eight groups of stock markets are considered: US, America Others (AMO), UK, Germany (GER), France (FRA), Europe Others (EO), Japan (JAP) and Asia Others (ASO). The seven bond market categories refer to the currency of denomination: US dollar (USD), Japanese yen (JPY), pound sterling (GBP), German mark (DEM), French franc (FRF), euro/ecu (EUR), Others. Since 1999, the formal creation of the euro-zone, bond subcategories were reduced to five, as bonds, denominated in local currencies within the euro-zone, are combined to one 'euro'-category. In addition to the recommended portfolio holdings, *The Economist* provides neutral benchmark weights every quarter. These benchmark weights are relative market capitalizations and are only given at the level of security markets.

Portfolio advisers providing recommendations are selected by *The Economist* to maintain a consistent balance between American, Asian and European leading investment firms over the sample period. The total sample contains 13 investment banks: Bank Julius Bäer, Commerz International, Crédit Agricole, Credit Suisse, Daiwa Europe, Indocam, Lehman Brothers, Merrill Lynch, Nikko Securities, Phillips & Drew/UBS International, Rabobank, Robeco Group and Standard Life. Not all investment banks report portfolio allocations every quarter. The number of managers reporting per quarter varies from a minimum of seven to a maximum of 10.

2.2. The consensus broker

We do not confine our analysis to the cross-section of recommended portfolio weights. Like many other studies, we also examine the dynamics of the average allocation in our data sample. For this purpose we compute and analyze the performance of what we call the 'consensus broker'. For each broad asset class and for each security market, every quarter we compute an average recommended portfolio weight across all reporting investment firms. An evaluation of the differential performance between the consensus and the individual portfolio advisers may provide a better understanding of their ability to consistently outperform their peers.

Table 1 reports summary statistics for the consensus asset allocation, which averages about 52% in equity, 41% in bonds and nearly 7% in cash. Some similarities with other studies that concentrate on balanced mutual or pension funds are noteworthy. The average recommended portfolio weights to stocks, bonds and cash match very closely the average allocations reported by Brinson et al. (1986), Brinson et al. (1991), Ibbotson and Kaplan (2000), and the average broker weights and the robot blend reported in Arshanapalli et al. (2001).

Considering the different research periods of these studies and the fact that investment opportunities are probably not stationary, it is remarkable how consistent the *average* allocations are over time. Although the consensus weights at the asset allocation level exhibit some variability in our study, the average allocations to stocks, bonds and cash remain remarkably stable in the sense that no trends or significant shifts are identified during our sample period for these three broad asset classes.

On average, long-term asset allocations for stocks, bonds and cash in the proportion of 52/41/7, may be viewed as the passive or peer allocation strategy for the portfolio advisers in our sample. We discuss this issue further in Section 4.1.

As illustrated in Table 1, the standard deviation of the quarterly asset allocation holdings of the consensus broker is notably low. The minimum and the maximum allocations affirm this conclusion, as the respective ranges of stock and bond allocations over the whole sample period is less than 15% and 10% respectively. However, we also report the time-series average of the range of recommended stock, bond and cash holdings across all investment bankers. The large numbers (about 32% for stocks, 29% for bonds and 17% for cash) suggests high cross-sectional variation in the recommendations *across portfolio advisers*, which contrasts with Blake et al. (1999) and Ibbotson and Kaplan (2000) where a remarkably low cross-sectional variation in the returns and portfolio holdings of the *pension* fund industry is shown.

Large cross-sectional variation is confirmed in Table 2. The average portfolio allocations to stocks, bonds and cash as well as the volatility in the compositions vary widely among portfolio advisers. For example, the average asset allocation

Table 1
Percentage asset allocation recommendation by the consensus of brokers

	Stocks	Bonds	Cash
Mean of consensus	51.86	41.52	6.62
Std. dev. of consensus	2.33	1.95	1.93
Min of consensus	45.00	36.33	2.86
Max of consensus	58.88	45.44	10.44
Average range	32.00	28.92	16.92

'*Mean of consensus*' represents the average allocation of the consensus broker, i.e. the average weight of the three broad asset classes over all investment banks and over all quarters, starting with the second quarter of 1992 and ending in the second quarter of 2001; '*Std. dev. of consensus*' is the time-series standard deviation of the weights of the consensus broker. '*Min of consensus*' and '*Max of consensus*' are the minimum and maximum allocation of the consensus broker. '*Average range*' represents the time-series average of the range of the portfolio holdings across all responding investment bankers.

For presentation purposes, we reallocated the average recommended weight for 'Gold' on a pro rata basis to the other three asset categories. Only one adviser recommended investing in gold during two consecutive quarters.

