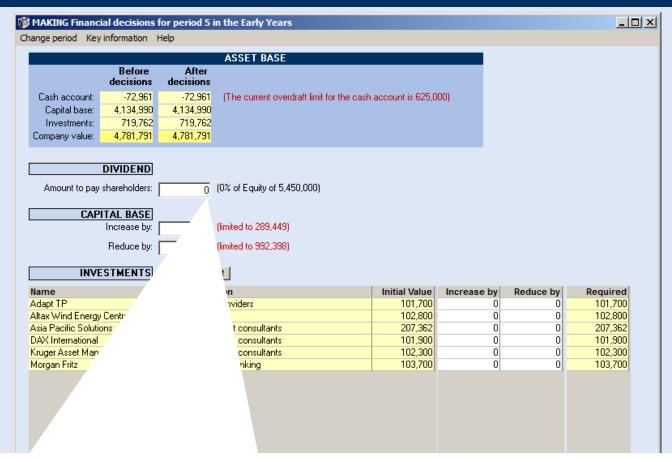
## **ENGINUITY TUTORIAL**



**Making Financial Decisions** 

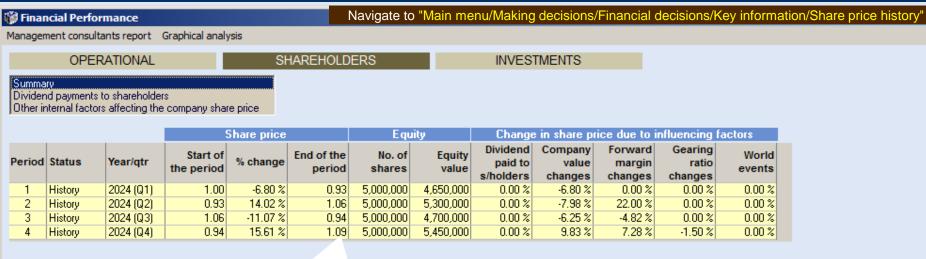




It is the beginning of period 5, and the Financial Manager needs to review the financial structure of the company, and decide upon any changes that need to be made.

One of the main responsibilities of the Financial Manager is to look after the interests of the company's shareholders.





The Company was originally funded from a share (equity) issue of 5,000,000 shares of value 1, with an equity value of 5,000,000.

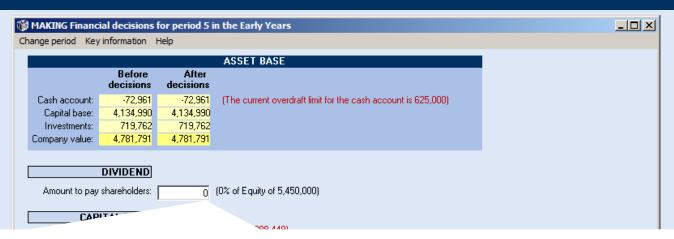
At the end of the History the share price stands at **1.09**, and the equity value at **5,450,000** (5,000,000 x 1.09).

The share price is influenced by internal factors, related to the company's decisions :-

- The level of dividend paid to the shareholders, which is under the direct control of the Financial Manager
- Changes in the value of the company
- Changes in the future profitability of the company
- Changes in the debt burden of the Company

and external factors (world events), outside of the company's control.





#### DIVIDEND

Dividends are taxable payments declared by a company's board of directors and given to its shareholders, normally quarterly. They provide an incentive to own stock in stable companies even if they are not experiencing much growth.

The dividend paid to shareholders is one of the key factors that affects the company share price :-

- Insufficient dividend will disappoint the shareholders and reduce the share price
- Sufficient dividend will keep the shareholders content, with no change in the share price
- Ample dividend will make the shareholders very happy, and increase the share price

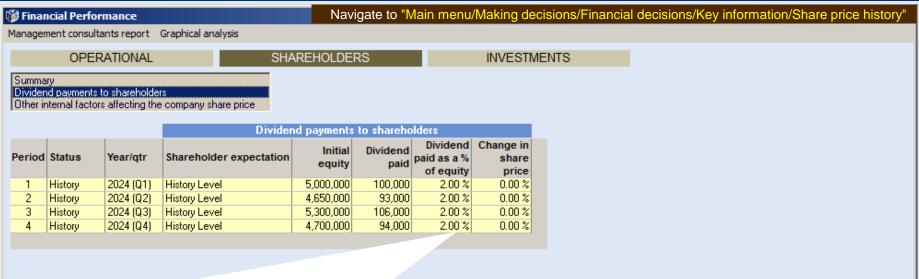
The affect on share price is determined by the % of the company's equity that is paid as a dividend.

The **equity** of the company at any time is the overall share value.

#### EQUITY = NUMBER OF SHARES x CURRENT SHARE PRICE

**Clues** as to the affects of different levels of dividend are available by examining what happened in the History, using the **Key information/Share price history** option.





Since period 1 the company has paid a dividend of 2% of equity every period (8% per annum), and this has been **sufficient to keep the shareholders content** because there has been no change in the share price.

In period 5 we could pay a higher dividend than 2% to try and improve the share price. However, this strategy could be counter productive because dividend payments come out of the cash account and reduce the company value, which adversely affects the company share price, and the positive affects of the extra dividend could be offset by the reduction in the value of the company.

