



## ***PIA User Guide***

**Property Investment Analysis software**

"The essential analytical tool for property investors"



## Publisher

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*Please note that the domain name is **somersoft**, not somerset.*

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The PIA User Guide was written by Williams Technical Communication Pty Ltd and Ian Somers.

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## Help

Before contacting technical support ([support@somersoft.com.au](mailto:support@somersoft.com.au)) please review the PIA Quick-Start Guide and this user guide. Help is also available within PIA via the *Help* menu and via the ? buttons in dialogs.

The PIA website provides access to

- Frequently Asked Questions (FAQs) with answers
- Updates as they are released

**[www.somersoft.com.au](http://www.somersoft.com.au)**

## Caveat

Dear PIA User,

This edition of the PIA User Guide is based on Version 8.1 Edition 00.

PIA software is subject to change without notice.

Documentation may be changed to reflect changes to PIA software and as the result of user feedback. Your feedback on the documentation is welcome. Please use the email function at the Somersoft website ([www.somersoft.com.au](http://www.somersoft.com.au)).

Updates to this PIA User Guide and the PIA Quick-Start Guide will be published on the Somersoft website.

Thank you.

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# Chapter 1

## Welcome to PIA

Welcome to PIA Property Investment Analysis, a powerful program designed to make it easy for investors to analyse and evaluate prospective property investments.

PIA helps you analyse the capital growth, cash flows and rates of return on investment properties, taking tax implications into account. It is simple to use and – as a decision tool – provides the answers to a long list of "What ifs?" on property investment. PIA is an analysis tool – it is not an accounting tool.

First published in 1989, PIA has become an industry standard in Australia and New Zealand, used extensively by leading real-estate groups, property marketers, banks, lenders and accountants, and by thousands of property investors.

PIA was developed to complement the Building Wealth property investment bestsellers by Jan Somers, the latest in the series being *More Wealth from Residential Property*.

### What PIA can do for you

Briefly, PIA can help you make objective decisions about a potential property investment. You can quickly estimate your rate of return, tax savings, true after-tax cost, and affordability. Furthermore, you can very easily test the sensitivity of your results (i.e. playing "What if?") by making changes to the variables like growth, inflation and interest rates. Finally you can print out a professionally structured report to help you present your investment proposal to your accountant or bank manager.

### Disclaimer

As the name suggests, PIA is investment analysis software. It is not accounting software. It is intended for analysing and evaluating prospective property investments, not for generating data for tax returns.

Also, tax law varies from country to country and is constantly changing. For this reason, information given relating to tax law should be regarded as guidance only. Where possible, this User Guide indicates sources of further information.

### Getting started...

This PIA User Guide assumes that you already have the PIA software up and running and that you are acquainted with the contents of the *PIA Quick-Start Guide* and that you have worked through the example given there.



*The PIA Quick-Start Guide helps first-time users get started with PIA, guiding you through installing your software, starting it, and entering your first set of data.*

### Structure of the book

This User Guide is a reference work. The structure is based on the software itself:

Chapter 1	Welcome to PIA	Introduction to PIA and conventions used.
Chapter 2	User Interface	Description of features and how to use them.
Chapter 3	Investment Analysis spreadsheet	Systematic description of each spreadsheet
Chapter 4	Home Loan Analysis spreadsheet	
Chapter 5	Wealth Builder spreadsheet	
Chapter 6	Linked Loans spreadsheet	
Chapter 7	Menus and toolbars	Systematic description of menus and toolbars
Appendix A	Glossary	Definitions of investment and PIA terms
Appendix B	List of dialogs	Quick access to dialogs and their descriptions.
Appendix C	Abbreviations	Abbreviations used in PIA interface and filenames.
Index	Find text based on keywords.	

As a principle, information is documented once only and cross-referenced. For example, the Loan Costs dialog can be accessed in 3 different ways from the Investment Analysis spreadsheet, but is only documented fully in one place (see 3.15).

**Getting best results in Acrobat Reader**

A limitation of Acrobat means that screenshots from Microsoft WORD are not rendered with 100% accuracy. Best results are obtained with the magnification set to 134% or 192%. This Acrobat file has been set to a default magnification of 134%.

## 1.1 Overview of PIA structure

**Spreadsheets:** PIA comprises four separate spreadsheets (Investment Analysis, Home Loan Analysis, Wealth Builder and Linked Loans) for providing instant feedback for a wide range of what-if analyses. A single PIA file contains the data for all four spreadsheets.

**Dialogs:** There are over 100 different dialogs supporting these spreadsheets. Their purpose ranges from data entry to explaining in detail the derivation of spreadsheet variables. Many dialogs provide spreadsheet-like functionality in their own right (e.g. Investment Capacity and Borrowing Capacity dialogs).

**Reports:** The desired end product of analysis is often documentation of the results. PIA provides a wide variety of standard and customised reports for this purpose. These reports can be printed, saved independently (as Adobe Acrobat PDF files) of the PIA file, or even sent as email attachments (also in Adobe Acrobat PDF format). Acrobat PDF files require the free Adobe Acrobat reader (available from [www.adobe.com](http://www.adobe.com)) to be viewed.

### Investment Analysis spreadsheet (Chapter 3)

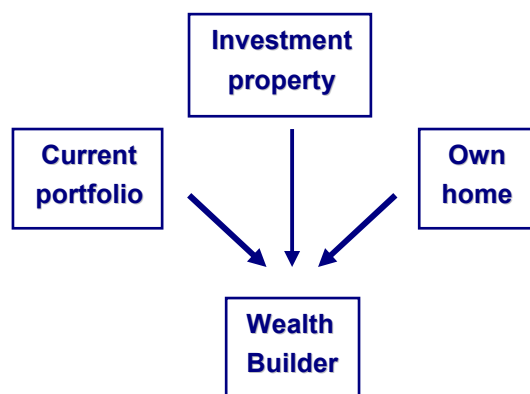
The Investment Analysis spreadsheet allows you to evaluate any investment property. As you know from the PIA Quick-Start Guide, you can go straight to an Investment Analysis by entering data via the Data Entry Check List.

### Home Loan Analysis spreadsheet (Chapter 4)

The Home Loan Analysis spreadsheet is independent of the Investment Analysis spreadsheet and allows you to explore:

- Accelerated mortgage reduction (such as additional payments, fortnightly payments, or using a credit line)
- Loan consolidation and refinancing

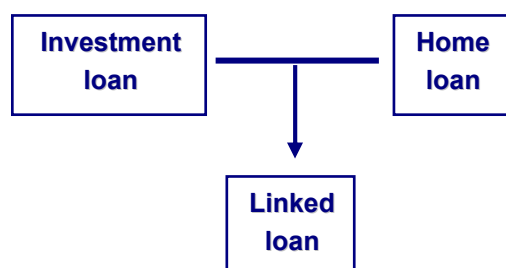
You must make entries into these two spreadsheets before you can use the more advanced features of PIA.



### Wealth Builder spreadsheet (Chapter 5)

This provides an interface that integrates data on from the Investment Analysis spreadsheet (the investment property under review), the Home Loan Analysis spreadsheet (your home mortgage) and any existing property portfolio (Portfolio Analysis).

The spreadsheet allows you to interactively build a portfolio of properties based on projected multiples of the investment property under review. At each step (that is, each year) you can see whether you would have the necessary funds (cash savings) and whether the banks would be likely to lend you the finance (loan value ratio and debt /service ratio).



### Linked loans spreadsheet (Chapter 6)

This spreadsheet provides an interface for exploring methods of accelerated mortgage reduction where there are both investment and home loans and any cash flow surplus from the investment can be used to help repay the home loan.

If a credit line has been used as a means of reducing a home loan, the Linked loans model allows account to be taken of servicing commitments for any investment loan.



