

CHAPTER 3

RESEARCH RESULTS

3.1 Investment Performance of The Unit Trusts Before and During The Financial Crisis

Table 3.1 and Table 3.2 show the overall unit trusts performances before and during financial crisis.

Table 3.1 – Overall Unit Trusts Performances Before Financial Crisis
(March 1995 to June 1997)

	Mean Monthly Return (%)	Sharpe Index	Treynor Index	Adj. Jensen's Alpha	Fund Market Adj. Return (%)
Unit Trusts	0.59	0.00088	0.00105	0.00332	0.24
Market Proxy (Emas Index)	0.35	-0.03116	-0.00156	-	-

Table 3.2 – Overall Unit Trusts Performances During Financial Crisis
(July 1997 to November 1999)

	Mean Monthly Return (%)	Sharpe Index	Treynor Index	Adj. Jensen's Alpha	Fund Market Adj. Return (%)
Unit Trusts	-0.47	-0.09559	-0.03841	-0.00349	2.45
Market Proxy (Emas Index)	-2.92	-0.14583	-0.03394	-	-

From Table 3.1, it shows that as a whole, the unit trusts have been able to outperform the stock market before the financial crisis (March 95 to June 97). The average Sharpe Index for all the unit trusts is 0.00088 whereas for market proxy is -0.03116. The Treynor index for the former is 0.00105 whereas for the latter is -0.00156. The unit trusts also recorded a positive Adjusted Jensen's Alpha value of 0.00332.

The unit trusts mean monthly return is 0.59% whereas the market proxy is 0.35% during the same period. The risk free rate of 0.506% which is above the market return but below the unit trusts. Therefore, the Sharpe Index and Treynor Index for market proxy are negative as shown above. The excess fund return over market proxy or fund market adjusted return is 0.24%. All the performance measurement results are consistent, i.e. the unit trusts performed better than the market proxy during the above sub-period.

The interesting part is that the performances of both unit trusts and market proxy during financial crisis period (July 97 to November 99) as shown in Table 3.2. As expected, both have negative returns during the recessionary market. Unit trusts recorded an overall negative monthly return of 0.47% whereas the market proxy recorded negative 2.92%. The risk free rate for the same period is 0.47%. As such, both the Sharpe Index and Treynor Index are negative. However, the importance in this finding is that the fund market adjusted return recorded as high as 2.45%. This is far above the figure before financial crisis period.

During the boom period, the unit trusts could only earn an excess monthly return of 0.24% over the market proxy. But during financial crisis, they could earn an excess return of 2.45% over market proxy. This is almost ten times the former. It shows that during the financial crisis or recessionary market, the unit trusts performances are better than during boom market. Although both encountered negative returns, unit trusts in fact performed 'less worse than market proxy'.

The explanation of this is because the share market is not the only asset where unit trusts invest in. They also invest in bonds, money market instruments and risk free assets. These instruments give the unit trusts constant positive returns during recession. They act as 'cushion' during this period, thereby reducing the negative return encountered in the share market.

The research also includes a statistical analysis to determine whether the performance of funds return versus market return are significant. The results are shown in Table 3.3.

Table 3.3 - Market/Funds Return Before & During Financial Crisis

	Market Return	Funds Return	Sig *
Before Crisis	0.35	0.59	0.859
During Crisis	-2.92	-0.47	0.614

* Level of significant using t-test statistical technique at 0.05 level

Although funds return is higher than the market return during both sub-periods, the differences are not significant using the t-test statistical technique. The results, however, showed that the difference at 0.05 level during crisis is more significant than before crisis.

One important issue to discuss here is the performance measurement using Sharpe Index, Treynor Index and Adjusted Jensen's Alpha. These performance measurements are very useful if the results are positive, i.e. performance of portfolio are above risk free return. As discuss earlier, they do not only show the excess returns, but also incorporate the risk factor. Those having greater values outperform those having smaller values.

However, when the results are negative i.e. portfolios earning less than the risk free rate, or they encounter negative returns, it will be difficult to conclude whether those having greater values perform better than those having smaller values do. To illustrate, please refer to the below example.