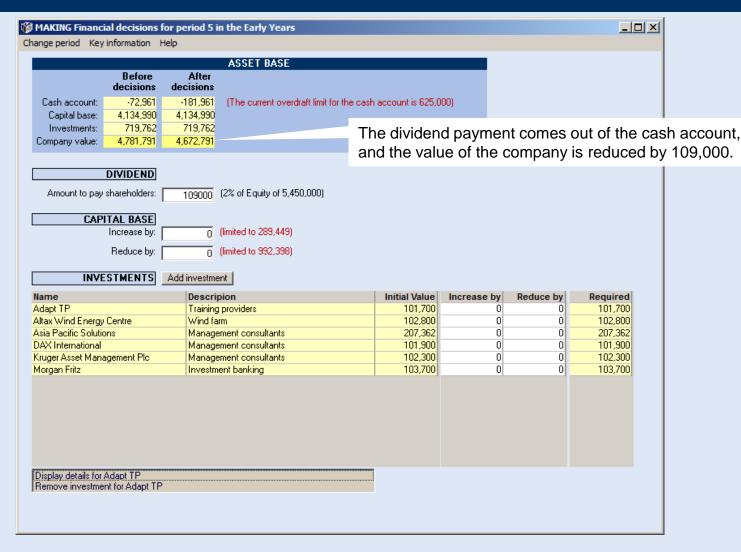
The key is to find a careful balance so that dividend levels do not compromise the financial stability of the business, but do improve the share price.

In period 5 we will continue to pay a 2% dividend, to at least keep the shareholders satisfied, **but look to increase this in the future as the company grows and becomes more profitable.** 

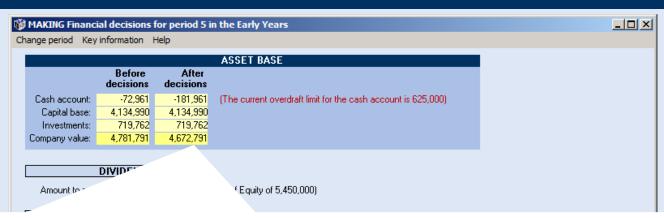
#### **KEY POINTS**

Shareholder expectations can change as the operating performance of the company changes, and may be higher or lower than the History level. This will affect the level of dividend that needs to be paid to keep them content.









The **value** of the Company at any time is measured by its assets, and the other main responsibility of the Financial Manager is to **make the best use of the assets** to try and increase the company value.

After paying dividend the assets consist of :-

#### **CASH IN THE BANK (-181,961)**

This can either be in credit (positive) or in overdraft (negative), when it is considered a liability.

The current **overdraft limit** is shown in red.

#### **CAPTAL BASE (4,134,990)**

This is the company's investment in plant, equipment, facilities, buildings etc (infrastructure), which determines the level of work that the company can undertake.

#### **INVESTMENTS (719,762)**

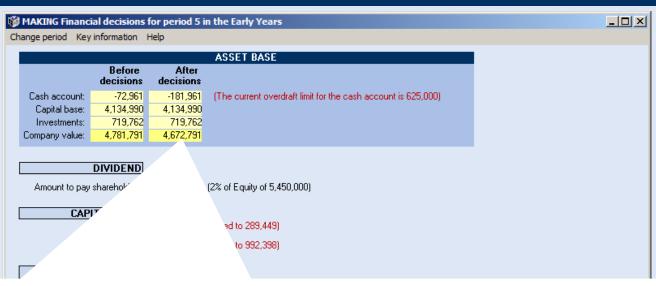
The company's cash investment in other concerns, which may or may not be construction-related.

The company is currently valued at 4,672,791.

#### **KEY POINTS**

Not only is the company based in the UK, but its bank account is held in a UK Institution. Hence, the company is **subject to UK financial rates**, such as interest and tax rates.





An increase in company value can be achieved in several ways.

#### MAKING EFFECTIVE USE OF THE COMPANY'S ASSETS

A number of choices are available :-

- Using cash to increase the Capital Base to win more work and support further growth.
- Selling off a % of the Capital Base to raise cash, which may be required if the cash account has exceeded the overdraft limit, or if the Capital Base is not being fully utilised.
- Using cash to invest further in other companies who offer a better return than can be obtained from the bank, or who may be able to offer benefits to reduce costs on jobs in progress, or conversely, selling off investments to raise cash.

#### **OPERATING PROFIT**

Generating operating profit increases the cash account, and hence the value of the company, and is achieved through good job and overhead management. Although having no direct control over these functions, which is responsibility of other people, such as the Overhead and Construction Managers, the Financial Manager must monitor progress in these areas to ensure the company is being run as profitably as possible.

We will now look at some of these options in more detail.