Table 2
Average percentage asset allocation by individual portfolio advisers

	Average weight			Std. dev. of weights		
	Stocks	Bonds	Cash	Stocks	Bonds	Cash
Bank Julius Bäer	47.75	45.53	6.72	5.11	5.02	3.35
Commerz Intern.	53.48	43.34	3.17	6.31	3.82	5.78
Crédit Agricole	57.32	34.86	7.82	7.89	6.23	5.82
Credit Suisse	37.47	49.83	12.70	7.40	6.01	6.75
Daiwa	56.68	36.19	7.13	7.32	8.82	5.35
Lehman Brothers	58.84	32.90	7.94	10.99	9.82	6.89
Merrill Lynch	50.91	41.59	7.50	7.66	8.36	4.01
Nikko Securities	66.36	26.82	6.82	7.59	6.08	4.24
Robeco Group	49.88	47.88	2.25	5.62	5.36	3.58
UBS/Phillips & Drew	38.92	52.60	8.48	6.60	6.46	2.01

Average portfolio composition and standard deviation of the portfolio compositions on the level of asset allocation (stocks, bonds and cash) for investment bankers reporting in *The Economist* quarterly asset allocation poll on a regular basis.

recommendation for Nikko Securities was 66% stocks, 27% bonds and 7% cash, while Credit Suisse's average recommendation was 37% stock, 50% bonds and 13% cash. This motivates our analysis of individual portfolios in addition to the consensus advice in Section 4.

Table 3 offers more detailed statistics on the portfolio allocation distributions of the consensus broker within stocks and bonds separately, i.e. recommendations by country. Once more, the broad ranges in the security market allocations both for stocks and bonds suggest that different advisers use different information. As expected, the consensus allocations to the American region for stocks and bonds (39.9% and 42.8%) are higher than for Europe (34.6% and 29.9%) and Asia (25.5% and 12.4%), especially for bonds. Although not shown, the bond data do not show significant reallocations between the three major regions. Only within the euro-zone there appears some reshuffling with a slight upward trend in the allocations to German mark denominated bonds and away from French franc denominated bonds. As expected, over the sample period advisers altered their desired quarterly portfolio allocation across stock markets more significantly. Portfolio holdings for the euro-area remain notably stable, but there is a strong downward tendency in the allocation to Japanese stocks in favor of US stocks. In Section 4 we analyze whether this happens because advisers anticipate changing expected returns or rather simply chase returns.

2.3. Return composition

To assess the investment performance of the consensus broker and the respective portfolio advisers, returns on the aggregate level of asset allocation and on the more detailed level of the security markets are required.

For security market returns, we employ the Morgan Stanley Capital International (MSCI) indices for stocks and the Salomon Smith Barney World Government Bond (SWGB) indices for bonds. The MSCI and SWGB indices are widely used for eval-

Table 3
Percentage recommendation by the consensus of brokers by country

	US	AMO	UK	GER	FRA	EO	JAP	ASO
Panel A: Stocks								
Mean of consensus	37.58	2.30	9.26	6.52	6.39	12.46	18.26	7.24
Std. dev. of consensus	6.50	0.93	1.91	1.19	1.21	2.79	5.68	2.68
Min of consensus	27.82	0.71	6.50	4.70	4.34	8.24	6.88	3.25
Max of consensus	51.64	3.89	18.72	9.78	9.93	19.38	26.20	10.80
Average range	21.86	5.11	11.33	7.92	11.69	16.15	19.38	8.19
	USD	JPY	GBP	DEM	FRF	EUR	OTHER	
Panel B: Bonds								
Mean of consensus	42.80	12.43	6.23	9.15	5.88	8.64	14.87	
Std. dev. of consensus	4.67	2.95	2.24	6.10	4.36	13.50	6.60	
Min of consensus	33.40	6.13	3.15	0.00	0.00	0.00	2.57	
Max of consensus	50.36	18.43	14.46	17.00	13.84	40.75	25.70	
Average range	44.70	24.69	10.55	10.81	9.98	15.44	27.03	

'*Mean of consensus*' represents the average allocation of the consensus broker, i.e. the average weight to the respective security markets within the broad asset classes of equity and bonds over all investment banks and over all quarters, starting with the second quarter of 1992 and ending in the second quarter of 2001; '*Std. dev. of consensus*' is the standard deviation of the average allocation of the consensus broker in every quarter. '*Min of consensus*' and '*Max of consensus*' are the minimum and maximum allocation of the consensus broker. '*Average range*' represents the time-series average of the range of the resp. portfolio holdings across all investment bankers.
US, AMO, UK, GER, FRA, EO, JAP and ASO are the consensus broker weights for stocks to US, American Others, UK, Germany, France, Europe Others, Japan and Asia Others. The 'Other' Categories are composed of the equity markets with the largest market capitalization within the respective category. USD, JPY, GBP, DEM, FRF, EUR and OTHER are the consensus broker weight for bonds denominated in the US dollar, Japanese yen, pound sterling, German mark, French franc, euro (ECU) and other. Other is composed of those remaining bond markets with the largest market capitalization.

uating international equity and fixed income portfolios and are often tracked by passive investment managers/advisers. All indices assume reinvestment of income and are in US dollars. We first compute total bond and stock returns by using the SWGB and MSCI indices in combination with the respective recommended bond and stock market holdings. For the cash return, the 3-month US dollar Libor rate is used. Finally, after multiplying this cash return and the total bond and stock returns by the recommended holdings at the asset allocation level, they are added together to obtain the total portfolio return. In each case, quarterly buy-and-hold returns are computed, assuming no rebalancing during the quarter. Since management fees and related costs are not taken into account, returns are gross returns. Before describing the methodology and the results, two remaining data issues have to be discussed. [1]

[1] In addition, during two quarters one investment bank included gold investments in its portfolio, whereas another included convertible bonds. We include gold for the performance statistics (although we do not report the details). As we do not have return data for convertible bonds, we allocate their portfolio holdings to either bonds or stocks, depending on which market performed better. Given the limited presence of these asset classes, our choices do not affect the results.