## 1.2 Tips on finding information

- Use the Contents at the front of the book to guide you to broader areas of interest (such as spreadsheets, menus or scenarios).
- If you need information on a specific row, dialog or field, check the index at the back of the book.
- See the glossary in Appendix B for definitions of terms.
- Defined terms are hyperlinked in the document:  
Internal Rate of Return is an example of a defined term.

### If you get stuck...

First, please read through *PIA Quick Start Guide* and this PIA User Guide.

Secondly, use the online help. You can access this from anywhere in the main part of the PIA program by pressing F1, or by accessing Help via the *Help* menu.

Tool tips are available for the icons in the toolbar of the spreadsheet and for the buttons in the Data Entry Check List. These appear if you position the mouse pointer over the icon or button. You can get context-sensitive help by clicking on the ? button in most dialogs.

If all else fails, you can obtain technical support by sending an email to [support@somersoft.com.au](mailto:support@somersoft.com.au) or calling the help line (07) 3286 4368. The Help line will help you – and you will help us by providing feedback.

## 1.3 Conventions

❏ *This is an example of an Information paragraph. These paragraphs contain additional “could know” information.*

& *This is an example of a book reference. It indicates a source of further information.*

This is an example of a defined term. Defined terms are hyperlinked – clicking on them displays the glossary definition.

(See 3.5) is an example of a cross-reference, in this case to Chapter 3, section 5. In order to reduce the size of the PIA User Guide, detailed descriptions appear once only and are cross-referenced in this way.

### User feedback

We welcome feedback from users both on the documentation and the software itself – it helps us to give you what you want. So please do not hesitate to make comments or suggestions. You can use the email function at the website to submit your comments.

### Navigation tips

You can use the table of contents (on pages ii and iii at the front of this document) to navigate.

Use the Table of Dialogs at the end of the manual to find a particular dialog.

## 1.4 Versions

The PIA User Guide documents the fully featured versions of the PIA, including spreadsheets for home loan analysis, linked loans analysis, and a wealth builder for interactively building a property portfolio over a number of years. PIA's extensive graphics, suite of property and finance calculators, and the wide array of report options are also documented.

This PIA User Guide is based on PIA Version 8.1 using the Windows 10 operating system.

If you are using an earlier or later version of Windows (such as Windows 98, Windows 2000, Vista, Windows 7 or 8), windows and dialogs may have a slightly different appearance, as shown below.

	Cash Invested	Equity Invested*	Loan	Costs
Property cost	50,000	0	450,000	500,000
Renovation costs	0		0	0
Purchase costs	0		19,806	19,806
Furniture package	0		0	0
Holding costs	0		0	0
Loan costs	0		5,794	5,794
Additional loan			0	
<b>Totals</b>	<b>50,000</b>	<b>0</b>	<b>475,600</b>	<b>525,600</b>

\* To be used where you already have equity in the property

Loan Type ? OK Cancel

*Dialogs with Windows 10*

*Dialogs with earlier version of Windows*

	Outlays	Loan	Costs
Property cost	0	175,000	\$175,000
Renovation costs	0	0	\$0
Purchase costs	0	5,438	\$5,438
Furniture package	0	0	\$0
Loan costs	0	3,758	\$3,758
Additional loan		0	
<b>Totals</b>	<b>\$0</b>	<b>\$184,196</b>	<b>\$184,196</b>

Loan Type ? OK Cancel

## Chapter 2

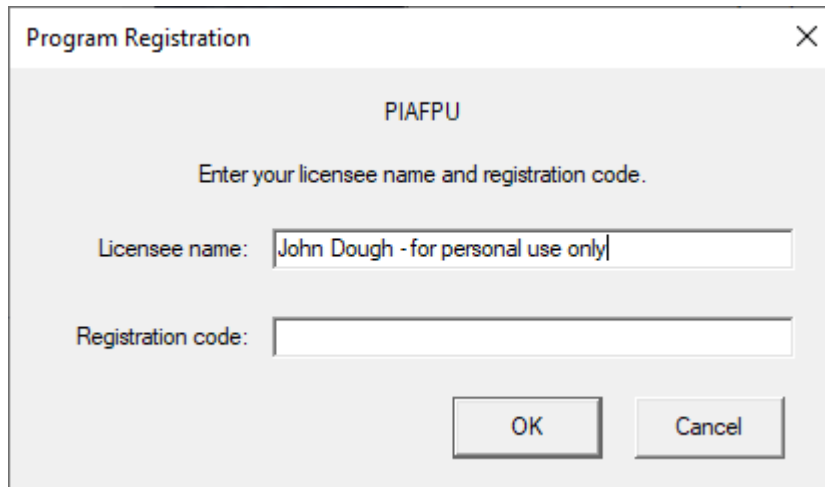
# User Interface

This chapter describes the user interface of PIA. The chapter covers the following information:

- Congratulations screen
- Welcome screen
- Specify Country Defaults dialog
- Data Entry Check List
- Elements of the PIA window
- Elements of the PIA spreadsheets
- Dialogs
- Preferences
- Windows and sizing

## 2.1 Congratulations screen

The first time you ever use PIA on a particular computer, you will be prompted to enter your registration number (see your receipt or the back of your CD case). A registration number is not requested if you are upgrading computer. on the same

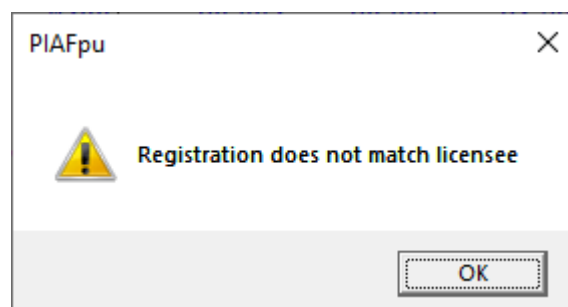


A screenshot of a 'Program Registration' dialog box. The title bar says 'Program Registration' with a close button. The main area has the text 'PIAFPU' and 'Enter your licensee name and registration code.' Below this are two input fields: 'Licensee name:' with the text 'John Dough - for personal use only' and 'Registration code:' which is empty. At the bottom are 'OK' and 'Cancel' buttons.

When you enter the correct number, the confirmation message "Welcome to the World of Property Investment Analysis" is displayed.



If you enter the wrong registration code, a warning message appears and PIA runs in demonstration mode:



For further details of getting started with the software, please see the *PIA Quick-Start Guide*.

## 2.2 Welcome screen

When the PIA Welcome screen appears, you have the choice of opening the latest property file you saved, opening any previously saved file, or creating a new property file. If you are using PIA for the first time, select the *Create a new property file* radio button and click on **OK**.

### Open your latest property file

This option opens the last property file you saved.

### Open an existing property file

This option opens a window displaying your property files. Unless you have selected a different directory for saving your files, they are saved in the default location of the PIA program directory. See 7.1 for details of how to change the default directory.