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At the start of the period, the number of jobs in progress is:	5 (job progression screen)	The initial forward workload is:	20,822,00	0 (job progression screen)
The number of jobs in progress after bidding cannot exceed:	10 jobs	The current value of the capital base is:	4,134,99	0 (financial decision screen)
Hence, the maximum number of jobs that can be won is:	5 jobs during bidding	The current capital base can support forward workload of:	41,349,90	0 (10 x capital base)
		Hence, the value of work that can be won cannot exceed:	20,527,90	O during bidding
	B (1 B 1 (1	la d		

Job	Country	Туре	BIM	Size	App Value	Duration	Description	Sector	Client		Job	Bid	Bid value
75	United Kingdom	DB	Yes	Small	3,000,000	3	Construct state of art composting unit	Water & Sewage	Fenlar	il	75	No	0
78	Qatar	DB	Yes	Large	19,000,000	5	Entertainment complex development pha	Building & Commercial	D	up	78	No	0
81	United Kingdom	BO	Yes	Medium	11,000,000	3	Construction of prototype solar chimney	Energy			81	No	0
83	United States	BO	No	Medium	11,000,000	3	Charging infrastructure for electric vehicle	Transport		up	83	No	0
85	New Zealand	BO	Yes	Small	2,000,000	2	New abattoirs	Industrial			85	No	0

#### **CAPITAL BASE**

The value of work that can be undertaken is governed by the size of the company's capital base.

At the time a company bids for new work (on the **Procurement Screen**), the value of the work in progress cannot exceed 10 times the capital base. Hence, the current capital base of 4,134,990 can support up to 41,349,900 of work in progress.

Since the company already has work in progress (initial forward workload) of 20,822,000 (**Job Progression Screen**), the value of additional work that can be won during the bidding process is 20,527,900 (41,349,900 – 20,822,000).

Since the company is looking to grow, and take on more work, it is decided to try and increase the capital base by a significant amount.





The capital base is increased by 289,449, the maximum increase allowed in the period.

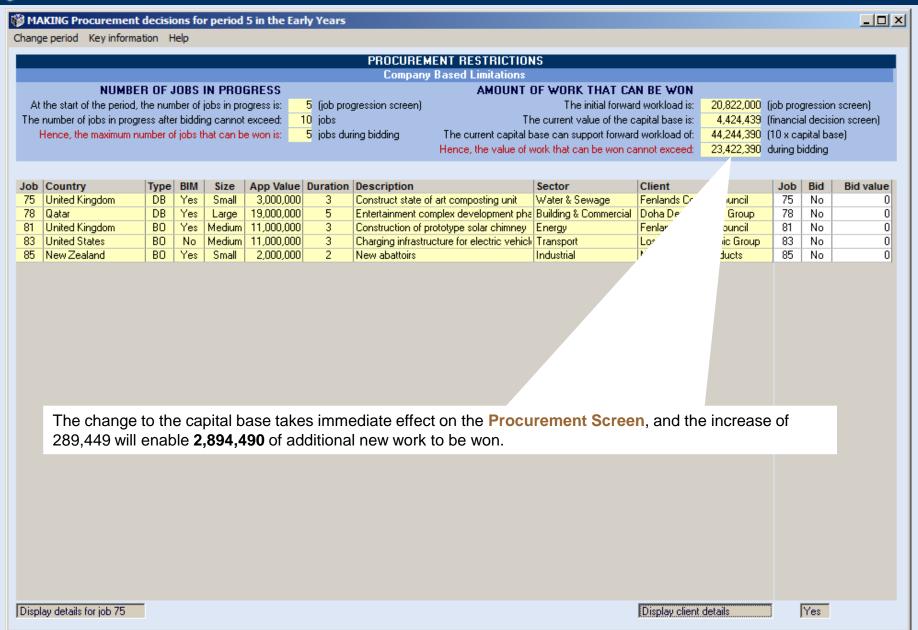
The increase in the capital base comes out of the cash account, and since assets are only being moved around, the value of the company does not change.

#### **KEY POINTS**

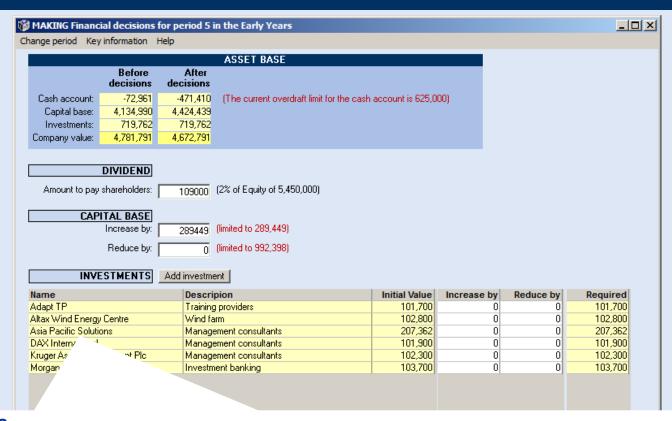
- If the capital base is being **underutilised**, it may be appropriate to reduce it to raise cash for other uses, such as further investments or reducing an overdraft.
- There are limitations on the changes to the capital base each period, defined in the **Industry parameters**.
- The capital base **depreciates** by a % each year, as shown in the **Industry information**.

Display details for Adapt TP Remove investment for Adapt TP	
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#### **INVESTMENTS**

The core business of the company is procuring and progressing contracts, and if done successfully the company will report a healthy operating profit, and increase the company's value. However, there are alternative ways of increasing the value of the company, such as by investing in other concerns, which may or may not be construction-related.