First, during five consecutive quarters, i.e. from the fourth quarter of 1997 until the fourth quarter of 1998, the portfolio poll only reports recommended portfolio weights at the security market level but *not* at the higher level of *asset allocation*. For the sake of uniformity, we report results for both the asset allocation level and the security market level based on the common sample period, consisting of 32 quarters. [2]

Second, it is not clear how to compute returns for the different 'other' categories. We solve this issue by computing a market-capitalization weighted return of the largest markets in these geographical regions. We require that these markets together account for at least 90% of total regional market capitalization. (This implies, for instance, that because of the large market capitalization of Canada, the equity class 'American Others' only contains the Canadian equity market.) Market capitalization data are provided by Datastream. To check the robustness of the results, we also compute equally-weighted returns and a reweighing scenario. For the latter we omit the 'other' categories and reallocate their portfolio weights to stocks, bonds and cash on a pro rata basis. Not surprisingly, given the relatively small weights for the 'other' categories, the three scenarios yield comparable results. We therefore only report the market capitalization scenario.

3. Methodology

Measuring and assessing the investment performance of portfolio advisers requires an appropriate evaluation methodology and one or more suitable benchmarks against which performance can be gauged on a relative basis. Because of their minimal information requirements, return-based evaluation techniques that regress excess portfolio returns on excess benchmark returns are widely adopted to measure the timing and selection abilities of portfolio managers. However, these techniques have received considerable criticism. Consistent abnormal performance involves asymmetric information and/or processing skills and by this unsettles the primary assumptions of homogeneous beliefs and information made in the more traditional equilibrium models (Admati and Ross, 1985; Dybvig and Ross, 1985). Just as questionable are the substantial differences found in performance measures using the standard CAPM benchmarks and those produced with APT benchmarks (Roll, 1978; Lehmann and Modest, 1987; Grinblatt and Titman, 1989, 1994). In addition, employing Jensen's alpha in such a framework may produce biased results for managers with market timing abilities due to biases in the estimation of portfolio betas (Admati and Ross, 1985; Lehmann and Modest, 1987; Grinblatt and Titman, 1989). By incorporating information about portfolio holdings in addition to portfolio returns, performance evaluation can be conducted in a more consistent manner (Elton and Gruber, 1991) by avoiding various regression-based objections.

[2] We computed the results for the security market levels also using the full 37-quarter sample and obtained similar results.

In this paper, we first use a risk-adjusted absolute performance measure, the Sharpe ratio, to assess overall performance. Second, we employ weight-based performance measures that rely on the unconditional covariance of asset returns and portfolio compositions to infer abnormal performance. Finally, we also evaluate performance persistence by studying winner–loser strategies.

The Sharpe ratio is the mean excess return (in excess of the risk-free rate) per unit of total risk, as measured by the standard deviation of excess returns. This measure has the advantage that it does not depend on a specific equilibrium model. Statistical significance in the differences between Sharpe ratios of different portfolios can be tested using the Jobson and Korkie (1981) pairwise test statistic (JK):

$$\frac{\mu_i\sigma_j - \mu_j\sigma_i}{\sqrt{\Theta}}, \tag{1}$$

where μ_i is the average excess return of portfolio i, σ_i is the standard deviation of returns, σ_{ij} is the covariance between the return of portfolios i and j,

$$\Theta = \frac{1}{T}\left[2\sigma_i^2\sigma_j^2 - 2\sigma_i\sigma_j\sigma_{ij} + \frac{1}{2}\mu_i^2\sigma_j^2 + \frac{1}{2}\mu_j^2\sigma_i^2 - \frac{\mu_i\mu_j}{2\sigma_i\sigma_j}(\sigma_{ij}^2 + \sigma_i^2\sigma_j^2)\right] \tag{2}$$

is the variance of the (transformed) Sharpe ratio difference $\mu_i\sigma_j - \mu_j\sigma_i$ and T is the number of return observations. Jobson and Korkie (1981) show that this test statistic is asymptotically normally distributed. They claim that for pairwise comparisons, this JK-statistic is well behaved in small sample sizes, particularly for 24 observations and higher. The main problem is that the power of the test in identifying significant differences is typically very low. In a Monte Carlo study, they find that the probability of rejecting equal performance for a sample of 60 observations and a Sharpe ratio difference of 0.05 or 0.10 is about 10%. This result is relatively unaffected by expanding the sample size. Identifying a significant difference in the Sharpe ratios of portfolios can therefore be interpreted as a marked indication of differential performance.

Because of the low power of the Sharpe ratio test and the lack of consensus about appropriate international asset pricing models, we also use a weight-based performance measure from Grinblatt and Titman (1993). Weight-based performance measures substantially reduce the traditional regression-related problems of market timing and benchmark choices. These measures rely on the (unconditional) covariance between asset returns and portfolio weights:

$$\mathrm{Cov}(w, r) = \sum_{j=1}^{N}(E[w_j r_j] - E[w_j]E[r_j]), \tag{3}$$

where w_j is the portfolio weight and r_j is the return on asset j, and N the number of assets. This sum represents the actual expected return of an investor's portfolio less what the expected return would be if asset returns and portfolio weights were uncorrelated. When asset returns are serially uncorrelated, the portfolio weights of an uninformed investor are uncorrelated with future asset returns and this covariance has zero expected value. The last term within the summation can be thought of as the

appropriate adjustment for risk, since it represents the expected return of a constant weight portfolio with the same average risk as the evaluated portfolio (Grinblatt and Titman, 1993). Moreover, these weight-based performance measures carry the statistical advantage of being the average dollar return of a zero-cost, zero-systematic risk portfolio. Statistical significance can therefore be assessed using a t-test.