Refer to Fund 22, the Sharpe Index is -0.12837 and for Fund 23, the index is -0.15963 . One would think the performance of Fund 22 is better than Fund 23 because the former value is greater than the latter. In other words, 'Fund 22 performs not as bad as Fund 23'; since both encounter negative values. However, when refer to fund risk premium, $R_j - R_f$, or the numerator of the index, Fund 22 is -0.01322 and Fund 23 is -0.01278 . This indicates Fund 23 performs better than Fund 22 for the same reason as above. This is because the denominator, or the risk for Fund 22 is 0.10302 and Fund 23 is 0.08006 .

As can be seen, Fund 23 has a better return (lesser negative return) than Fund 22. It also has lesser risk (lesser denominator). So it should have been performed better than Fund 22. But when refer to Sharpe Index, the result shows otherwise.

This is because the notion of risk is unclear when the return is negative as whether the 'risk' is considered lesser when the standard deviation is smaller or bigger. If we accept the first statement as true, which is well accepted when the indexes are positive, then the problem explained in the above example would exist.

Knowing the potential problems for the above performance measurements, it could therefore explain the inconsistency of the results during financial crisis. For example, according to Sharpe Index, the unit trusts outperformed the market proxy, -0.09559 against -0.14583 . But when measure using Treynor Index, the results are -0.03841 against -0.03394 , showing the market proxy outperformed the unit trusts. Adjusted Jensen's Alpha also showed a reverse result of -0.00349 . Therefore, during the recessionary market where

most portfolios encountered negative returns or negative excess returns, the above indexes are not appropriated. A more suitable measurement is the fund market adjusted return as introduced in this research.

The performance of each individual unit trust before financial crisis is shown in Table 3.4 and during financial crisis is shown in Table 3.5.

3.2 Performance of The Government-Sponsored Funds Against The Private Funds

There are 37 private funds and 16 government-sponsored funds in the sample. The performance of the government-sponsored funds against the private funds before crisis shown in Table 3.6 and during crisis in Table 3.7.

**Table 3.6 – Performances of Government-sponsored Funds and Private Funds
Before Financial Crisis (March 1995 to June 1997)**

	Mean Monthly Return (%)	Sharpe Index	Treynor Index	Adj. Jensen's Alpha	Fund Market Adj. Return (%)
Government- Sponsored Funds	0.94	0.04145	0.00767	0.01167	0.59
Private Funds	0.44	-0.01666	-0.00182	-0.00029	0.09

Table 3.7 – Performance of Government-sponsored Funds Vs. Private Funds
During Financial Crisis (July 1997 to November 1999)

	Mean Monthly Return (%)	Sharpe Index	Treynor Index	Adj. Jensen's Alpha	Fund Market Adj. Return (%)
Government- Sponsored Funds	-0.97	-0.14985	-0.05010	-0.01608	2.11
Private Funds	-0.26	-0.07213	-0.03336	0.00195	2.66

Before Financial Crisis

Before the financial crisis, the performances of government-sponsored funds performed much better than the private funds. Fund market adjusted return for the former is 0.59% whereas the latter is 0.09%. The Sharpe Indexes are 0.04145 and -0.01666 and the Treynor Indexes are 0.00767 and -0.00182 respectively. For the Adjusted Jensen's Alpha, the values are 0.00167 and -0.00029 respectively. All the performance measurements have shown consistent results, which is that the government-sponsored funds outperformed the private funds. As mentioned earlier, this result is expected because most of the government-sponsored funds have privileges to invest their fund in areas where those private funds do not possess.

The best overall performer according to the fund market adjusted return is Amanah Saham Sabah, followed by ASM Kumpulan Modal Bumiputra Yang Kesebelas. Both are government-sponsored funds. Then only followed by Malaysia Progress Fund (a private fund).

The worst performer is Amanah Saham Dana Pertama, followed by Amanah Saham Bank Islam – Tabung Pertama, Amanah Saham Bank Simpanan Nasional and Amanah Saham PHB. All are private funds. They are also the only four out of the total sample that encountered negative returns. This represents only 7.5% of the funds under the study. There are, however, only 27 funds that managed to earn above the risk free rate, representing half of total fund under study. Out of these 27 funds, 15 funds are private funds and 12 are government-sponsored funds, represent 40% and 80% from each respective group. The details of the performances of the government-sponsored funds are shown in Table 3.8 and the private funds are shown in Table 3.9.