There are **two ways** of increasing the company's value through investments:-

- Investment returns; that change the value of the investments
- Investment benefits; that reduce costs on jobs in progress (build or risk costs)

We can examine the company's current 6 investments by using the **Display details** option.

We will first look at the investment in **Asia Pacific Solutions**.







#### ASIA PACIFIC SOLUTIONS

Desc: Management consultants

Profile: For over 40 years, Australian based Asia Pacific Solutions have been saving their clients millions by providing risk mitigation solutions at all stages of the construction process, and they recently invested in a state of the art computer system to stay at the forefront of their field.

The company operate solely with contractors in the energy sector wordwide, although 75% of their turnover is within the Asia Pacific region, which they serve from their Gold Coast headquarters, along with around 20 regional offices.

#### PERFORMANCE HISTORY

#### PERIOD RETURNS

		Company n		
Period	% return to investors	Amount invested	Investment return	Information for investors
1	3.0 %	0	0	Nothing to report
2	2.6 %	0	0	Nothing to report
3	2.7 %	100,000	2,700	Nothing to report
4	2.3 %	202,700	4,662	Nothing to report

Company investment

#### BENEFITS - REDUCTION IN JOB COSTS

	Build cost	Risk cost	% of total
Industrial	0	0	0%
Building & Commercial	0	0	0%
Transport	0	0	0%
Energy	0	3,315	100 %
Water & Sewage	0	0	0%
	0	3,315	

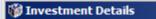
#### **INVESTMENT RETURNS**

Cash returns vary each period depending upon the performance of an investment, and either increase or reduce the value of an investment.

Whether or not the investment has been a success, in terms of the cash return, and would be worth investing further in would depend upon looking deeper into the prevalent bank rates, both credit and overdraft rates (as defined in the **Industry parameters**) at the time the investments were made, as well as the balance of the cash account.

During periods 1 to 4 the returns from **Asia Pacific Solutions** were good, between 2.3 and 3.0% each period, and it is certainly worth considering further investment if the cash account will support it.





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#### PERFORMANCE HISTORY BENEFITS - REDUCTION IN JOB COSTS PERIOD RETURNS Company investment Build cost Risk cost % of total Investment Information for investors % return to Amount 0 0% Period investors invested return 0 n 0% 3.0 % 0 0 Nothing to report 0 0% 2.6% 0 Nothing to report 0 3.315 100% 3 2.7% 100,000 2,700 Nothing to report 0 0% 4 2.3% 202,700 4,662 Nothing to report 3,315

#### **INVESTMENT BENEFITS**

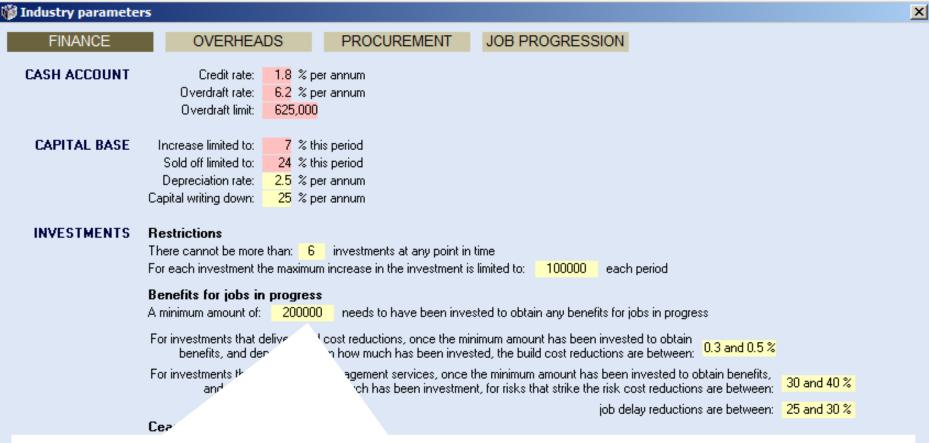
As well as investing in other companies to yield a better return than can be obtained from the bank, there is **potentially an even** more lucrative reason for investing in other concerns.

If enough money is invested in particular concerns, costs may be reduced on work in progress in specific sectors :-

- BUILD COST REDUCTIONS; These are earned by investing in businesses that supply commodities that are used directly in the construction phase, such as materials and plant e.g., investing in an asphalt company would reduce build costs for any Transport work being undertaken.
- RISK COST REDUCTIONS; These are earned by investing in management consultants that offer risk management services to the construction industry.

If the investment profile indicates potential benefits to jobs in progress, the benefits are only accrued if enough money is invested.