This study applies two weight-based performance measures that build on (3): the portfolio change measure (PCM) of Grinblatt and Titman (1993) and the lagged momentum measure (LMM) of Grinblatt et al. (1995). The PCM uses the covariance between recommended portfolio weight changes $(w_{j,t} - w_{j,t-1})$ and *subsequent* asset returns to measure market timing and is estimated by

$$\mathrm{PCM} = 1/(T-1)\sum_{t=2}^{T}\sum_{j=1}^{N}(w_{j,t} - w_{j,t-1})r_{j,t}, \tag{4}$$

where $w_{j,t}$ is the portfolio holding of asset j at *the beginning* of period t and $r_{j,t}$ is asset j's return over period t.

Assuming that expected asset returns are constant through time for uninformed investors, they have no incentive to change portfolio weights. Therefore expected/benchmark weights in the setting of (3) are proxied by the weights at the beginning of the previous quarter, $w_{j,t-1}$. Yet, advisers claiming to have superior skills and/or access to private information have an incentive to alter portfolio recommendations through time to achieve positive market timing. If expectations are correct, i.e. if the adviser has appropriately identified which assets will achieve higher or lower returns, the recommended portfolio will exhibit positive covariance between asset returns and portfolio changes. This implies a positive PCM, which serves as evidence of market timing.

The LMM is closely related to the PCM, differing only with regard to the timing of returns. The LMM estimates the covariance between weight changes and *previous* asset returns $r_{j,t-1}$,

$$\mathrm{LMM} = 1/(T-1)\sum_{t=2}^{T}\sum_{j=1}^{N}(w_{j,t} - w_{j,t-1})r_{j,t-1}. \tag{5}$$

This performance statistic is designed to measure momentum investing by portfolio advisers. The LMM evaluates whether investors shift their recommended portfolio compositions in favor of assets that have recently experienced high returns and away from assets that have underperformed. Of course, portfolios following a simple buy-and-hold strategy will have a positive LMM because of the positive correlation between weight changes and returns. In order to see whether advisers overreact to past performance, we compute the difference between the portfolio's LMM and the benchmark's LMM. [3]

[3] We thank an anonymous referee for this suggestion.

4. Performance evaluation and absolute performance measures

4.1. Performance decomposition

Before we test whether the investment advisers have superior investment skills, we compute the return of their recommended portfolios. Table 4 reports the average return of the total portfolio and of the bond and equity portfolios (panel 'Absolute returns'). In addition, we decompose the returns into an asset allocation part and a security market part (panel 'Relative returns'). This decomposition follows from a comparison between the portfolio returns and the return on an appropriate benchmark portfolio. This benchmark should reflect ex-ante market expectations of asset returns. Acknowledging that ex-ante expectations are difficult to obtain, most studies (Brinson et al., 1986; Brinson et al., 1991; Hensel et al., 1991; Blake et al., 1999 and Arshanapalli et al., 2001) define benchmark weights as the average asset allocation over time and over all fund managers. Blake et al. (1999) believe that this is a reasonable benchmark when long-run investment opportunities are stationary and funds are in steady state. Although it is difficult to claim that the investment opportunity set is stationary through time, the consensus portfolio weights at the asset allocation level prove to be remarkably stable in our study, showing no significant trends. Consequently, the asset allocation weights in our benchmark portfolio are simply the time-series averages of the consensus broker's asset allocation holdings for bonds, stocks and cash. Furthermore, in the benchmark the bond portfolio is assumed to be market-capitalization weighted. Its return is computed using the SWGB indices mentioned earlier. Likewise, for the market-capitalization weighted stock portfolio we use the MSCI indices. [4] For cash, the 3-month US dollar Libor is used. We also used these returns as benchmarks at the security market level for the bond and stock portfolios.

The 'Total' column of the Relative return panel in Table 4 reports the return difference between the recommended portfolio and the benchmark. This difference is split into an asset allocation part and a security market part, as shown in the next two columns. To obtain the asset allocation part, we compute the difference between the return of the recommended portfolio and the benchmark portfolio return. However, for the former we assume that the investor invests in the market-capitalization weighted bond and stock benchmark portfolios instead of in the actually recommended bond and stock portfolios. The difference in return is therefore only due to differences between the recommended asset allocation weights and the (constant) benchmark weights. The security market part is then simply the residual difference. The statistical significance of the average differences is based upon a simple t-test. [5]

[4] As an alternative, we also used the MSCI World Index and the JPM Global Government Bond Index and obtained similar results. Because their investment universe is not identical to that of the advisers, we only report the market-capitalization results.

[5] Note that the relative returns in Table 4 can also be interpreted as an implementation of Eq. (3), with expected weights as benchmark weights (a measure for market selection skills). Given that risk appears to be different between some portfolios and the benchmark portfolio, we choose not to stress this interpretation.

