Trustees are increasingly unbundling balanced funds into an ensemble of specialised sector managers and overlay managers. Norman Sinclair argues that the trustees' choice is equivalent to the selection of an organisational form and, therefore, trustees need to consider the relative effectiveness of the balanced versus specialist approaches to deliver maximum added value.

There is an emerging trend in the fund management industry towards specialisation based on the unbundling of balanced funds into an ensemble of dedicated sector managers and overlay managers. Four arguments that appear prominently in the debate in favour of specialisation are:

- Market timing and stock selection performance are separable, and therefore by combining the “best” specialists for each role, the performance of the overall fund will be enhanced;
- Transaction costs for the fund will be lowered because market timing decisions are implemented cheaply as an overlay using derivatives markets;
- The assertion that there is an exploitable comparative advantage that resides with specialist investment houses and is unlikely to exist in its entirety under the roof of a single balanced manager; and
- A diversification benefit arises from using several managers so that fund performance will be less dependent on the fortunes of a single manager.

On the basis of these arguments, it is claimed that fund performance will be enhanced if trustees unbundle their balanced funds and re-allocate resources to a group of specialist managers.

However, this simple recommendation highlights an interesting alternative: it must also be possible for balanced managers to voluntarily reorganise their investment operations, appoint skilled personnel, and thereby secure the same performance advantages for trustees.

In fact, many balanced fund managers already effectively manage their investments as a set of sector specialists plus a strategic asset allocation overlay. For example, common task specialisations for a balanced manager include teams for domestic equities, domestic fixed interest, international equities, international bonds and currencies. In addition, there is usually a global asset allocation committee that operates an overlay function and may implement decisions using derivative strategies.

Why, then, is an external specialist perceived to be superior to an internal specialist? That market timing and stock selection are separable seems to be the dominant argument on this issue. However, the evidence underlying that argument is weak and, with few exceptions, the market-timing ability of Australian fund managers has not been rigorously examined.

In effect, the four arguments presented are over-simplifications and are insufficient justification for trustees' rejecting a balanced approach in favour of a specialist/overlay approach.

A major difficulty in resolving the debate about the choice of balanced or specialist manager is that none of the participants in the debate has explored the implied organisational perspective. Consequently, the debate tends to focus upon superficial pros and cons of the alternative approaches, as if the issue were simply a choice of management style.

To the contrary, from the trustees' perspective, the decision to move from a balanced approach to a specialist/overlay approach involves much more complex issues than the literature has canvassed. In effect, the trustees' choice concerns an alternative organisational form, and the central issue for trustees is whether or not the selected structure will prove "effective" in the sense that it will deliver maximum value added.

The first objective of this paper is to refocus the debate on to the central issues.
that will determine whether maximum value is added. This is done at a theoretical level by re-framing the decision within a recognised model for organisational effectiveness. This model helps to identify important issues that have been overlooked.

The second objective of the paper is to provide empirical evidence to assess the importance of these issues in achieving the trustees’ objective of maximising value added. The analysis suggests that the role of the asset allocation overlay manager is more complex than the literature implies. There may be a significant loss of value added unless the overlay manager can integrate the views and efforts of all of the specialists under the overlay.

THE SPECIALIST/OVERLAY STRUCTURE

Figure 1 is a conceptual diagram of a specialist/overlay fund structure. The supposed objective of such a structure is to place fund assets where they can be most effectively managed and, in doing so, to separate stock selection from market timing decisions which may be made through the use of selected specialist overlay managers. It is important to note that this organisational structure is representative of both a balanced-manager approach and an ensemble of specialist/overlay managers. For that reason Figure 1, per se, contains few implications for the relative organisational effectiveness of either fund structure.