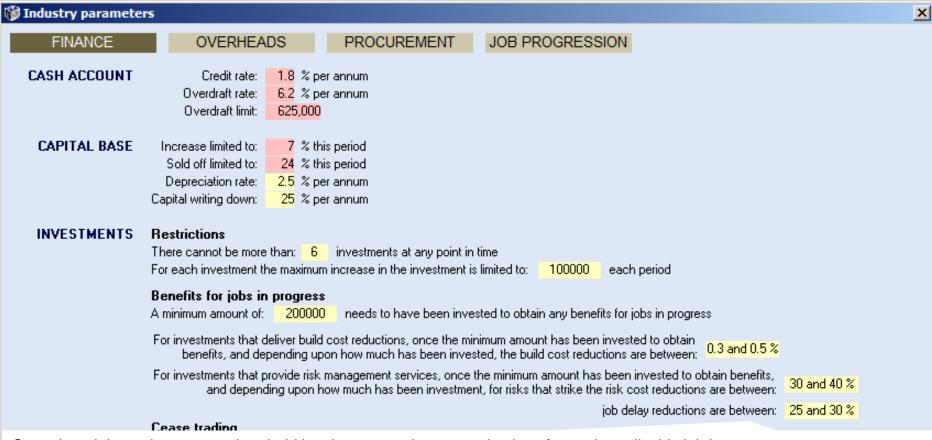
The **Industry parameters** show that a **minimum amount of 200,000 needs to be invested** to obtain any benefits. This is the amount invested after the financial decisions have been made in the period.

As the **increase in an investment in a period is limited to 100,000**, it would take at least 2 periods to gain any cost reductions from an investment.

#### **KEY POINTS**

If an investment is not performing well, with negative investment returns, and the value of the investment falls, it may take longer than 2 periods for the investment value to reach the minimum level to gain any benefits.





Once the minimum investment threshold has been met, the cost reductions for each applicable job in progress are :-

- Build cost reductions of between 0.3 and 0.5%
- Risk cost reductions of between 30 and 40% for each risk that strikes

In the case of investing in risk management companies, as well as risk cost reductions, a further benefit is that if a risk strikes the potential job delay is also reduced, by between 25 and 30%.

#### **KEY POINTS**

There are 2 tiers of cost reductions, a lower and upper tier. You are not told the investment required to obtain the upper tier saving, and this knowledge can only be acquired as time progresses, but there is a linear increment between the two tiers as the investment increases.





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#### PERFORMANCE HISTORY

#### PERIOD RETURNS

#### BENEFITS - REDUCTION IN JOB COSTS

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	Build cost	Risk cost	% of total
Industrial	0	0	0%
Building & Commercial	0	0	0%
Transport	0	0	0%
Energy	0	3.315	100 %
Water & Sewage	-	0	0%
		3,315	

During period 4 the investment in Asia Pacific Solutions was 202,700, just enough to obtain benefits, but were any benefits gained?

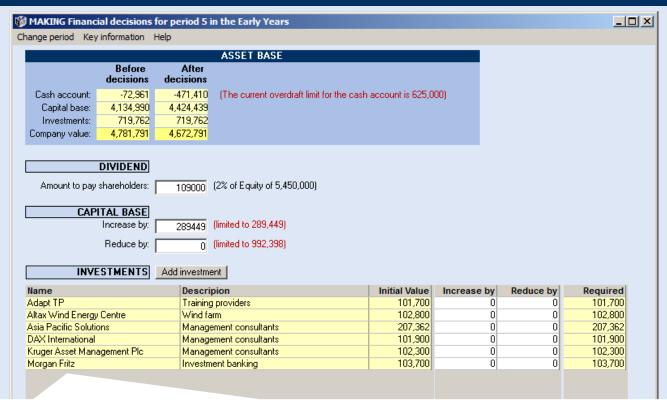
The benefits from investing in Asia Pacific Solutions are reductions in risk costs in the energy sector. This is clear from the phrase in the company's profile that states ".... The company operates solely with contractors in the energy sector worldwide ...."

We can see that to date risk costs have been reduced on energy jobs by 3,315 with potentially a lot more to follow in the future.

#### **KEY POINTS**

- If enough money is invested, benefits can be accrued even if the investment is performing badly. However, poorly performing investments can cease trading. This will be discussed further in due course.
- The **benefits are cumulative** e.g., a job can receive cost reductions from more than one investment each period.



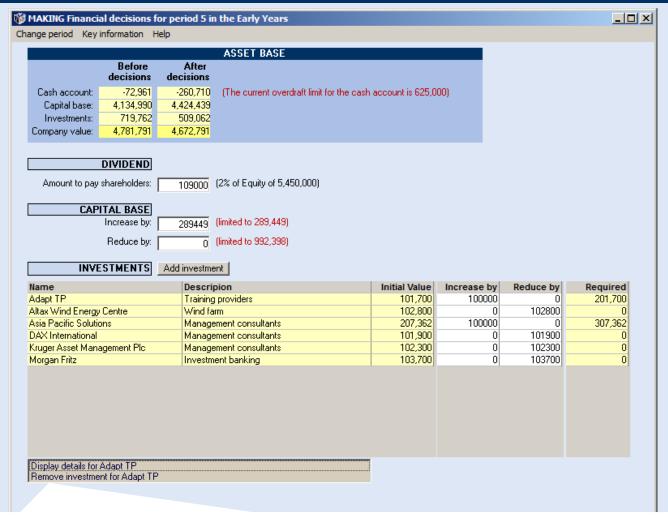


The company's long-term strategy is to target jobs in the building and commercial, transport and energy sectors.

Bearing this in mind on close investigation of all the current investments the following decisions are made:-

- 1. Adapt TP provide build cost reduction for transport jobs, so **this investment will be increased by 100,000** (the maximum allowed in one period) to obtain even more benefits, in this case build cost reductions for transport jobs.
- 2. To increase the **investment in Asia Pacific Solutions by a further 100,000** to obtain even more benefits, in this case risk cost reductions for energy jobs.
- 3. To reduce the investments in the Atlas Wind Energy Centre, DAX International, Kruger Asset Management Plc and Morgan Fritz to 0, and remove them completely, as none of them on close examination provide any benefits to us as a contractor in the construction industry. We will be looking for other investments to take their place.