Table 4
Return decomposition and absolute performance measures

	Absolute returns				Relative returns				
		Total	Bonds	Equity		Total	Asset allocation	Security markets	Nobs
Bank Julius Bäer	Mean	2.043	1.822	2.443	Mean	−0.051	−0.075	0.024	32
	Sharpe	0.238	0.186	0.206	Std.	1.145	0.297	1.129	32
	Sharpe BM	0.240	0.093	0.241	*t*-test	−0.250	−1.431	0.122	32
Commerz Intern.	Mean	2.035	1.551	2.383	Mean	−0.059	0.059	−0.118	32
	Sharpe	0.210	0.089	0.197	Std.	0.654	0.261	0.568	32
	Sharpe BM	0.240	0.093	0.241	*t*-test	−0.510	1.277	−1.175	32
Crédit Agricole	Mean	2.746	2.164	3.521	Mean	−0.173	−0.054	−0.118	22
	Sharpe	0.601	0.269	0.705	Std.	0.819	0.360	0.816	22
	Sharpe BM	0.653	0.268	0.751	*t*-test	−0.989	−0.706	−0.681	22
Credit Suisse	Mean	1.903	1.463	2.497	Mean	−0.078	−0.133	0.056	30
	Sharpe	0.209	0.054	0.211	Std.	1.052	0.529	0.645	30
	Sharpe BM	0.196	−0.010	0.235	*t*-test	−0.404	−1.380	0.472	30
Daiwa	Mean	2.000	1.666	2.037	Mean	−0.093	0.138	−0.231	31
	Sharpe	0.193	0.125	0.132°°	Std.	0.900	0.619	0.586	31
	Sharpe BM	0.236	0.130	0.221	*t*-test	−0.576	1.245	−2.199	31
Lehman Brothers	Mean	1.944	1.499	2.224	Mean	0.083	0.078	0.005	31
	Sharpe	0.204	0.071	0.179	Std.	1.037	0.477	0.918	31
	Sharpe BM	0.184	0.078	0.181	*t*-test	0.448	0.914	0.031	31
Merrill Lynch	Mean	2.715	2.226	3.525	Mean	−0.203	−0.130	−0.073	22
	Sharpe	0.608	0.291	0.638	Std.	0.694	0.346	0.534	22
	Sharpe BM	0.653	0.268	0.751	*t*-test	−1.373	−1.766	−0.639	22
Nikko Securities	Mean	2.875	2.199	3.254	Mean	−0.043	0.321	−0.364	22
	Sharpe	0.536	0.274	0.553°°°	Std.	1.128	0.854	0.787	22
	Sharpe BM	0.653	0.268	0.751	*t*-test	−0.180	1.760	−2.169	22
UBS/ Phillips & Drew	Mean	2.839	2.123	4.286	Mean	0.094	−0.322	0.415	24
	Sharpe	0.539	0.227	0.830	Std.	1.732	0.605	1.771	24
	Sharpe BM	0.598	0.187	0.706	*t*-test	0.265	−2.607	1.150	24
Robeco Group	Mean	1.972	1.489	2.561	Mean	−0.122	−0.056	−0.066	32
	Sharpe	0.207	0.058	0.233	Std.	1.046	0.381	0.871	32
	Sharpe BM	0.240	0.093	0.241	*t*-test	−0.660	−0.836	−0.428	32
Consensus	Mean	2.056	1.678	2.463	Mean	−0.038	−0.010	−0.028	32
	Sharpe	0.233	0.128	0.215	Std.	0.616	0.098	0.626	32
	Sharpe BM	0.240	0.093	0.241	*t*-test	−0.353	−0.578	−0.257	32

In the Absolute return panel, average returns in percentages per quarter, the Sharpe ratio and the Sharpe ratio of the benchmark (computed over the same period) are reported. Sharpe ratios significantly different from the benchmark's at the 5% (1%) level are denoted by °° (°°°). In the Relative return panel, average returns in excess of the benchmark in percentages per quarter, the standard deviation of excess returns and the *t*-test on the average are reported. Nobs represents the number of available quarterly observations.

The results show that the consensus broker (bottom rows) underperforms the benchmark by an insignificant 4 basis points (bp) per quarter. The underperformance is both due to the asset allocation decision and the security market choice, but neither of them is statistically or economically significant. When analyzing the advisers' individual portfolios, none of them has an average return significantly different from the benchmark return. Not surprisingly given the abundant empirical evidence of underperformance, only two out of 10 advisers manage to outperform the benchmark portfolio, although never significantly. Remarkably, for UBS/Phillips & Drew the outperformance is due to a higher return at the security market level (not significant), which is largely reversed by significant underperformance at the asset allocation level. This is not surprising since the portfolio invests on average (and consistently) 13% less in the equity market than the benchmark and 11% more in the bond market. Stocks have an average return twice as high as bonds over the relevant period. The opposite is true for Nikko Securities who recommends an investment in stocks (bonds) on average 15% higher (lower) than the benchmark. The significantly lower return at the security market level for Nikko is largely due to a higher recommended weight for the Japanese equity market that underperformed the other equity markets. Whereas the benchmark weight in Japanese stocks falls steadily from about 30% to 17%, Nikko Securities maintains its recommendation around 30% over the entire sample. In addition, the poor performance of Merrill Lynch in the equity market is due to systematic overweighting of Japanese equities. Note that we also used the consensus portfolio instead of the benchmark portfolio to decompose returns. The results (not shown) are very similar to those in Table 4.