A major feature of the fund structure in Figure 1 is that it differentiates specialists so that a high degree of control and responsibility is evident. For example, it is possible for the total performance of international equities in the trustee’s global portfolio to result from three different levels of specialist management:

- At the local country level, stock analysts may recommend individual stock selection against a local market benchmark index such as the FTSE. This will be the source of the stock selection component of fund performance.
- At the international equity overlay level, a specialist may make market-timing decisions that effectively re-allocate funds between countries or geographic regions. When measured against an appropriate benchmark such as the MSCI World Index, this will become one source of market-timing fund performance.
- At the global asset allocation level, broad exposures to international equities may be altered relative to other broad sectors such as international bonds. When measured against a specially designed strategic benchmark, this will be a second source of market-timing fund performance.

Several practical advantages emerge when this structure is used with an ensemble of specialist managers. First, superior performance can be measured and uniquely allocated to a responsibility centre - thereby providing a reliable input for the specialist incentive/reward function. Second, all of the “services” are sufficiently well defined that they can be marketed independently. This can lead to competition between specialist teams and presumably result in lower management costs charged to trustees. Finally, the costs of replacing poorly performing specialists may be less than those of restructuring a balanced fund or replacing a balanced manager.

However, it is important to note that Figure 1 is simply a hierarchy of tasks that highlights the degree of differentiation between specialists. It does not directly suggest how maximum value...
added is to be achieved. Figure 1 could equally well describe the investment process of a balanced manager. Hence, a more complete model for organisational effectiveness is required.

A MODEL OF ORGANISATIONAL EFFECTIVENESS

Figure 2 contains a schematic outline for the management of organisational effectiveness. The shaded areas in the right of Figure 2 indicate probable responses to the questions raised in the left of the figure by participants in the fund management industry. The shaded area in the left of the figure highlights important issues that have not been specifically addressed in the specialist/overlay debate.

In Figure 2, the complexity of the environment determines the extent to which specialist functions need to be differentiated. In uncertain (diverse) environments, a high degree of specialisation (differentiation) is required because of the different skills, knowledge bases and analytical models used. For example, these differences may exist across domestic and foreign capabilities as well as between asset sectors within a country.

The second and third elements of the model concern the integration of specialists around a dominant competitive issue. In fund management, reciprocal dependence arises when specialist forecasts and opinions are predicated on common sets of assumptions (e.g., rising world interest rates, growth expectations, etc.). Then, the organisational model suggests that a high degree of integration is required. In turn, this level of integration requires effective resolution of conflict that will be best achieved through mutual adjustment or face-to-face contact due to the reciprocal interdependence of specialists.

In summary, the model suggests that the ability to maximise value added will depend upon how effectively three related elements are managed within the fund. These are:

- the need to differentiate specialisations;
- the need to integrate the different specialisations; and
- the need to manage the conflict that will arise during the process of differentiation and integration.

When the investment process is viewed from an organisational perspective as in Figure 2, the integrative process becomes an important corollary to the process of differentiation. The extent to which maximum value added will be achieved by trustees will depend on how well the integration of specialists such as those in Figure 1 can be managed.

One major issue to be resolved concerns the type of integrative devices available and, of these, which will be the most efficient in the selected fund structure.

Clearly, these issues are significantly more complex for the specialist/overlay structure than for the balanced manager because within a balanced manager’s investment process, differentiation and integration are easily achievable. In a specialist/overlay structure, there is a need for trustees, overlay specialists, custodians and asset consultants to play significant integrative roles. The major focus of this paper is upon the integrative role of the specialist overlay manager.

When Figures 1 and 2 are viewed together, it is clear that the overlay manager in Figure 1 must assume some responsibility for an integrative role that recognises the interdependence between specialists under the overlay and deals with conflict resolution.

According to the model, the maximisation of value added will, in part, depend upon how well this integrative function is managed by the overlay manager. To further delineate the implications of this new role for the overlay manager, the concept of value added needs to be clearly defined:

\[
\text{Value added} = \text{market timing outcome} - \text{risk tolerance times active risk} = \text{risky active return less active risk penalty}
\]

where:

- market timing outcome is a forecast return in excess of the return on a benchmark neutral portfolio. This “alpha” is a function of the accurate
prediction of asset returns;

- active risk (or tracking error) is generated by the asset allocation away from the benchmark neutral; and
- risk tolerance is a penalty coefficient that is applied to active risk. Small penalties indicate a willingness to take larger risks by deviating further from benchmark neutral, and vice versa.