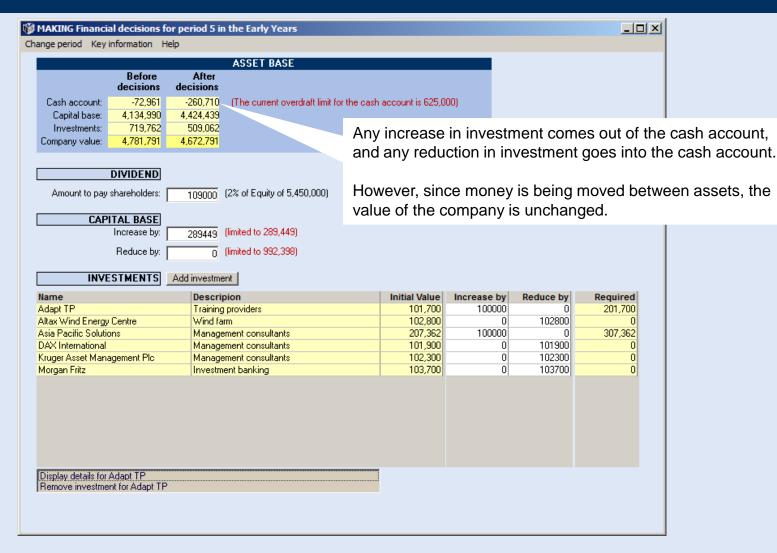




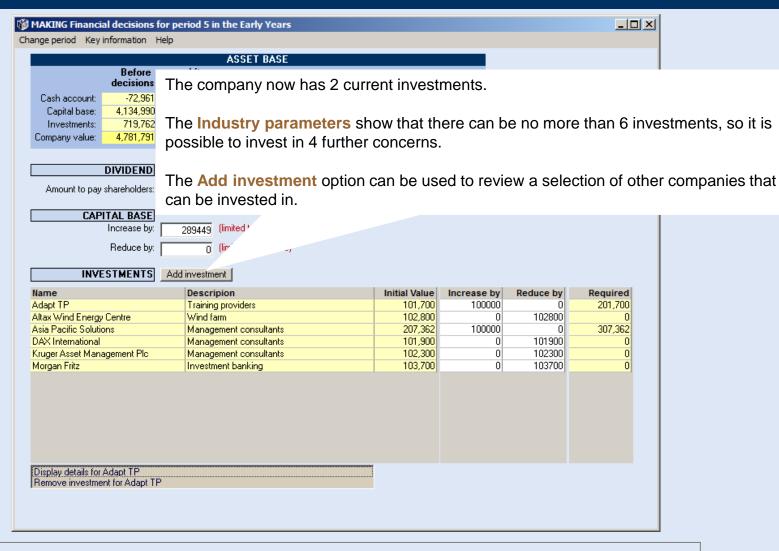
Investments can be removed quickly using the Remove investment for ... option, which has the following affect :-

- 1. For **existing investments**, where the "Initial value" is > 0, the "Reduced by" level is set to the "Initial Value" to set the "Required" level to 0 to show that the investment has been removed, but it will not disappear from the investment list until the following period.
- 2. For **new investments**, where the "Initial value" is 0, the investment will be immediately removed from the investment list.



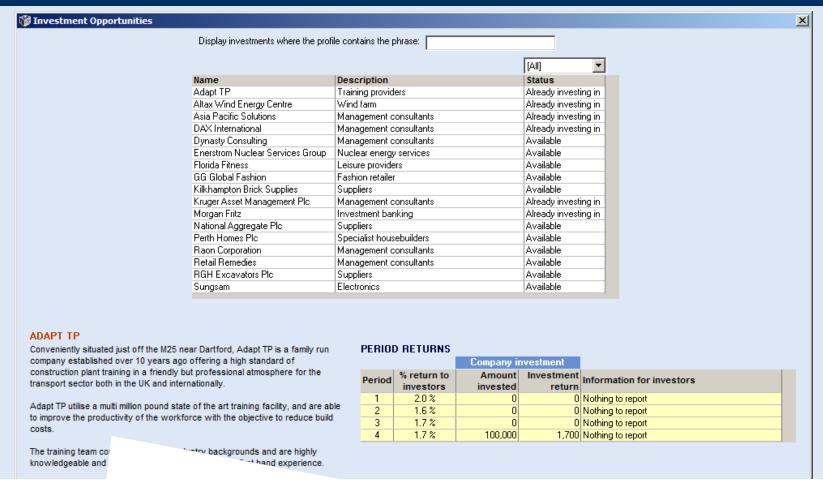






# INVESTMENTS Restrictions There cannot be more than: 6 investments at any point in time For each investment the maximum increase in the investment is limited to: 100000 each period