During Financial Crisis

During the financial crisis, the fund market adjusted return for the government-sponsored funds is 2.11% and the private funds is 2.66%. This shows that both performed better than the market. The Sharpe Index for the former is -0.14985 and the latter is -0.07213 . For Treynor Index, the figures are -0.05010 and -0.03336 . This shows that both returns are less than the risk free rate. For Adjusted Jensen's Alpha, the results are -0.01608 and 0.00195 . All the performance measurements show that the private funds performed better than the government-sponsored funds during crisis.

Whereas for the mean monthly return, the government-sponsored funds encountered a negative return of 0.97% whereas the private funds encountered a negative return of 0.26%. This is significant as the former encountered losses almost four times than the latter. Base on the mean monthly return, there are 20 funds encountered positive returns during this period, but none of them are from government-sponsored funds. As the risk free rate for the period is 0.47%, only 5 funds managed to earn above the rate and all of them are private funds. Out of these 5 funds, BHLB Pacific Unit Trust Management Berhad manages three of them. This company has performed well as all the 4 funds are ranked first, second, forth and sixth among all the 53 samples.

The worst performing fund is Amanah Saham Dana Kedua (private fund), followed by Amanah Saham Sabah (government-sponsored fund) and Amanah Saham Dana Ketiga (private fund). Amanah Saham Ketiga was also the worst performer before the financial crisis.

The results show that the government-sponsored funds performed worse than private fund during the crisis. One of the reasons is that during the second sub-period, the earning for government-sponsored funds via acquiring shares from the IPOs was reduced tremendously. Some of the IPOs even encountered negative returns. When the funds do not have this additional advantage, they could not outperform private funds. Another reason is that during the financial crisis, some of the assets belonging to the States could not be exposed even they carry losses. These assets once generated high income become burden to the funds. However, according to fund market adjusted return, all of the funds managed to beat the market except Amanah Sham Dana Kedua.

The details of performance of government-sponsored funds are shown in Table 3.10 and private funds are shown in Table 3.11.

The research further investigates whether there are any differences between return of government-sponsored funds and private funds during the two sub-period using statistical analysis and the results are shown in Table 3.12.

Table 3.12 – Monthly Return of Government-sponsored Funds Vs. Private Funds

	Government-Sponsored Funds	Private Funds	Sig *
Before Crisis	0.94	0.44	0.002
During Crisis	-0.97	-0.26	0.008

* Level of significant using t-test statistical technique at 0.05 level

The table shows that the monthly return of the government-sponsored funds are greater than the private funds and it is significant before financial crisis. But during financial crisis, the whole situation is reversed; the private funds performed better than the government-sponsored funds and it is also significant.

3.3 Performance of The Unit Trusts According to Fund Size

The fund size as per Net Asset Value as of 30th November, 1999 is shown in Table 3.13. From the table, it is vital to separate the government-sponsored funds from the private funds in order to avoid confounding effect. This is because most of the government-sponsored funds under study are small fund size. For the government-sponsored funds, they are divided into three groups in such that there are 5 to 6 funds in each group as follows.

Government-sponsored Funds

GROUP		FUND SIZE (as of 30 th November, 99)
Group 1	-	up to RM 5 million
Group 2	-	RM 5 to RM50 million
Group 3	-	Above RM50 million

The overall results of each group before financial crisis is shown in Table 3.14 and the same during financial crisis is shown in Table 3.15

Table 3.14 - Overall result of Government-sponsored Funds According to Fund Size (Before Financial Crisis)

Ranking	Group	Market Return (%)	Sharpe Index
1	3	1.18	0.83220
2	1	0.85	0.50180
3	2	0.81	-0.46150

Table 3.15 Overall result of Government-sponsored Funds According to Fund Size (During Financial Crisis)

Ranking	Group	Market Return (%)	Sharpe Index
1	2	-0.68	-0.16834
2	1	-1.05	-0.15990
3	3	-1.22	-0.11762

Table 3.16 shows the results of statistical analysis to determine the significant of the above results.

Table 3.16 – Government-sponsored Funds Return Before & During Financial Crisis by Fund Size

	Group 1 (up to RM 5 Mil)	Group 2 (RM 5 Mil to RM 50 Mil)	Group 3 (Above RM 50 Mil)	Sig *
Before Crisis	0.85	0.81	1.18	0.714
During Crisis	-1.05	-0.68	-1.22	0.277

* Level of significant using ANOVA statistical technique at 0.05 level

From the above, it shows that the biggest funds performed the best before crisis whereas the medium size performed the worst. However, it is not statistically significant. During the crisis, however, the medium size performed the best whereas the biggest size performed the worst. Again, it is not statistically significant.