### Create a new property file

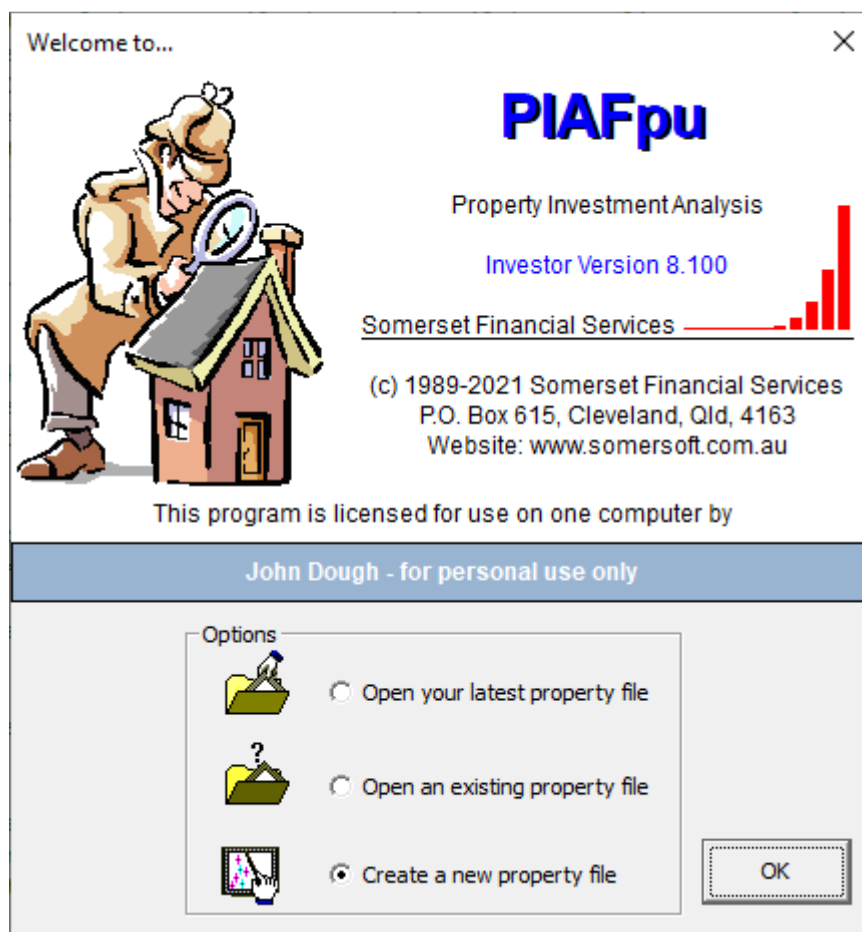
This option creates a new file using the default settings you have chosen. You can set these in the Data Entry Check List (see 2.4).

The Welcome screen also tells you which edition and version of the software you are using.

❶ In this example, it is the *Personal Investor Version 7.501*.

The first two digits (7.5) represent the actual version number while the last two (01) represent the edition number.

Updates of the software are released from time to time and are available from the website:  
**[www.somersoft.com.au](http://www.somersoft.com.au)**

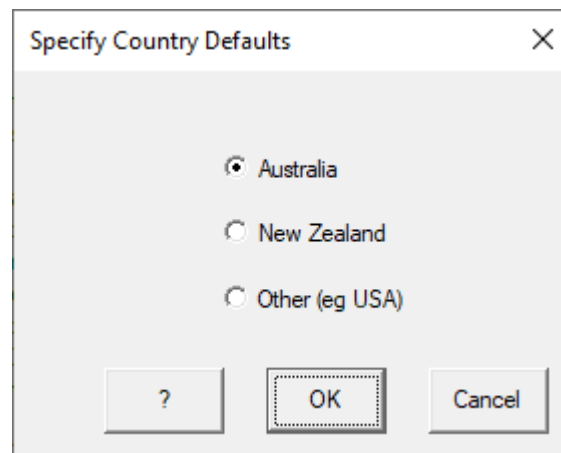


## 2.3 Specify Country Defaults dialog

When you use PIA for the first time, the Specify Country Defaults dialog is displayed.

This dialog allows you to select between Australia and New Zealand defaults for a number of areas where the two countries differ. These include:

- Tax scales
- Stamp duties (none in NZ)
- Sales commission
- Financial year dates
- Capital allowance rules
- Depreciation rates
- Terminology, for example fittings (Australia) vs chattels (NZ)
- Loan cost items
- Loan cost write-off period
- Capital gains tax (none in NZ)



You can also vary individual defaults within PIA.

You can access the Specify Country Defaults dialog at any time by selecting *Specify Country Defaults* from the *Settings* menu.

- ❗ *PIA automatically displays appropriate dialogs if you change the country default:  
If you change the default to New Zealand, the Data Entry Check List (described below) is displayed.  
If you change to the default to Australia, the Specify Stamp Duty Scale dialog is displayed (allowing you to select the appropriate stamp duty) and then the Data Entry Check List (described below).*

- & *For details of tax regulations specific to Australia and New Zealand, please refer to the following documents:*
- |                    |  |
|--------------------|--|
| <i>Australia</i>   | <i>Rental Properties (NAT 1729), Australia Taxation Office, <a href="http://www.ato.gov.au">www.ato.gov.au</a></i> |
| <i>New Zealand</i> | <i>Rental Income (IR 264), Inland Revenue, <a href="http://www.ird.govt.nz">www.ird.govt.nz</a></i>                |

## 2.4 Data Entry Check List

When you select *Create a new property file* from the Welcome screen and click **OK**, the Data Entry Check List is displayed. This dialog is a quick, easy and intuitive way for new users to enter all the basic data for a new property file.

- ① *The Data Entry Check List is a useful but not a critical step in analysing a property investment. As you will see later, all of the variables in the Check List can be entered directly from the main spreadsheet. This has the advantage of showing instant feedback, but is less intuitive and does not show which variables have yet to be changed.*

The screenshot shows the 'Data Entry Check List' dialog box with the 'Property' tab selected. The dialog has four tabs: 'Property', 'Finance', 'Investor', and 'What if?'. The 'Property' tab is active, displaying a large red 'Property' title and an illustration of a house. To the right, under 'Property Details', are the following values:

Property Details	
Property Value	500,000
Purchase Costs	19,806
Rental Income	20,384
Rental Expenses	6,832
Depreciation of Building	6,250
Depreciation of Fittings	0

At the bottom of the dialog, there is a checkbox labeled 'Use these values as the new defaults', a question mark icon, and a 'Spreadsheet' button.

The figure above shows the Data Entry Check List Property page with its original default values.

The Data Entry Check List is divided into four tabbed pages of variables covering the key components of a property analysis:

<b>Property</b>	Details of the property
<b>Finance</b>	How the property is financed
<b>Investor</b>	Personal and tax-related details
<b>What If?</b>	Allows you to see what happens over time with different inflation and growth rates

You can access a page by clicking on the corresponding tab.

### Using the Data Entry Check List

The Quick-Start Guide contains a detailed description of how to use the Data Entry Check List.

### Skipping the Data Entry Check List

If you wish to skip the Data Entry Check List, you can either simply click on OK when it is displayed, or you can bypass it entirely by selecting *Preferences* from the *Settings* menu (see 7.7). Click on the *General* tab and check the *Skip check list on new property file* check box.

### Returning to the Data Entry Check List



If you wish to return to the Data Entry Check List at any time, select Data Entry Check List from the View menu or click on the Data Entry Check List icon in the toolbar.

Your current settings are shown – as well as the ticks indicating which values you reviewed and or changed.

- ① *Changes you make directly in the spreadsheet are reflected in the Data Entry Check List values, but tick marks only appear for the items you accessed via the Check List.*