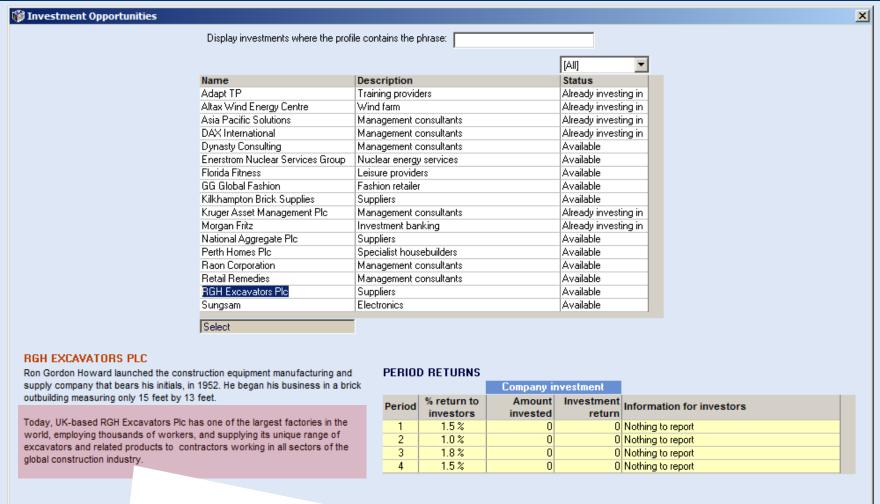


For each available concern, the following information is given :-

- The **profile** describes the concern, and gives clues as to whether or not benefits may be accrued by investing in the business.
- The period returns gives the % return given in previous periods to all investors, and details any monies the company may have invested.
- The **information for investors** is news about the company that can highlight any issues that investors need to be aware of, such as if the company is having problems, and may cease trading.

Taking into account the current cash account balance, bank rates, potential returns and benefits from the concerns, a decision would now be made about whether or not its worth investing any cash in any of the available opportunities.



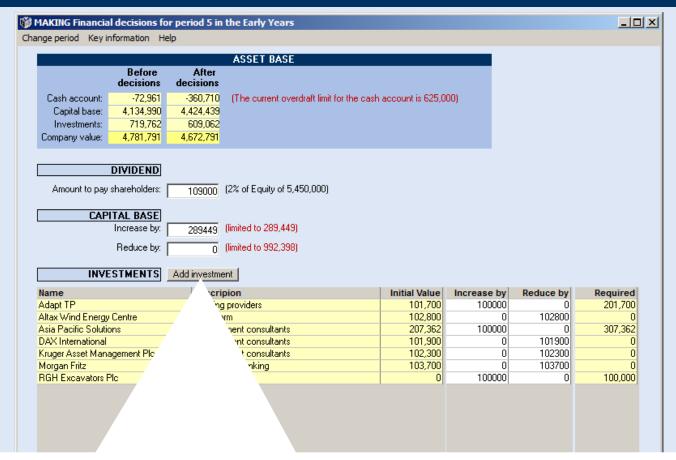


After a detailed examination of the investments that the company is not already investing, with a status of 'available', the decision is made to invest in **RGH Excavators Plc**, whose profile indicates that they supply excavators to contractors working in all sectors of the construction industry; an excellent choice to improve job and company profitability.

#### **KEY POINTS**

The list of available investments is not static, and can increase as time goes by, so the Financial Manager must be looking each period at potential new investments that are in line with the company's growth strategy.

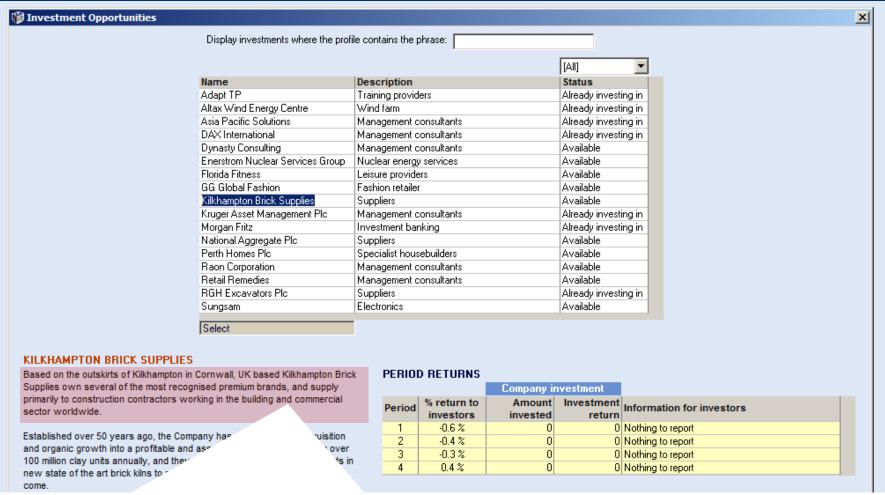




The company now has 3 current investments, and there is scope for more as the Cash Account balance is still well short of the 625,000 overdraft limit.

The Add investment option is used again to search for another suitable investment that ties in with the company's long term strategy to target jobs in the building and commercial, transport and energy sectors.