Value added is a risk-adjusted rate of return. This means that for a given risk tolerance, an investor is indifferent between a defined amount of value added with perfect certainty and a return from market timing less a risk penalty for its uncertainty. For example, assuming a risk tolerance of 0.2 and an active risk of 2 per cent per annum, an investor would be indifferent between 1.8 per cent per annum from risky market timing and 1 per cent per annum with perfect certainty. In other words, an investor would be willing to pay 80 basis points for “insurance”.

Clearly, the maximisation of value added depends on specialist forecasting ability, the degree of active risk taken by the specialist, and the risk tolerance of the trustee. Hence, one aspect of the integrative role of an overlay manager will be to monitor consistency between specialist forecasts, model interdependencies in active risk, and assign appropriate levels of risk tolerance to individual specialists. None of these complex issues has been dealt with in the specialist/overlay debate.

A focus on the elements of value added provides an insight into the complexities of conflict resolution that may be required by an overlay manager. For example, while it may be argued that forecast consistency is conceptually the easiest conflict to resolve, it may be the most difficult to achieve in practice. Difficulties may arise because coordination of forecasts and the preference for consensus is basically inconsistent with the competitive nature of specialisation. A “house forecast” is the proprietary information on which active decisions will be based in an attempt to outperform competitors – not collude with them. Obviously, conflict resolution between forecasters will be easier to resolve in a balanced fund than among an ensemble of specialist managers.

The assignment of levels of risk tolerance to individual specialists also raises potential conflicts. This assignment needs to be done with full recognition of the potential active risk and return that is feasible for a given set of assets and particular specialists.

Target information ratios (ratio of market timing outcome to active risk) for different specialists may help this communication.

This may imply that a different basis is needed for the distribution of assets among specialists as an alternative to benchmark neutral weights. Instead, the allocation of the fund between specialists may need to be more dynamically determined, with explicit consideration of differences in expected value added.

It is clear that the integration of specialists is not a simple task. The remainder of the paper examines the importance of risk interdependence in the maximisation of value added and highlights the complexity of the asset allocation overlay.

### Table 1: Elements of the global risk information matrix used by alternative specialist overlay managers

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Variances</th>
<th>Covariances</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete risk information - global</td>
<td>63</td>
<td>1953</td>
<td>100.00</td>
</tr>
<tr>
<td>Specialist overlay - domestic Australian</td>
<td>5</td>
<td>10</td>
<td>0.74</td>
</tr>
<tr>
<td>Specialist overlay - international equities</td>
<td>22</td>
<td>231</td>
<td>12.55</td>
</tr>
<tr>
<td>Specialist overlay - international bonds</td>
<td>13</td>
<td>78</td>
<td>4.51</td>
</tr>
<tr>
<td>Specialist overlay - currencies</td>
<td>23</td>
<td>253</td>
<td>13.69</td>
</tr>
<tr>
<td>Neglected risk information - global</td>
<td>0</td>
<td>1381</td>
<td>68.51</td>
</tr>
</tbody>
</table>

- International currencies – 23 countries, including Australia
- International equities – 22 constituent countries of the MSCI World Index, excluding Australia
- International bonds – 13 constituent countries of the Salomon Brothers Global Bond Index, excluding Australia

The risk information for this set of assets and currencies is contained in a 63-by-63 symmetrical variance-covariance matrix which may be called the risk information matrix. In general, there are N variances and N(N-1)/2 unique covariances contained in this matrix. Table 1 contains a summary of the number of

JASSA – March 1995
unique elements of that risk information matrix that will be utilised by alternative specialist overlay managers such as those in Figure 1.

The most striking result in Table 1 is that an ensemble of sector overlay specialists acting independently will tend to ignore approximately 68.5% of the available risk information. By implication, it follows that balanced managers who deliberately emulate specialist/overlay structures in their investment processes will also tend to ignore an equivalent amount of risk information. Such voluntary myopia can only disadvantage the decision-making ability of the balanced manager.