### Setting defaults

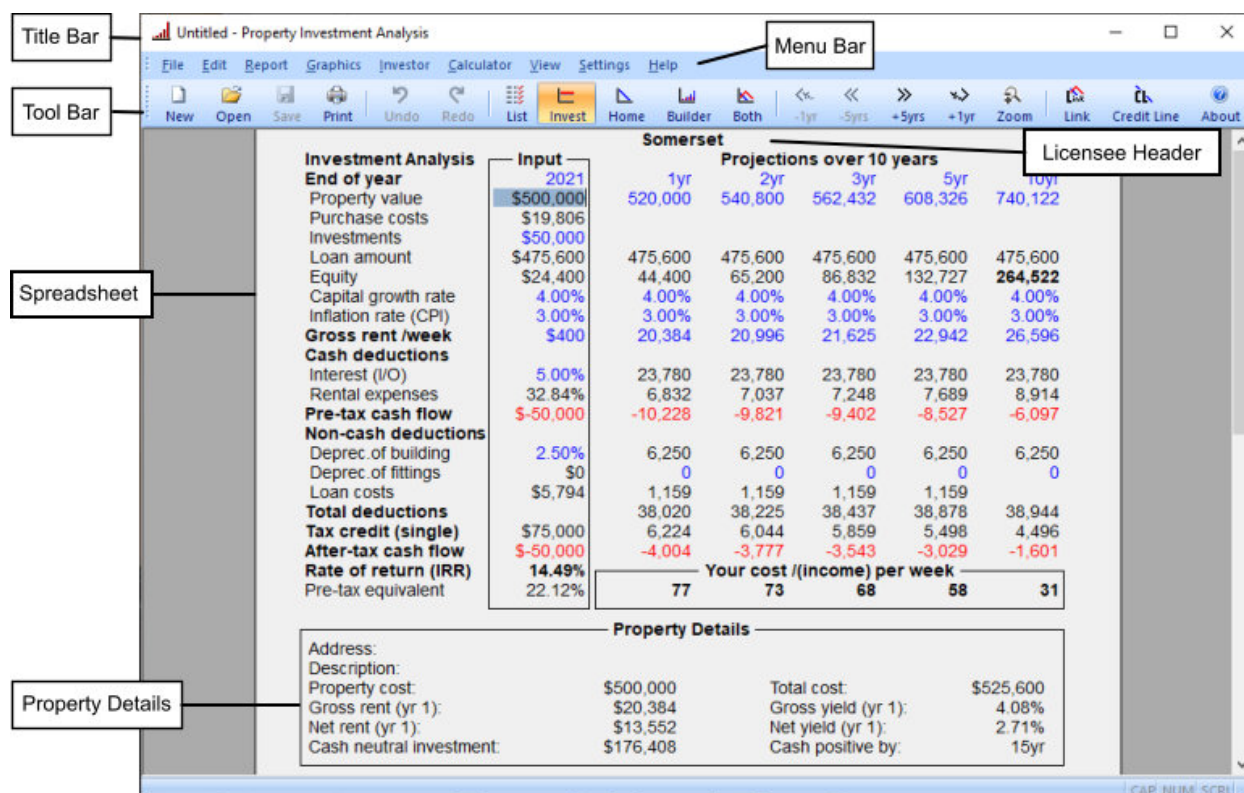
You can make the current values shown in the Data Entry Check List the default values for PIA by checking the *Use these values as the defaults* check box. New files will then open with these values set. The values will only be adopted if you click **OK** to exit the Check List.

You can reset PIA's "factory defaults" by selecting *Delete Default Template* from the *Settings* menu. Exit and restart PIA to make sure that all changes take effect.

➔ *For a full description of using the Data Entry Check List, please see the Quick-Start Guide, page 12 ff.*



## 2.5 Elements of the PIA window



The figure above shows the PIA interface with the Investment Analysis spreadsheet open. This is the default spreadsheet and the one in which you will spend most time.

### Title bar

The title bar shows the name of the file and the name of the software: Property Investment Analysis.

On the right of the title bar are the standard Windows boxes for minimizing, maximizing and closing the window.

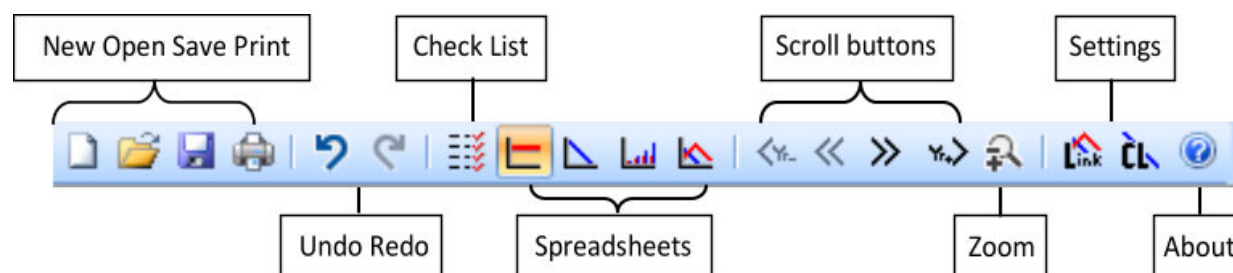
### Menu bar

The menu bar shows the names of the PIA menus. Clicking on a menu name opens a drop-down menu.

The menus and their items are described in detail in Chapter 7.

### Toolbar



Beneath the Menu bar is the Toolbar consisting of a series of icons, each of which provides quick access to a commonly used function (see also Chapter 7). If you position the mouse pointer over an icon, a "tool tip" appears, telling you the meaning of the icon. For example, you can click the *Check List* icon (shown on left) if you wish to return to the Data Entry Check List.





### Check List

Clicking this symbol takes you back to the Data Entry Check List (see 2.4). New users of PIA, in particular, find this an easy way of entering data for a new property.

### Undo/redo icons

  The Undo and Redo icons allow you to undo changes (up to the last 5 changes made). This is useful when changing values to examine What if? scenarios with the software.

  The icon is dimmed if the option (undo or redo) is not available.

### Spreadsheet icons

Clicking on these icons take you to the various PIA spreadsheets:

 Takes you to the Investment Analysis spreadsheet (see Chapter 3).


 Takes you to the Home Loan Analysis spreadsheet (see Chapter 4).


 Takes you to the Linked loans spreadsheet (see Chapter 6).

 Takes you to the Wealth Builder spreadsheet (see Chapter 5).

### Settings icons





The settings icons allow you to make settings to determine how loans are calculated:

 Links loans (Investment Analysis and Home Loan Analysis) (see Chapter 6).

 Sets "Credit line" (see Chapter 3, 4).

(The *Settings* menu is described in detail in 7.7.)

### Scroll icons

    The scroll icons in the Toolbar allow you to scroll through the years. While PIA calculates projections up to 40 years, only 5 years are shown at any time. By default, these are the years 1,2,3,5 and 10.

### Zoom icon

Clicking the Zoom icon allows you to magnify the display, something that can be quite useful on high resolution screens.

### Status bar

If displayed, the status bar appears at the very bottom of the window:

You can switch display on and off in the *View* menu.

The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus. It also shows tips that describe the actions of toolbar buttons when you click on them (before releasing them). If after viewing the description of the toolbar button you choose not to execute the command, move the mouse pointer off the button before releasing the mouse button.

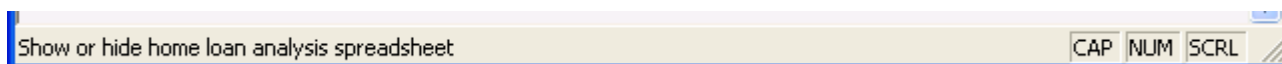
The right area of the status bar indicates latched keys:

CAP Caps Lock is latched on.

NUM Num Lock is latched on.

SCRL Scroll Lock is latched on.

The example below shows the status bar tip with the Home Loan Analysis button in the toolbar pressed and the CAPS, NUM and SCRL locks latched on.



## 2.6 Elements of the PIA spreadsheets

Investment Analysis	Input	Projections over 10 years				
End of year	2021	1yr	2yr	3yr	5yr	10yr
Property value	\$500,000	520,000	540,800	562,432	608,326	740,122
Titles column	\$19,806					
	\$50,000					
Loan amount	\$475,600	475,600	475,600	475,600	475,600	475,600
Equity	\$24,400	44,400	65,200	86,832	132,727	264,522
Capital growth rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Inflation rate (CPI)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Gross rent /week	\$400	20,384	20,996	21,625	22,942	26,596
Cash deductions						
Interest (I/O)		23,780	23,780	23,780	23,780	23,780
Rental expenses		6,832	7,037	7,248	7,689	8,914
Pre-tax cash flow	\$-50,000	-10,228	-9,821	-9,402	-8,527	-6,097
Non-cash deductions						
Deprec. of building	2.50%	6,250	6,250	6,250	6,250	6,250
Deprec. of fittings	\$0	0	0	0	0	0
Loan costs	\$5,794	1,159	1,159	1,159	1,159	
Total deductions		38,020	38,217	38,217	38,217	38,944
Tax credit (single)	\$75,000	6,224	6,041	5,858	5,675	4,496
After-tax cash flow	\$-50,000	-4,004	-3,776	-3,544	-3,299	-1,601
Rate of return (IRR)	14.49%					
Pre-tax equivalent	22.12%					
		77	73	68	58	31

**Property Details**

Address:		
Description:		
Property cost:	\$500,000	Cost: \$525,600
Gross rent (yr 1):	\$20,384	yield (yr 1): 4.08%
Net rent (yr 1):	\$13,552	net yield (yr 1): 2.71%
Cash neutral investment:	\$176,408	Cash positive by: 15yr

The figure above shows the PIA interface with the Investment Analysis spreadsheet open. This is the default spreadsheet and the one in which you will spend most time.