Private Funds

For the private funds, they are divided into 3 groups in such that there are 11 to 13 funds in each group as follows.

Private Funds

GROUP		FUND SIZE (as of 30 th November, 99)
Group 1	-	up to RM 70 million
Group 2	-	RM 70 to RM 250 million
Group 3	-	Above RM 250 million

The overall results of each group before financial crisis is shown in Table 3.17 and the same during financial crisis is shown in Table 3.18.

Table 3.17 - Overall result of Private Funds According to Fund Size
(Before Financial Crisis)

Ranking	Group	Market Return (%)	Sharpe Index
1	3	0.48	-0.01071
2	1	0.44	-0.01063
3	2	0.40	-0.02773

**Table 3.18 Overall result of Private Funds According to Fund Size
(During Financial Crisis)**

Ranking	Group	Market Return (%)	Sharpe Index
1	3	0.11	-0.05265
2	2	-0.30	-0.06843
3	1	-0.65	-0.09953

Table 3.19 shows the results of statistical analysis to determine the significant of the above results.

**Table 3.19 – Private Funds Return Before & During Financial
Crisis by Fund Size**

	Group 1 (up to RM 70 Mil)	Group 2 (RM 70 Mil to RM 250 Mil)	Group 3 (Above RM 250 Mil)	Sig *
Before Crisis	0.4411	0.3985	0.4751	0.884
During Crisis	-0.6482	-0.2977	0.1145	0.148

* Level of significant using ANOVA statistical technique at 0.05 level

From the above, it shows that the biggest funds performed the best before crisis whereas the medium size performed the worst. However, it is not statistically significant. The results are exactly the same with the government-sponsored funds.

During the crisis, again the biggest funds performed the best whereas the smallest funds performed the worst. However, it is not statistically significant.

From the above, it can be concluded that there are no size effect on the unit trusts. Although the result shows that the biggest funds seem to outperform others, it is not statistically significant.

The details of the results are shown in Table 3.20 and Table 3.25.

3.4 Funds Performance and Risk by Their Stated Objectives

For the above purpose, all the funds are divided into 3 categories, namely Growth, Balanced and Income funds according to their stated objectives found in the respective prospectuses. This is not an easy task as some of the funds did not specifically indicate their objective according to the three categories above. Even the groupings by certain rating agencies such as Normandy, Micropal and Lipper appeared in the Edge magazine are not consistent. There are 19 Growth Funds, 23 Balanced Funds and 11 Income Funds in the samples. The overall results are shown in Table 3.26 and Table 3.27.

Table 3.26 – Funds Return and Risk by Their Stated Objective (Before Crisis)

	Monthly Return (%)	Rank	Beta	Rank
Growth Fund	0.555	2	0.601	3
Balanced Fund	0.698	1	0.729	1
Income Fund	0.424	3	0.689	2

Table 3.27 – Funds Return and Risk by Their Stated Objective (During Crisis)

	Monthly Return (%)	Rank	Beta	Rank
Growth Fund	-0.054	1	0.289	2
Balanced Fund	-0.971	3	0.313	1
Income Fund	-0.150	2	0.196	3

To determine whether the funds have adhered to their stated objectives, it is assumed that the most aggressive fund, i.e. the Growth Funds should have the highest return and risk. The least aggressive fund, i.e. the Income Funds should have the lowest return and risk. From the above tables, it shows that the Balanced Funds have the highest risk and highest return, whereas the Growth Funds ranked second in term of return and lowest in term of risk. The Income Funds, on the other hand, ranked the lowest in term of return and second in term of risk.

During the crisis, the Growth Funds ranked the first although they should have ranked the lowest during adverse market (It is assumed they have the highest risk, so the negative returns should be the greatest). In term of risk, they ranked the second. As for the Balanced Funds, they ranked the lowest in term of return and the first (riskiest) in term of risk. The Income Funds, on the other hand, rank the second in term of return and have the lowest risk.

From the above results, it seems the funds do not adhere to their stated objectives, consistent with studies done by other researches. The Balanced Funds, seem to take the position of the Growth Funds as they encountered the highest return and risk during good time and the worst return during bad time, consistent to the notion of high return, high risk.