Nevertheless, it is clear, from the perspective of organisational effectiveness presented in Figure 2, that the balanced manager does have a comparative advantage in terms of modelling the risk interdependence between specialists and resolving any conflicts in world views.

The analysis in Table 1 is a "best-case" scenario in the sense that the analysis is presented at an overlay level where it is assumed that the overlay manager analyses a disaggregated structure for the sectors under the overlay. For example, it is implicitly assumed that an international equities overlay manager will monitor the 22 separate countries in the MSCI World Index. It follows that there are 22 separate sector specialists under that overlay. However, it is more likely that investment mandates under the overlay manager will have been partitioned according to a geographical or some other basis. If so, then the potential information loss continues through the lower levels of specialisation.

For example, Table 2 focuses on further specification of an international equities overlay where the 22 countries have been allocated to five regional specialists: North America, Japan, UK, Europe (excluding UK) and Asia. The results in Table 2 indicate that this degree of specialisation within the international equities overlay leads to another significant loss of 56% of the risk information.

Tables 1 and 2 emphasise the important point that risk interdependencies between specialists account for a large proportion of the risk information matrix. Further, as the levels of specialisation within the fund structure increase, potentially greater amounts of risk information will be neglected. This inherent "conflict" magnifies the importance of the integrative role to be played by successive overlay managers that need to compensate for the neglected risk information within their overlay. However, it is important to note that Tables 1 and 2 may also overstate the degree of risk information lost in specialisation due to informal recognition of interdependencies that may occur within a specialist structure.

How important is risk interdependence to the maximisation of value added? The answer to this question is as important in the evaluation of myopic balanced managers as it is for the specialist/overlay structure. The next section of the paper describes the Monte Carlo simulation used to examine the impact on active risk and value added arising from the tendency of specialists to myopically ignore interdependencies in risk information. Differences in these variables are monitored according to the level of risk tolerance used to construct the optimal portfolio.

**SIMULATION METHOD**

A simulation approach has many advantages over attempts to collect empirical data. First, potential conflict in forecasts can be easily controlled since all specialists use common expected return forecasts. Second, risk information is also common among all specialists but may be simply partitioned differently, depending on the specialisation as in Table 1. Finally, optimisation techniques will ensure that maximum value added is achieved for varying levels of risk tolerance. None of these attributes need be present in actual fund data.

There are four important features of the Monte Carlo simulation method used in this paper.

1. **Randomised risk information matrices**

   Expected return vectors and risk information matrices are randomly constructed for the portfolio optimisation in three stages. First, the historical structure of the 63 asset/currencies over the 291 weeks from 7 February 1989 to 30 August 1994 is analysed using principal components analysis (PCA). The time series realisations for the first five factors from the PCA provide one major input to the simulation.
Table 3: Representative asset allocation for a balanced fund

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Neutral</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>0</td>
<td>5</td>
<td>Balance</td>
</tr>
<tr>
<td>Bonds</td>
<td>10</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Equities</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Property</td>
<td>0</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>International equities</td>
<td>0</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>International bonds</td>
<td>0</td>
<td>5</td>
<td>30</td>
</tr>
</tbody>
</table>

This anchors the simulation in a realistic framework.

Second, the factor sensitivities for each asset or currency and the residual error matrix are estimated using the time series of factor returns in a multivariate regression model.

Finally, on each iteration of the simulation, multivariate random numbers are generated for the factor sensitivities and, using the time series of factor returns and a random residual error, a simulated time series of weekly returns is constructed for all 63 assets or currencies. These simulated data then provide random estimates of expected returns and the risk information matrix. In this way, each iteration represents a feasible realisation of actual data.

2. Constructing optimal portfolios

On each iteration of the simulation, the expected returns and risk information matrix are used in quadratic optimisation to determine the optimal portfolio for each of the overlay specialists in Table 1. At this point, expected returns and total risk information matrix are partitioned as required.