This spreadsheet shows the real power of the PIA software: You can make changes to variables in the spreadsheet and immediately see the projected impact over a period of up to 40 years.

### What can you change?

PIA uses different colours to indicate which variables you can change and how you can change them.

- **Blue** values are editable. You can click on them and overwrite them directly. Double-clicking on them opens the accompanying dialog.
- **Black** or **red** values are calculated values. Clicking on these opens an accompanying dialog, as these values are calculated by PIA and cannot be overwritten directly. Negative calculated values are shown in **red**.

① Although new users are encouraged to use the Data Entry Check List at first, once you gain experience, you can bypass this feature and enter data directly into the spreadsheet.

### Titles column

The *Titles* column contains the name of the spreadsheet (here: **Investment Analysis**) and the row titles.

Where appropriate, clicking on the row title opens a corresponding dialog, which then allows you to drill down to various entries and settings that result in the values shown. These row titles change colour when the mouse pointer passes over them and the mouse pointer turns to the familiar pointing hand. The row titles are dynamic, changing to reflect the current input settings.

### Input column

The *Input* column contains the variables from which the annual projections are calculated. Collectively, these variables define the attributes of the investment property, how it is being financed, and the rates at which some variables change.

### Projections columns

This area of the spreadsheet contains the annual projections based on the input variables specified in the input column. While PIA calculates projections up to 40 years, only five years can be displayed at a time. These five years do not need to be consecutive years (for example, years 1,2,3,5,10), but the year in the right-most column determines the time frame over which the Internal Rate of Return is calculated.

The scroll icons in the Toolbar allow you to scroll through the years. While PIA calculates projections up to 40 years, only 5 years are shown at any time. By default, these are the years 1,2,3,5 and 10.

### The "bottom line"

The bottom rows of the spreadsheet represent your "bottom line". The figures for values such as *Rate of return* and Pre-tax equivalent are based on the period displayed in the projections columns.

### License header

At the top of the spreadsheet area is the license header. This shows the licensee name (in this case it is simply "Somerset").

### Column headers

The column headers identify the input column and the projections columns. The title above the projections columns indicates the span of the projection (here: **Projections over 10 years**).

For full details of the spreadsheets, please see the appropriate chapter:

Chapter 3	Investment Analysis spreadsheet
Chapter 4	Home Loan Analysis spreadsheet
Chapter 5	Wealth Builder spreadsheet
Chapter 6	Linked Loans spreadsheet

## 2.7 Dialogs

Dialogs allow you to view – and in some cases edit – the variables that make up or determine an item's value.

### Information-only dialogs

Some dialogs only display information. They do not allow entries to be made. Their purpose is to show the derivation of a value. The Internal Rate of Return is an example of such a dialog.

Year	Cash Flow	Today's \$
Initial investment	-50,000	-50,000
1yr	-4,004	-3,945
2yr	-3,777	-3,613
3yr	-3,543	-3,291
5yr	-3,029	-2,651
10yr	-1,601	-1,209
Total investment		\$76,199
Equity at end	\$264,522	\$199,738
Net present value		<b>\$123,539</b>
<b>Internal rate of return</b>		<b>14.49%</b>
Inflation rate		3.00%
Real return		<b>11.15%</b>
<b>If Sold...</b>		
After-sale equity	\$187,312	\$141,437
Internal rate of return		10.24%

### Interactive dialogs

The majority of dialogs are interactive – they allow you to make entries, thus influencing the calculation of a variable.

The Purchase Costs dialog is an example of an interactive dialog.

It contains fields of various types:

- Information field (such as the value of *Purchase price*)



*This is a non-editable field here, as the value is entered in the Property Value dialog (see 3.2), in the Investment Analysis spreadsheet input column (see Chapter 3), or in the Data Entry Check List (see 2.4).*

- Data-entry field (such as the value of *Stamp duty*)
- Text-entry fields (such as *Other costs*, which can be overwritten).
- Radio buttons (such as Capital cost and Revenue cost – when one is selected, the other is deselected)
- Tick box (such as Uses Qld, indicating that the Queensland Stamp Duty Scales are in use).
- Button such as **Reset Scales** which access the Specify Stamp Duty Scale, allowing you to select the appropriate scale).
- The ? button gives access to context-sensitive help.

## 2.8 Preferences

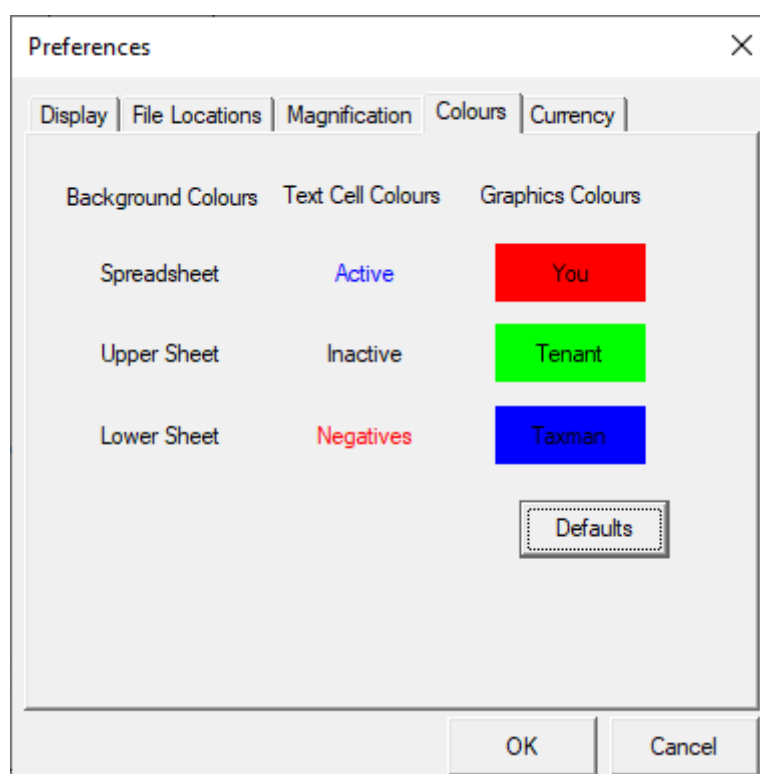
The *Preferences* menu item in the *Settings* menu allows you to tailor the user interface to your personal needs and preferences.

Here are some of the things you can do:

- Change font styles and sizes  
The spreadsheets have been designed to display correctly using Arial up to font size 10.
- Increase magnification  
If you have trouble reading the screen, you can increase magnification
- Specify file locations  
You can tell PIA where to store program files and where to store your PIA data files.
- Choose the colours used in graphics

Preferences are covered in detail in the *Settings* menu (see 7.7).