Summarizing, the results confirm the general conclusion in the literature that outperforming passive benchmarks is extremely difficult even when the investment universe is broadened by including international bond and stock investments. Selection skills are not present, neither at the asset allocation level, nor at both security market levels. Of course, these results do not take into account risk, and the more extensive discussion of the results for Nikko Securities and UBS/Phillips & Drew indicate that this may be important. The next section will evaluate the risk–return trade-off more formally.

4.2. Risk-adjusted absolute performance

Sharpe ratios for the recommended portfolios (at the three levels: total, bond and equity portfolios) are reported in the 'Absolute return' columns in Table 4. The third line presents the Sharpe ratio of the respective benchmark portfolio computed over the same time period as the recommended portfolio. The overall Sharpe ratio of the consensus portfolio is very similar to the benchmark's, but this hides a considerably better Sharpe ratio for the bond portfolio in combination with a worse ratio for the equity portfolio. None of these differences are statistically significant, however. Also the economic significance is limited, which again corroborates the result that investment advisers on average do not beat the benchmark. Even when looking at the individual advisers, we see that only two manage to achieve a higher Sharpe ratio than their benchmark, although the differences are small and insignificant. At the equity

level, there is only one adviser with a higher Sharpe ratio (UBS/Phillips & Drew) but despite the large difference, the Jobson–Korkie test does not indicate any significance. Daiwa and Nikko Securities underperform significantly. As indicated in the previous section, for Nikko Securities this is due to a large exposure to the poorly performing Japanese equity market. Daiwa, the other Japanese investment banker, does not suffer from this home bias, but systematically underweights the US equity market, which is among the best performing markets over the reported period. The results for the bond market are rather different: six out of 10 advisers manage to outperform the market although not significantly, despite sometimes large differences.

4.3. Weight-based performance measures

The results obtained up to now crucially depend upon the performance measure used to evaluate the portfolios. Moreover, given the low power of the Jobson–Korkie test, it is not surprising that we fail to find superior performance. Casual inspection of recommended asset holdings also shows that advice changes only slowly – see the example of Nikko Securities mentioned in Section 4.1. Therefore, in this section, we study the dynamics of asset allocation and security market advice to see whether investment bankers use their information in a timely manner. Grinblatt and Titman's (1993) PCM investigates whether advisers possess market timing skills, while the LMM of Grinblatt et al. (1995) measures momentum trading.

We compute the PCM for each investment banker and the consensus broker for four different portfolios. First, we compute the PCM for the total portfolio. Then we compute the PCM for the asset allocation level and for both security market levels (bonds and stocks). The asset allocation PCM only takes into account the weights of the broad asset categories and uses the returns of the market-capitalization bond and stock portfolios in order to capture the timing effect at that level. The results are presented in Table 5. Focusing first on the total portfolio level, it is remarkable that only two out of 10 investment bankers show a negative (but small and insignificant) PCM, although of the remaining eight bankers, only Bank Julius Bäer has a significantly positive PCM at the 10% level. The consensus broker also achieves a PCM that is almost significant at the 5% level. At the asset allocation level, six out of 10 bankers have a positive PCM, of which only Nikko Securities' PCM is nearly significant at the 5% level. Again the consensus broker shows a significant PCM at the 10% level. At both security markets levels, the results are mixed: six (five) positive PCM coefficients in the bond (stock) market with very few significant entries. However, the consensus broker manages to realize positive PCM at all levels. Of course, a positive PCM only reveals something about market timing skills if asset returns are serially uncorrelated. It can easily be seen that when returns are positively (negatively) serially correlated, the PCM of a buy-and-hold strategy will be positive (negative). In our sample, several return series show significant first order serial correlation (not reported). As some of them are positive and others are negative, it is an empirical matter if and to what extent PCMs are biased. The last line of Table 5 indicates that for the benchmark portfolio, some PCMs are (marginally) significantly positive, which is to a large extent due to the positive serial correlation found in the bond re-