3.5 Other Finding – Equities Holding

We further our study into identifying the equities holding of each fund before and during financial crisis to see how fast those fund managers have reacted to the financial crisis. It is logical to think that if the funds managed to reduce their asset allocation in equities during recessionary market and instead allocated their funds in fixed income market, the funds should have performed better than others. As such, it would not be harsh if we say good fund managers should be able to anticipate market outlook, although some may argue that the 1997 financial crisis appeared too fast and difficult to anticipate.

For the above purpose, we begin to identify the equities holding in 1996 and 1998 as before and after financial crisis. The overall result of equities holding of government-sponsored funds as compared to private funds is shown Table 3.34.

Table 3.34 – Equities Holding of Government-sponsored Funds Vs. Private Funds (During 1996 and 1998)

	Before Crisis (1996) Equity (%)	After Crisis (1998) Equity (%)	Change (%)	Sig *
Government-Sponsored Funds	81.1	51.3	29.8	0.000
Private Funds	67.7	49.5	18.1	0.000

* Level of significant using t-test statistical technique at 0.05 level

From the above table, it shows that the government-sponsored funds reduced the equities holding from 81.1% of NAV in 1996 to 51.3% of NAV in 1998, a reduction of 29.8%. The private funds, on the other hand, reduced the equities holding from 67.7% to 49.5% during the same period, a reduction of 18.1%. Both changes are statistically significant at 0.05 level. It seems like the government-sponsored funds managed to reduce their equity more significantly than the private funds. This is contradicting with the assumption we made because the private funds performed better than the government-sponsored fund during the financial crisis. However, before we can conclude the above, we now examine how reduction of equities holding can be occurred.

There are two causes resulting the above. Firstly, it is due to reduction in investment in equities i.e. funds shift from equities investment to other fixed income investments. Secondly, it is due to lower shares prices. The later can cause a reduction in equities holding even the former does not occur. Shares prices have changed drastically between 1996 and 1998. The minimum and maximum monthly closing points for KLEI in 1996 were 299.24 and 350.63 respectively, whereas in 1998 were 79.55 and 182.09 respectively. As such, the reduction of equities holding for the funds due to low shares prices. The details of

the equities holding for each fund during the above period are shown in Table 3.35 and 3.36.

In order to avoid the above problem, we analyzed the equities holding immediately prior and after the financial crisis before shares prices changed drastically. We take 1st of July 1997 as the cut off date. Equities holding prior to the date being considered as before the crisis and after the date being considered as after the crisis. The results are shown in Table 3.37.

Table 3.37 – Equities Holding of Government-sponsored Funds Vs. Private Funds (Just Before and After 1st of July 1997)

	Before 1 st July 1997 Equity (%)	After 1 st July 1997 Equity (%)	Change (%)	Sig *
Government-Sponsored Funds	85.6	78.9	6.7	0.008
Private Funds	73.4	60.4	13.0	0.002

It can be seen from the above table that the private funds have reduced their asset allocation in equity from 73.4% before crisis to 60.4% after crisis, a reduction of 13%. The government-funds, on the other hand, reduced the equity holding from 85% to 77.5%, a reduction of 7.5%. It shows that the private funds, on average, managed to reduce their asset allocation in equity more significant than the government-sponsored funds. It is consistent with the result that the private funds performed better than the government-sponsored funds during the crisis. In addition, both also shown the reduction in equity holding being statistically significant. The details of the equities holding for each fund during the above period are shown in Table 3.38 and 3.39.

We further our investigation by picking 10 best performers versus 10 worst performers to compare their asset allocation before and during financial crisis. The result is shown in Table 3.40.

Table 3.40 – Equities Holding of 10 Best Performers Vs. 10 Worst Performers

	Before Crisis Equity (%)	After Crisis Equity (%)	Change (%)	Sig *
10 Best Performers	71.4	50.5	20.9	0.008
10 worst Performers	84.3	76.4	7.9	0.173

* Level of significant using t-test statistical technique at 0.05 level

From the table, the 10 best performers managed to reduce their equity holding from 71.4% before the crisis to 50.5% during crisis, a reduction of 20.9% and it is statistically significant. The 10 worst performers, on the other hand, only managed to reduce their equity holding from 83.3% before crisis to 74.2% after crisis, a reduction of 9.1% and it is not statistically significant.