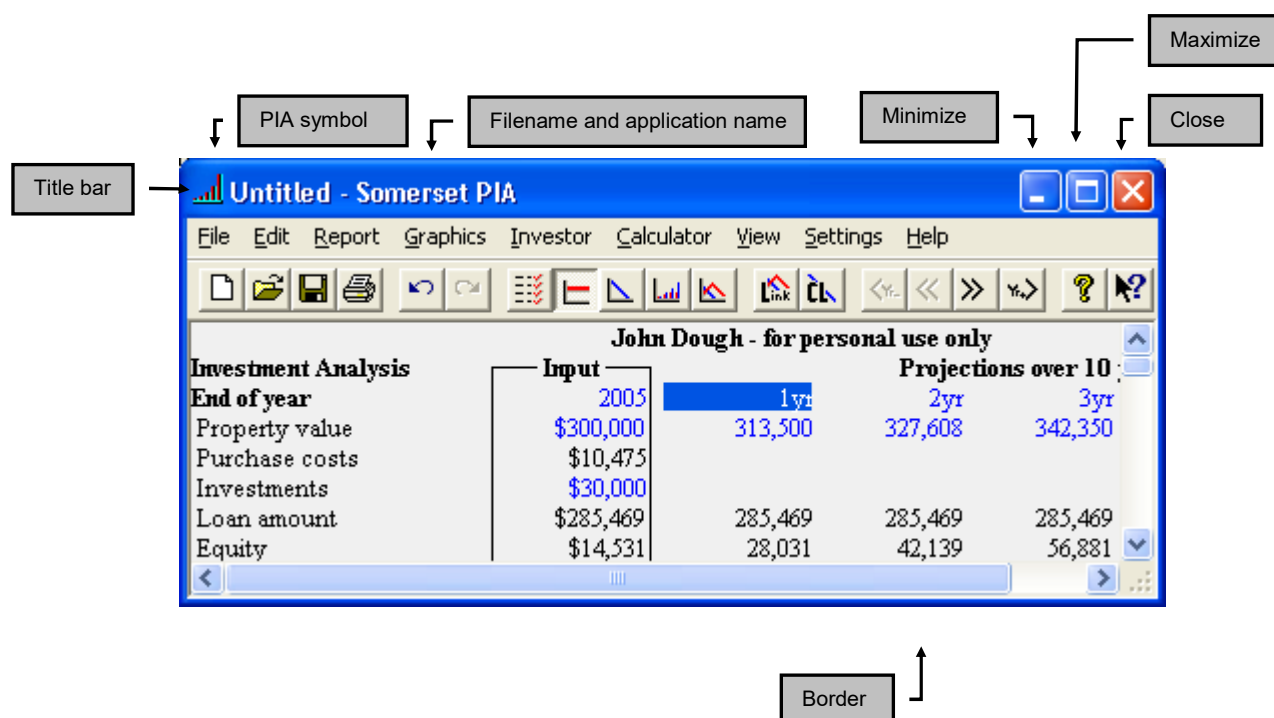
An example of Preferences: The Colours tab in the *Preferences* menu item (*Settings* menu) allows you to choose the colours used in graphics and for the upper and lower parts of the Linked loans and Wealth Builder spreadsheets (see 7.7).








## 2.9 Windows and sizing

Here is a quick summary of the user interface features of Microsoft Windows that affect PIA.  
The figure below shows a “downsized” PIA window with various elements.



The title bar of the Windows window shows the PIA symbol, the filename and application name (Somerset PIA) and the Minimize, Maximize and Close symbols.

### Resizing a window

- |          |   |  |
|----------|---|--|
| Minimize |  | Click the Minimize symbol to minimize the window to a taskbar button. Click the taskbar button to restore the minimized window.                                |
| Maximize |  | Click the maximize symbol to make the window fill the whole screen.  |
| Restore  |  | Click on the symbol in the maximized window (which replaces the Maximized symbol when window is already maximized) to restore the window to the previous size. |

You can manually resize an open window in the normal way:

- |                |  |
|----------------|--|
| Width          | Point to the left or right window border – the pointer changes into a horizontal double-headed arrow. Drag the border to desired position. |
| Height         | Point to the top or bottom window border – the pointer changes into a vertical double-headed arrow. Drag the border to desired position.   |
| Height & width | Point to any window corner - the pointer changes to a diagonal double-headed arrow. Drag the corner to the desired position.               |

For full details, refer to Microsoft Windows online help.

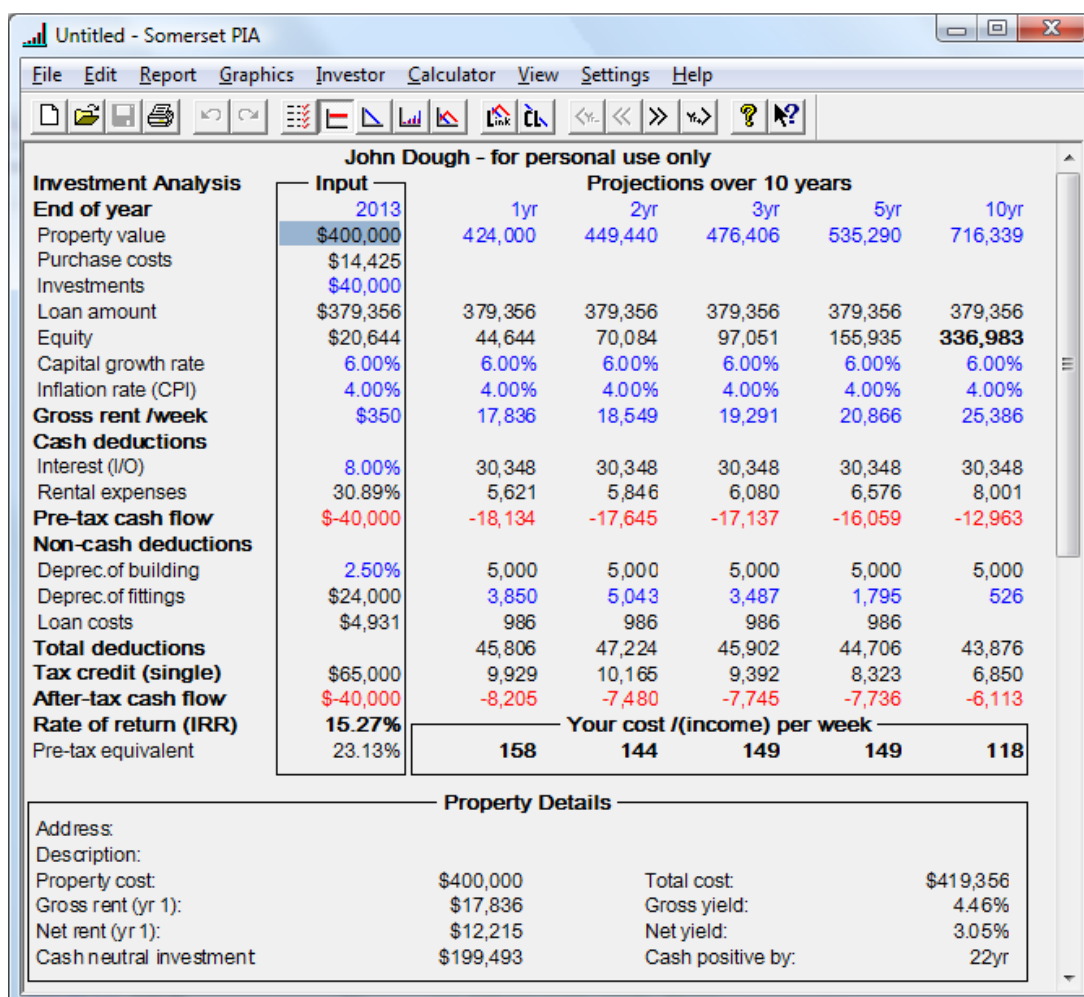
## Chapter 3

### Investment Analysis spreadsheet

This chapter provides you with a guided tour of the Investment Analysis spreadsheet and its related dialogs. When you have completed the data entry check list for a particular property (see 2.4) you will spend most of your time here in this spreadsheet

This spreadsheet allows you to analyse and evaluate prospective property investments. It does this by calculating the after-tax cash flows for the investment and, from those cash flows, calculating the Internal Rate of Return. The spreadsheet lists the key input variables that describe the property under review, the way in which it is financed, the investor's current taxable income and rate variables on which forward projections are based. It shows both current data and the projections based on that data. This spreadsheet thus allows you to quickly examine a range of "What if?" scenarios simply by modifying the input variables.

 Where you have not made any changes, projections are based on default values.