Table 5
Weight-based performance measures

	Portfolio change measure				Lagged momenturn measure			
	Total return	Asset allocation	Bond markets	Equity markets	Total return	Asset allocation	Bond markets	Equity markets
Bank Julius Bäer	0.147 (1.854)	−0.009 (−0.361)	0.010 (0.237)	0.307 (2.025)	−0.001 (−0.853)	0.000 (0.421)	0.000 (−0.498)	0.000 (−0.209)
Commerz Intern.	0.060 (0.592)	0.060 (1.429)	−0.005 (−0.042)	−0.009 (−0.055)	0.290 (2.208)	0.050 (2.157)	0.130 (1.181)	0.410 (2.257)
Crédit Agricole	0.003 (0.038)	−0.052 (−0.782)	0.050 (0.699)	0.096 (1.004)	0.160 (1.334)	0.060 (1.258)	0.150 (1.345)	0.070 (0.358)
Credit Suisse	0.144 (1.426)	0.086 (0.873)	−0.048 (−0.706)	0.138 (1.317)	−0.160 (−1.640)	−0.010 (−0.202)	−0.004 (−0.076)	−0.230 (−1.278)
Daiwa	0.077 (0.660)	0.024 (0.283)	0.109 (1.462)	−0.019 (−0.118)	0.140 (1.368)	−0.040 (−0.392)	0.090 (0.852)	0.210 (1.846)
Lehman Brothers	−0.083 (−0.873)	−0.023 (−0.408)	−0.151 (−2.389)	−0.064 (−0.542)	−0.070 (−0.656)	−0.070 (−0.804)	0.040 (0.253)	0.010 (0.081)
Merrill Lynch	−0.052 (−0.565)	−0.019 (−0.785)	0.036 (0.625)	−0.071 (−0.454)	0.040 (0.281)	−0.002 (−0.041)	0.090 (1.109)	−0.040 (−0.189)
Nikko Securities	0.055 (0.541)	0.056 (1.972)	0.030 (0.775)	−0.008 (−0.059)	0.157 (1.744)	0.071 (2.080)	0.042 (1.218)	0.090 (0.663)
UBS/ Phillips & Drew	0.257 (0.848)	0.041 (0.977)	0.340 (1.025)	0.071 (0.322)	−0.550 (−1.931)	0.076 (0.934)	−0.546 (−1.546)	−0.756 (−1.859)
Robeco Group	0.064 (0.727)	0.043 (1.037)	−0.033 (−0.376)	0.050 (0.491)	0.057 (0.536)	0.018 (0.565)	−0.013 (−0.095)	0.086 (0.645)
Consensus	0.079 (1.936)	0.030 (1.684)	0.057 (1.177)	0.042 (0.794)	0.036 (0.549)	0.032 (0.871)	−0.013 (−0.244)	0.018 (0.192)
Benchmark	0.055 (1.834)	0.000 n.a.	0.098 (1.790)	0.027 (0.502)	0.167 (3.949)	0.000 n.a.	0.096 (2.771)	0.245 (3.040)

All returns are quarterly percentages; figures in parentheses are *t*-statistics. The portfolio change measure (PCM) is given by Eq. (4) in the text. The lagged momentum measure (LMM) is the difference between the portfolio's LMM (given by Eq. (5) in the text) and the benchmark's. Only for the benchmark the absolute LMM is given. The benchmark's PCM and LMM at the asset allocation level are zero since the portfolio has constant weights. n.a. denotes not available.

turn series. However, when we compute the difference between the investment bankers' PCMs and the corresponding benchmark PCM, the results (not shown) are qualitatively similar to those of the unadjusted ones. Although for the bond market the number of positive PCMs drops to two, it increases to eight for the equity market. However, the majority of the PCMs remain statistically indistinguishable from zero. The economic importance is limited as well, especially since we do not account for transaction costs. Consistent with the mutual fund literature, we find little evidence of market timing skills both at the asset allocation level and at the security market level.

Next, we investigate whether advice is systematically late, by increasing (decreasing) holdings of assets that outperformed (underperformed) in the past quarter. The

LMM results are reported in Table 5. To account for the positive bias in LMM for buy-and-hold strategies, differences between the investment bankers' LMM and the benchmark's LMM are listed. Indeed, consistent with the results by Grinblatt et al. (1995) for US equity funds, the raw LMM numbers (not shown) are highly and significantly positive indicating that managers follow to some extent buy-and-hold portfolios – note in this respect the positive LMM for the benchmark portfolios on the last line of Table 5. By looking at the LMM differences, we can test whether advisers increase (decrease) the weights of the outperforming (underperforming) security markets by more than what is warranted by the relative market shares. From Table 5 it can be seen that this is seldom the case. We only find significantly positive LMM for Commerz International, Daiwa (equity markets) and Nikko Securities. UBS/Phillips & Drew records marginally significantly negative LMM overall and for the equity market. Therefore, little evidence that advisers chase returns is found.

4.4. Trading strategy

Summarizing the results up to now, we have not been able to find investment advice that statistically outperforms passive benchmarks despite the fact that cross-sectional differences between the investment bankers are quite large. To investigate whether investors can extract some superior information from the cross-section of portfolio advice, we propose a zero-cost portfolio test. Each quarter we rank all investment bankers issuing advice according to their performance during that quarter. We then compute for the next quarter the return of the portfolio that follows the advice of the winning investment banker and shorts the portfolio suggested by the losing investment banker. [6] A positive return may be the result of short-run persistence of performance. The results are shown in Table 6. The zero-cost portfolio strategy returns a positive total return of 52 basis points per quarter, which is statistically significant at the 5% level. This result is largely due to positive returns from the bond portfolio and the positive contribution of the asset allocation decision. Returns from the equity portfolio are negative but insignificant. Table 6 also reports the investment results for the winner and loser portfolios separately. It indicates the portfolio returns in excess of the respective benchmark and their t-tests. It shows that the largest part of the positive return of the winner–loser strategy is due to the (marginally) significant underperformance of the loser portfolio in the bond market and the (marginally) significant outperformance of the winner portfolio at the asset allocation level. Yet, the standard deviations of both sets of portfolio returns are very similar, making a risk explanation for the positive return on the winner–loser portfolio less likely. However, before we can conclude that investment bankers possess superior selection

[6] Note that for this exercise we also include the advice by investment bankers that were excluded in the previous analyzes because of lack of data. An investor pursuing this particular strategy would not have been able to identify those investment bankers who would eventually drop out of the sample. We also computed strategies that invest in the two or three winning or losing investment bankers and obtained qualitatively similar results.