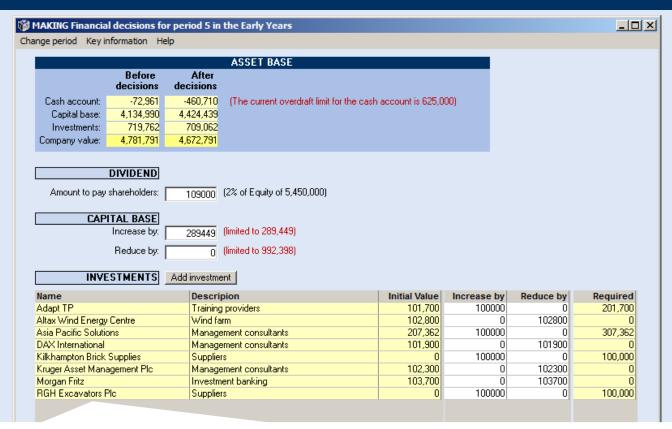


After a further detailed examination of the investments that the company is not already investing, the decision is made to invest in **Kilkhampton Brick Supplies**, whose profile indicates that they supply bricks to contractors working in the Building and Commercial sector worldwide, the largest potential sector of work the company is targeting; an excellent choice to improve job and company profitability.

#### **KEY POINTS**

Even though the investment return is negative, this will dwarf into comparison with the potential saving from the reduction in build costs across all jobs progressed in the Building and Commercial sector.





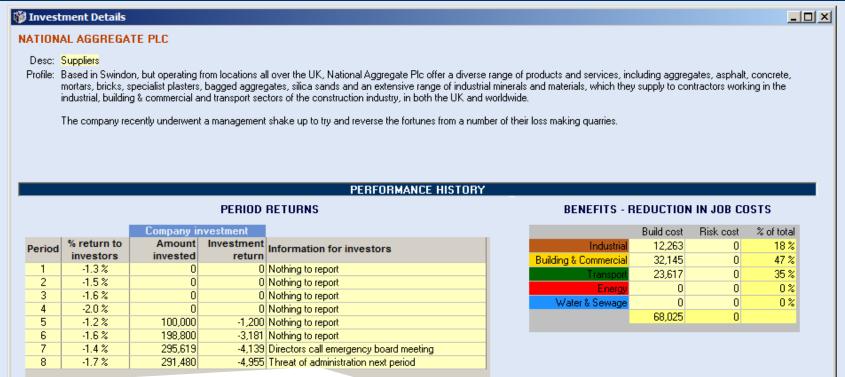
Finding an investment opportunity that offers good returns and benefits is not always possible, and often **key decisions** have to be made balancing risk and reward.

For example, an investment opportunity may arise that offers build cost savings in all sectors of the Construction Industry, but the investment returns may not be very good.

In this scenario, the **net gain from the build cost reductions would almost certainly outweigh the negative investment returns**, and it would be still be the most effective option to continue with the investment.

However, the Financial Manager must also bear in mind that the investment may run into difficulty, and **cease trading**, a decision that could impact on the profitability of the company as a proportion of the investment could be lost.





#### INVESTMENTS THAT CEASE TRADING

#### How do we know if one of our investments may cease trading?

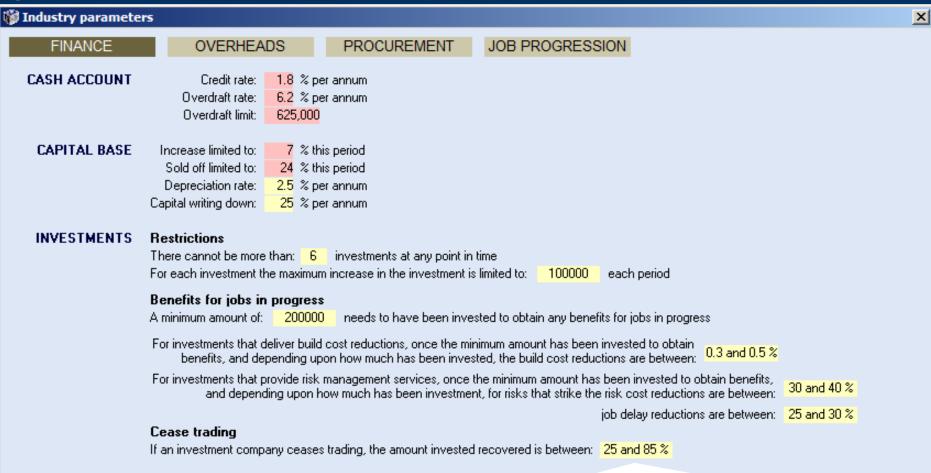
The clues lie in the **information for investors**, which should be carefully monitored each period for signs that the company may be in trouble.

Consider the example of **National Aggregate PLC.** The directors called an emergency board meeting in period 7, and in period 8 it became obvious that there was a threat of administration in period 9.

Faced with this information, at the beginning of period 9 the Financial Manager must decide whether to remove all the investment in National Aggregate PLC, or continue investing in the hope that the company does not go bust.

We will now look at what happens if the investment concern does go bust.





If an investment concern ceases trading, a % of the current investment is recovered, as defined in the **Industry information**.

The **actual amount recovered** depends upon how badly the investment concern is performing, with the minimum % recovered from those performing the worst.

#### **KEY POINTS**

The money recovered when an investment ceases trading is paid into the cash account. The net value of the company will fall by the amount lost.