John Dough - for personal use only						
Investment Analysis	Input	Projections over 10 years				
	2013	1yr	2yr	3yr	5yr	10yr
End of year	2013					
Property value	\$400,000	424,000	449,440	476,406	535,290	716,339
Purchase costs	\$14,425					
Investments	\$40,000					
Loan amount	\$379,356	379,356	379,356	379,356	379,356	379,356
Equity	\$20,644	44,644	70,084	97,051	155,935	336,983
Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Inflation rate (CPI)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Gross rent /week	\$350	17,836	18,549	19,291	20,866	25,386
Cash deductions						
Interest (I/O)	8.00%	30,348	30,348	30,348	30,348	30,348
Rental expenses	30.89%	5,621	5,846	6,080	6,576	8,001
Pre-tax cash flow	\$-40,000	-18,134	-17,645	-17,137	-16,059	-12,963
Non-cash deductions						
Deprec. of building	2.50%	5,000	5,000	5,000	5,000	5,000
Deprec. of fittings	\$24,000	3,850	5,043	3,487	1,795	526
Loan costs	\$4,931	986	986	986	986	
Total deductions		45,806	47,224	45,902	44,706	43,876
Tax credit (single)	\$65,000	9,929	10,165	9,392	8,323	6,850
After-tax cash flow	\$-40,000	-8,205	-7,480	-7,745	-7,736	-6,113
Rate of return (IRR)	15.27%					
Pre-tax equivalent	23.13%					
		Your cost /(income) per week				
		158	144	149	149	118
Property Details						
Address:						
Description:						
Property cost:	\$400,000	Total cost:		\$419,356		
Gross rent (yr 1):	\$17,836	Gross yield:		4.46%		
Net rent (yr 1):	\$12,215	Net yield:		3.05%		
Cash neutral investment	\$199,493	Cash positive by:		22yr		

The chapter covers each row (and the associated dialogs and info boxes) from top to bottom. For your orientation, the row being described is shown with the row above and below:

Property value	\$400,000	424,000	449,440	476,406	535,290	716,339
Purchase costs	\$14,425					



Investments	\$40,000	
-------------	----------	--

### 3.1 Year row

John Doe – for personal use only						
Investment Analysis	Input	Projections over 10 years				
End of year	2013	1yr	2yr	3yr	5yr	10yr
Property value	\$400,000	424,000	449,440	476,406	535,290	716,339

The value in the input column on the spreadsheet shows the year of purchase.

The values in the projection columns display the projected value of the property in selected years from the time of purchase. The maximum value is 40 years. A value of zero displays no information displayed in that column. The years do not need to be consecutive or even in chronological sequence, but the year shown in the right-most column determines the range of years over which PIA calculates the Internal Rate of Return (see 3.19).

#### Set Projections dialog

Clicking on the Year row title opens the Set Projections dialog.



*In the example, the Investment Analysis spreadsheet shows a projection over 10 years, so the Internal Rate of Return shown near the bottom of the input column is the Internal Rate of Return calculated over 10 years.*

To change the years displayed do any one of the following:

- Double-click on the Year row title and select from the Set projection dialog.
- Overwrite the year value in each cell of the row. (The values are blue, indicating that they are editable.)
- Use the toolbar scrolls (" $>$ ", " $>>$ ", " $<$ ", " $<<$ ") to select the next, next five, previous, or previous five years.
- Using the Right-Arrow key " $>$ " when the right-most year is selected also scrolls to the next year.

**Set Projections**

☐ 5 years (1, 2, 3, 4, 5)  
☒ 10 years (1, 2, 3, 5, 10)  
☐ 15 years (1, 3, 5, 10, 15)  
☐ 20 years (1, 5, 10, 15, 20)  
☐ 40 years (1, 10, 20, 30, 40)  
☐ 1 year ( )

? OK Cancel



*Note that PIA always calculates 40 years of projected values irrespective of the year shown in the right-hand column. These variables determine what is displayed in the spreadsheet columns, not what is calculated.*

#### Notional or actual years

You can set PIA to display notional or actual years.

Select Preferences from the *Settings* menu.

The Preferences dialog is displayed. You can select Notional years or Actual years by clicking on the appropriate radio button.

Radio buttons for  
Notional or actual years

**Preferences**

Display | File Locations | Magnification | Colours | Currency

Investment Spreadsheet "Bottom Line"

☒ Pre-tax equivalent  
☐ Net present value  
☐ Real rate of return  
☐ Cash on cash return  
☐ Rate of return (if sold)

☒ "Your cost/(income) per week"  
☐ "Your income/(cost) per week"  
☐ "Weekly after-tax cash flow"  
☐ "Monthly after-tax cash flow"  
☐ "Annual cash surplus"

Years

☒ Notional years (eg. 1yr, 2yr)  
☐ Actual years (eg. 2004, 2005)

☐ Skip check list  
☐ Disable row highlighting

Undefined Values

?????

Wealth Builder

☐ Show loan term

OK Cancel

### 3.2 Property value row

End of year	2013	1yr	2yr	3yr	5yr	10yr
Property value	\$400,000	424,000	449,440	476,406	535,290	716,339
Purchase costs	\$14,425					

The value in the input column of the *Property value* row on the spreadsheet shows the property value at the time of purchase. Normally this is simply the price paid for the property, although this does not have to be the case (see below). If the initial property value shown in the input column is overwritten, PIA assumes that the value and the price paid are the same.

The values in the projection columns show the anticipated increase in the property value over the projection period. PIA calculates these using the specified sequence of capital growth rates. However, the property value in any year can be selected and overwritten, in which case the corresponding Capital growth rate parameter is recalculated.

#### Property Value dialog

Clicking on the *Property value* row title or double-clicking on a cell containing one of the annual values opens the Property Value dialog. This allows you to make adjustments for renovations or the additional purchase of a furniture package. It also allows you to enter a different market value if it is not the same as the purchase price of the property (book value). The initial year is indicated in an editable field (example: 2005). As all cash flow projections are collated in notional years from this point in time, it is denoted as "End of year".

#### Property price

In most cases, the price paid for the property defines the property's value and determines the amount of State government stamp duty payable. Clicking on this button will provide options for the property being a house and land package whereby the stamp duty can be calculated on the land value only.

#### Renovations

If renovations are carried out immediately after purchase, this impacts upon the property value and its potential for capital growth, but does not affect any stamp duty paid on the original purchase price.


You may enter renovation costs in the initial column (at time of purchase) or in subsequent years.

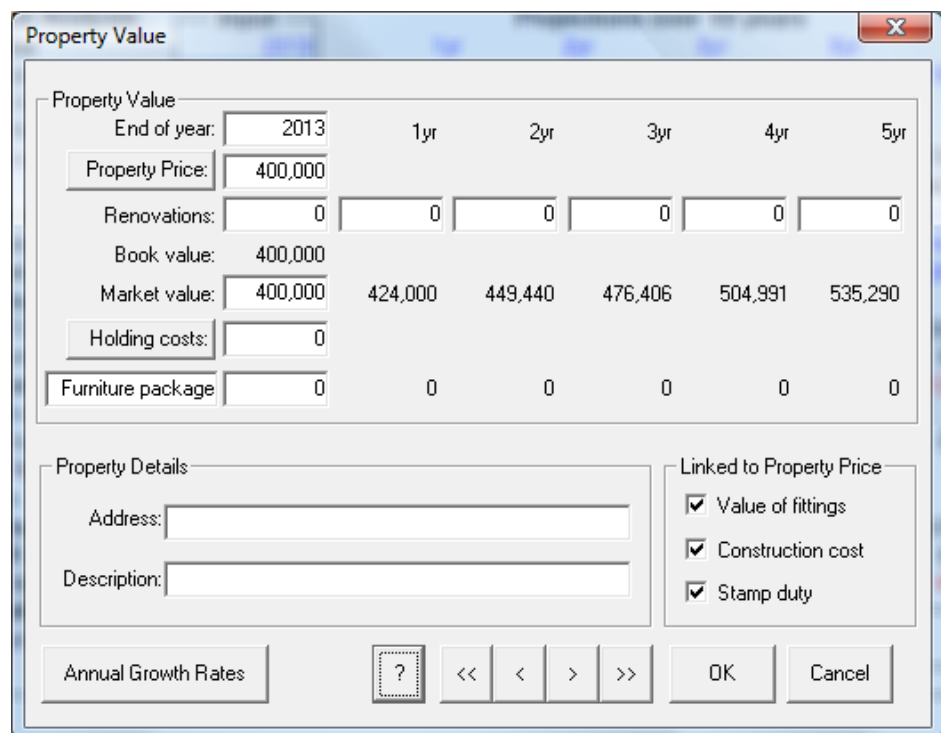
#### Book value

The book value is the sum of the purchase price plus the cost of any renovations undertaken at the time of purchase.