For example, a “full information portfolio” will use the entire risk information matrix, whereas an international equity overlay will use only the “block diagonal” matrix containing international equity risk information. Similar partitioning occurs for other specialists in Table 1. An index of risk tolerance is used to generate alternative optimal portfolios for each specialist.

3. Aggregation of optimal specialist overlays

The optimal portfolio for each specialist needs to be aggregated back into a global portfolio on behalf of the trustee. Since the main objective of the simulation is to assess the importance of the asset allocation overlay, the optimal portfolio of each specialist is combined at benchmark neutral weights.

In practice, if an overlay manager had effectively altered this allocation, then the appropriate weights for aggregation would be the overlay manager’s tactical weights. The important point in the aggregation is that the trustees control a global portfolio; the fact that important risk information may have been ignored in the separate optimisation does not mean that the total global portfolio will not reflect the impact of all risks. Again, to preserve a link with reality, the benchmark structure imposed on the global problem is based on the distribution of asset allocation weights by balanced pooled funds as at March 1994.

Domestic Australian equities are further divided into two-thirds industrials and one-third resources, and the neutral allocations for international equities and bonds are based respectively on the MSCI World Index and the Salomon Brothers Bond Index. A currency benchmark neutral mirrors the underlying asset allocation. The trustee’s “global portfolio” is constructed by aggregating each specialist overlay portfolio using benchmark neutral weights.

4. Monitoring performance variables

Five hundred iterations of stages 1 to 3 are performed for all specialists in Table 1, and the median active risk and value added recorded for different levels of risk tolerance. In the absence of a global overlay manager, the observed differences in performance variables will be driven solely by the myopic partitioning of the risk information matrix.

In particular, the difference in value added between optimal portfolios that use all risk information and the value added by an aggregation of specialist managers’ portfolios provides a measure of the opportunity cost/benefit of the specialist structure. If there is lower value added by the aggregation of specialists, then the difference may be interpreted as a “cost” that the global overlay manager must defray in the integrative process.

RESULTS

A chart of the median active risk taken by individual specialist overlays across varying risk tolerances is presented in Figure 3.

Selected values from this chart are presented in Table 4, with the median active risk for a global portfolio aggregated from individual specialist portfolios at...
Table 4: Median active risk taken by individual specialist overlays (% p.a.)

<table>
<thead>
<tr>
<th>Risk tolerance</th>
<th>Australian equities</th>
<th>International equities</th>
<th>International bonds</th>
<th>Currencies</th>
<th>Aggregated specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>2.85</td>
<td>8.89</td>
<td>3.65</td>
<td>5.32</td>
<td>6.10</td>
</tr>
<tr>
<td>0.1</td>
<td>2.43</td>
<td>5.74</td>
<td>2.82</td>
<td>3.86</td>
<td>4.52</td>
</tr>
<tr>
<td>0.2</td>
<td>1.89</td>
<td>3.27</td>
<td>1.84</td>
<td>2.16</td>
<td>2.74</td>
</tr>
<tr>
<td>0.3</td>
<td>1.45</td>
<td>2.31</td>
<td>1.42</td>
<td>1.55</td>
<td>2.01</td>
</tr>
<tr>
<td>0.4</td>
<td>1.07</td>
<td>1.83</td>
<td>1.20</td>
<td>1.19</td>
<td>1.55</td>
</tr>
</tbody>
</table>

Although the risk tolerance index in Figure 3 clearly distinguishes optimal portfolios that may be characterised as “low-risk” and those that are “high-risk”, it is difficult to declare categorically that a low-risk portfolio will result from a risk tolerance index of, say, 0.5. For a given risk tolerance, the different levels of active risk in Figure 3 depend upon the number and nature of assets in the sector. Nevertheless, some attempt to calibrate or Salomon Bros World or because actual risk measurements are based upon smaller subsets of the universe of investable assets.