Table 6
Zero-cost strategy of buying the winner and selling the loser

		Total return	Asset allocation	Bond markets	Stock markets
Winner	Average excess return	0.16	0.18	0.35	−0.33
	Standard deviation	3.04	3.20	3.00	5.70
	t-Statistic	0.83	1.93	1.50	−1.65
Loser	Average excess return	−0.36	−0.13	−0.19	−0.23
	Standard deviation	3.35	3.37	2.99	5.85
	t-Statistic	−2.51	−1.35	−1.75	−1.04
Winner–loser	Average return	0.52	0.31	0.54	−0.10
	Standard deviation	1.36	0.80	1.21	1.38
	t-Statistic	2.08	2.12	2.45	−0.38

The winner (loser) portfolio consists of the advice of the investment bank that had the best (worst) performance during the previous quarter. The winner and loser average returns are quarterly percentages in excess of the benchmark portfolio (first line); standard deviations are quarterly percentages and computed for *total* returns (second line). For the winner–loser strategy the quarterly percentage return, its standard deviation and *t*-value are reported.

skills, other possibilities must be excluded. We focus more closely on asset allocation and bond market advice since for stocks, the winner, loser and benchmark portfolios do not differ from each other in any significant way. For asset allocation, the winner portfolio invests on average 16% more in equity than the loser portfolio. Given the fact that investment bankers do not change their advice strongly from quarter to quarter, it is possible that the positive return of the zero-cost portfolio is due to a continuation of the equity–bond return differential. When this difference is positive, the winning investment banker is likely to have a high equity exposure, which is not dramatically changed for the next quarter. Therefore, if the equity–bond return differential is positively serially correlated, a positive return will follow. A positive correlation of 0.15 is indeed found for the return difference between market-capitalization weighted stock and bond indices. Although this number is not significant from a statistical point of view, it is of economic importance. If we set up a mechanical zero-cost strategy that overweights equity and underweights bonds by 16% when equity outperformed bonds and vice versa, an average return of 0.26% per quarter is obtained. This comes quite close to the 0.31% per quarter for the asset allocation zero-cost return reported in Table 6. [7]

A similar explanation can be found for the bond market segment. The winner portfolio overweights US bonds, while the loser portfolio underweights them. The difference is a hefty 17.6% on average. This is important as the return earned on the US bond positions accounts for nearly 73% of the total return of the zero-cost strategy. Moreover, the bond return index we use to measure US bond returns has a serial correlation of 0.21, so a similar continuation strategy as with the asset

[7] Another indication that neither the winner nor the loser portfolio is able to time the market at the asset allocation level is the very insignificant PCM coefficients (not shown).

allocation portfolio may be responsible for the positive winner–loser return. We set up another mechanical zero-cost trading strategy that overweights (underweights) US bonds by 17.6% when they outperformed (underperformed) a market-capitalization bond portfolio of the other bond markets. This strategy earns a return of 0.47% per quarter (t-value 2.16), which is similar to the 0.54% per quarter the winner–loser portfolio earns in the bond segment.

The persistence in returns that we discovered from our winner–loser strategy is therefore to a large extent due to positive serial correlation in return differences and the relative stickiness of investment advice. It should not be credited to superior investment skills. This argument is corroborated by the fact that the identity of the winning or losing investment bank changes often: there are 29 consecutive quarters and for 18 (20) of them, the identity of the winning (losing) investment banker changes. In any case, given that we do not take transaction costs into account and only work with broad market indices, it is not likely that net of costs strategies as presented in this section would be profitable in practice.

5. Conclusions

This paper evaluates the value added from portfolio advice for an investor preferring a globally invested, multiple-asset portfolio. To date, the performance literature has shown widespread interest in examining domestic (that is US) equity portfolios from mutual or pension funds. Our data sample consists of the asset allocation and security market advice from leading international investment bankers. Unlike most academic studies that attempt to measure abnormal performance following a return-based regression approach, we build fictitious portfolios based on the recommended portfolio compositions of those managers/advisers and apply weight-based evaluation methodologies to infer abnormal performance.

The evidence presented in this paper is consistent with the performance evaluation results for mutual funds and pension funds reported in the literature. Little, if any, superior selection skills are found in the recommended portfolios as published in *The Economist*. This conclusion applies both to the asset allocation advice and to the more detailed bond and stock market advice. The weight-based portfolio change measure proposed by Grinblatt and Titman (1993) does indicate market timing skills, but this is largely due to serial correlation in the return indices we use to compile portfolio returns. Correcting for this effect eliminates most positive market timing coefficients. In any case all coefficients, which can be interpreted as zero-cost portfolio returns, are too small to imply profitable trading strategies. The fact that we do not take transaction costs into account only reinforces this conclusion. In addition, we do not find that advisers simply chase returns by increasing (decreasing) recommended weights of asset markets after relative good (bad) performance. Finally, although the quarterly strategy that goes long in the best performing adviser and shorts the worst performing one does yield positive returns, this is again due to positive serial relative return correlation combined with persistent portfolio advice. Mechanical trading strategies based on serial correlation in return differences are

able to replicate the results of the winner–loser portfolios. However, we do not advocate pursuing such strategies as their success is probably due to using broad investment return indices, which may be plagued by microstructure effects that would eliminate the strategies' profitability in practice.

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