A recent estimate of the median actual active risk was given as 5.9 per cent per annum for a specialist international equity fund. Incomplete results for individual Australian assets prevent an accurate overall estimate. However, the same survey reported a median active risk for Australian equities and fixed interest to be 2.6 per cent and 1.4 per cent per annum respectively.

If it is assumed that specialist cash and property funds generate active risk of 0.5 per cent and 1.0 per cent per annum respectively, then using the benchmark weights in Table 3, a quick estimate of actual active risk for Australian assets is approximately 2 per cent per annum. In Table 4, these actual active risk estimates calibrate with simulated active risk at a risk tolerance index around 0.1, and easily within the relevant range 0.05 to 0.4 as presented in Table 4. Given the magnitude of active risk for the aggregated specialists, it seems reasonable to conclude that the relevant range for actual risk tolerance lies in the interval 0.1 to 0.3. This will help the interpretation of the results to follow.

Table 5 presents the median value added generated by individual specialists and the aggregated global portfolio. It was mentioned above that value added is a riskless return that a trustee views as equivalent to a risky return less a return penalty for risk. Hence, using the results in Tables 4 and 5 for international equities, a trustee with a risk tolerance of 0.2, would be indifferent between a certain return (value added) of 2.96 per cent per annum and an uncertain return of 5.10 per cent with an active risk equal to 3.27 per cent per annum.

This uncertain return of 5.10 per cent per annum is the median alpha, or outperformance relative to benchmark neutral, that an international equities specialist is expected to generate given that level of active risk. Again, it is also worth noting that the amount of value added differs across the asset classes with higher value added associated with higher-risk assets such as equities and currencies.

The results in Figures 4 and 5 and Table 6 provide the key insights into the importance of modelling the risk interdependence between specialists. There, the comparison is made between optimal portfolios that use the complete risk information matrix and portfolios constructed from an aggregation of individual specialists. The results in Figure 4 indicate that, on average, an optimal full information portfolio will exhibit higher levels of active risk than an aggregated specialist portfolio across all levels of risk.
tolerance.

Despite the higher active risk evident in Figure 4, the results in Figure 5 show that higher value added is achieved if the complete set of risk information is used. Selected values within the relevant range of risk tolerance in Table 6 indicate that the loss of value added due to partitioning the risk matrix may lie between 1.4 per cent (RT = 0.3) and 1.9 per cent (RT = 0.1) per annum.

It is important to note that this is a riskless return. If it is converted to an outperformance target, then assuming a risk tolerance of 0.2 and an active risk of 3.0 per cent per annum, it is likely that the global overlay specialist needs to generate outperformance of about 3 per cent to 4 per cent per annum.

It is important to note that this outperformance requirement is simply to compensate for the loss of value added associated with myopically partitioning the risk information matrix between sector specialists.

Table 6: Median active risk and value added for full information portfolio and aggregated specialist overlays

<table>
<thead>
<tr>
<th>Risk tolerance</th>
<th>Active risk (% per annum)</th>
<th>Value added (% per annum)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Information</td>
<td>Aggregated Specialists</td>
</tr>
<tr>
<td>0.05</td>
<td>7.51</td>
<td>6.10</td>
</tr>
<tr>
<td>0.1</td>
<td>5.62</td>
<td>4.52</td>
</tr>
<tr>
<td>0.2</td>
<td>3.78</td>
<td>2.74</td>
</tr>
<tr>
<td>0.3</td>
<td>2.89</td>
<td>2.01</td>
</tr>
<tr>
<td>0.4</td>
<td>2.32</td>
<td>1.55</td>
</tr>
</tbody>
</table>

CONCLUSIONS

In this paper, it has been argued that the trustees' choice between balanced and specialist funds is tantamount to the selection of an alternative organisational form. From that perspective, trustees need to consider the relative effectiveness of the balanced versus specialist approaches to deliver maximum value added. The organisational model presented in the paper identifies both differentiation and integration as necessary ingredients for fund effectiveness.

This model suggests that at least two key issues have been under-emphasised in the debate—the interdependence of specialists and the need for conflict resolution.

A Monte Carlo simulation was used in the paper to examine the importance of risk interdependencies between specialists. The results presented in Figures 3, 4 and 5 and Tables 5 and 6 indicate that:

- risk interdependence between specialists has a significant effect on the maximisation of value added for trustees;
- a common level of risk tolerance leads to different optimal levels of active risk and value added across different specialists; and
- a global asset allocation overlay is necessary to compensate for the value lost...
essary to compensate for the value lost because of the inherent myopia of specialisation.

Specifically, the results suggest that if risk interdependencies are ignored or treated inconsistently, this can lead to a significant loss of value added for trustees.

Within an identified relevant range of risk tolerance, the loss of value added could lie between 1.5 per cent and 2.0 per cent per annum. In other words, this is a hidden cost in the specialist/overlay structure that needs to be recouped by the overlay specialist simply to break even, relative to a more holistic approach to fund management. Recast as an outperformance target, this loss of value added could equate to a requirement to beat the benchmark neutral portfolio by between 3 per cent and 4 per cent per annum.

A major implication for balanced managers is that risk interdependencies between asset classes need to be explicitly recognised in the global asset allocation decision.

If balanced managers take a holistic approach to the maximisation of value added and fully resolve conflicts in world views between specialists, then they have an inherent competitive advantage over the specialist/overlay approach.

In light of these results, it is puzzling that many balanced managers voluntarily attempt to emulate the specialist/overlay approach.

This paper has focused on the importance of the global asset overlay with particular emphasis on risk interdependence.

However, if trustees decide to follow the specialist/overlay structure, then there are also implications for other major participants – custodians, trustees and asset consultants.

In general, the organisational model in Figure 2 implies that effective communication lines will need to be established to resolve potential conflict in the integration of individual specialists.

The main implication for custodians is that they can play an important integrative role, because they are in a unique position of having access to the complete information set.

Specialist managers operating through a common custodian can be more easily integrated into the trustee’s global portfolio.

It follows that risk measurement, market timing ability and stock selection ability are all more easily assessed by custodian systems than by any other market participants.

If custodians begin to play this enhanced role in the integration of specialist managers then the major implication for asset consultants is that they have a limited role to play in the management of fund assets. This role may involve the coordination of forecasts between specialist managers, the dissemination of risk information, and the assembly of performance results from custodians across managers. They may have a continuing role in the selection of managers but they need have no direct role to play in the asset allocation decision.

**NOTES**

1. For a topical coverage of opinions on the balanced/specialist issue, see S. Hely in Superfunds, August 1994, pp. 24-27. The trend towards specialist management of industry funds is well established. For example, as at the end of 1993, out of the 107 industry funds surveyed in Super Review (March 1994, pp. 16-17), approximately 33 per cent had one manager, 56 per cent had at least three managers and 32 per cent had five or more. Further, although the median number of managers was three, one fund had a total of 22 managers.
3. In Figure 1, it is assumed that the allocation between specialists is done at benchmark neutral weights. Later in the paper, the complexities of the overlay suggest that other bases for allocation may be more appropriate.
4. This model is based upon the adaptive contingency model of Lawrence and Lorsch. See Lorsch, J.W., and P.R. Lawrence, 1970, Studies in Organisation Design, Richard D. Irwin. The adaptive contingency model views organisations as systems of variables interacting with their environment so that there is not one correct way to organise under all conditions. The ultimate effectiveness of the organisation depends upon an optimal balance of differentiation and integration.
6. Active risk in the value added expression is defined to be the squared value of the tracking error, consistent with utility theory in which increments and decrements to wealth do not carry the same implications for utility.
7. Another dimension is added to the problem if specialists and trustees use different risk tolerances in the maximisation of value added. This is the agency problem discussed in N.A. Sinclair, 1994, “Benchmark Policy Ranges – Managing the Manager”, JASSA, June.
8. From an a priori statistical or econometric viewpoint, it is likely that decisions that do not use the complete set of information will be suboptimal relative to those decisions that do.