#### Market value

If you consider that the true market value of the property differs from the book value, you can specify the market value independently. The values shown to the right of the initial market value reflect the calculated capital growth together with the value of any renovations undertaken in subsequent years.

 The years shown in the Property Value dialog depend on the years currently displayed in the Investment Analysis spreadsheet as defined in the Set projections dialog described in 3.1.



### Holding costs

These are the interest costs associated with the construction phase of the property before the property is available for rent. As the PIA cash flows only begin from settlement, holding costs may need to be specified and are assumed to occur at settlement. Clicking on this button provides a template by which the holding costs can be calculated.

### Furniture package

A furniture package is often purchased as an optional addition for a resort or holiday unit so that it can be rented fully furnished. Furniture is a depreciable item and the cost is taken into account when calculating the total loan required. However, for the purposes of the investment analysis, furniture is not considered as part of the property value subject to capital growth.

The depreciated values of a furniture package are shown in the columns to the right of the initial value. Stamp duty is not payable on the cost of furniture.

### Property Details

These fields allow you to enter the address of the property and a brief description. This information is displayed in the various reports you can generate (see *Report* menu in Chapter 7).

### Linked values

To make it quick and easy you to analyse potential property investments, three input variables are, by default, linked to changes in the property value:

- **Value of fittings**  
By default, if the property price changes, the total value of fittings is reset to a set percentage (6%) of the property price and individual items are consolidated into two categories (General fittings and Low-value pool). If you choose to sever this link, they must be set manually in the Depreciation of Fittings dialog described in 3.14.
- **Construction cost**  
By default, if the property price changes, the original construction cost of the building is reset to 50% of the property price and building depreciation calculated accordingly. If you choose to sever this link, it must be set manually in the Depreciation of Building dialog described in 3.13.
- **Stamp duty**  
By default, if the property price changes, the stamp duty is recalculated from the currently selected stamp duty scale. See Specify Stamp Duty Scale dialog in 3.3.

Use the toolbar scroll buttons (“>”, “>>”, “<”, “<<”) to select the next, next five, previous, or previous five years.

### Annual Growth Rates button

Clicking on the Annual Growth Rates button displays the Investment Property Growth dialog (shown below).

❗ To simulate an investment property that is to be built, you can either specify the land cost as the property price (attracting stamp duty) and the building cost as a renovation cost. Alternatively you can specify the cost of land and building as the property price, but calculate the stamp duty for the land only using the Stamp Duty Calculator in the Calculator menu, described in 7.5. You can then overwrite the stamp duty calculated (see Purchase cost dialog described in 3.3) and sever the link between stamp duty and property value.

The dialog box titled "Investment Property Growth" contains a table showing the progression of property value over time. Below the table is a section for "Display in Spreadsheet" with two radio button options: "Capital growth rates" (selected) and "Capitalization rates". Each option has a row of input fields for years 1 through 5. At the bottom are navigation buttons: "?", "<<", "<", ">", ">>", "OK", and "Cancel".

End of year:	Initial	1yr	2yr	3yr	4yr	5yr
Property value:	500,000	520,000	540,800	562,432	584,929	608,326

Display in Spreadsheet: ☒ Capital growth rates: 4.00%, 4.00%, 4.00%, 4.00%, 4.00%, 4.00%

☐ Capitalization rates: 2.60%, 2.71%, 2.68%, 2.66%, 2.63%, 2.61%

### 3.3 Purchase costs row

Property value	\$400,000	424,000	449,440	476,406	535,290	716,339
Purchase costs	\$14,425					
Investments	\$40,000					

The value in the input column on the *Purchase costs* row shows the total purchase costs. This value cannot be overwritten directly because it is made up of several components such as solicitor's fees and Government stamp duties.

#### Purchase Costs dialog

Clicking on the *Purchase costs* row title, on the value in the input column or on the projection columns opens the Purchase Costs dialog.

#### Purchase price

The purchase price is the amount paid to purchase the property and the amount on which the stamp duty is calculated. It is a non-editable field in the Purchase Costs dialog, as the value is entered elsewhere (either in the Property Value dialog (see 3.2), the Investment Analysis spreadsheet, or in the Data Entry Check List (see 2.4).

#### Transfer of title

Most times there is a Titles Office cost associated with transferring and registering the title. These vary by jurisdiction and while PIA has defaults, these can be changed by the user.

#### Conveyancing costs

Conveyancing costs can vary substantially, depending on who you have do the work, how much legal work is involved, and the cost of the property. Some items for which your solicitor charges (for example, search fees), may be better recorded under Loan costs if they are conditional on the provision of finance. This is because loan costs normally confer tax deductibility sooner than purchase costs. The Loan Costs dialog is reviewed in 3.15.

#### Other costs

There is the provision for recording both the type and amount of any other purchase costs.

#### Tax status

In most cases, purchase costs are treated as a capital cost (that is, for tax purposes, they are only considered at the time of sale when calculating any capital gains tax liability). However in places like the A.C.T. where the land is long-term leasehold, they are considered a revenue cost and are deductible in the year of purchase. You need to check this with your accountant.

#### Stamp duty

In Australia, stamp duty is tax levied by state governments on real-estate transfers. By default, PIA calculates stamp duty as a function of the purchase price and the selected stamp duty scale. However, there are circumstances (for example, when you are building after purchasing land and building an investment property) where you may wish to calculate it separately and overwrite the value. To do this, select the *Stamp Duty Calculator* from the *Calculator* menu (see 7.5).

#### Stamp Duty Scales

In Australia, stamp duty is a state-levied tax on the transfer of real property. If you tick the check box for your state, PIA recalculates the stamp duty from the specified scale for the state.

#### Reset scales

The stamp duty scales vary according to the state or territory, and can be set in the Purchase Costs dialog by clicking on the **Reset Scales** button. This opens the Specify Stamp Duty Scale dialog. In the example shown, the Queensland scales are in use.

### Specify Stamp Duty Scale dialog

Checking the *Default* check box selects the current stamp duty scale as the default scale, meaning that whenever you create a new property file, the current stamp duty is the one used.

Any of the graduated scales may also be edited or set as a flat rate (that is, where the stamp duty is calculated based on the total property price times the specified rate).

Any changes made to the stamp duty scale are saved in the PIA settings file when you quit PIA.

Clicking the *Other* radio button allows you to enter and save a customized stamp duty scale starting from scratch.



*In Victoria, graduated scales are used up to a certain value. Properties above this value may revert to a simple flat rate for the entire sum.*

*Northern Territory uses a formula to calculate stamp duty. PIA simulates this formula using a graduated linear scale.*

*New Zealand has no stamp duty on property transfers, so selecting NZ changes stamp duty to zero.*

Specify Stamp Duty Scale

From:	To:	Rate:	(Flat)	Region
1	5,000	0.00%	<input type="checkbox"/>	<input checked="" type="radio"/> Qld.
5,001	75,000	1.50%	<input type="checkbox"/>	<input type="radio"/> N.S.W
75,001	540,000	3.50%	<input type="checkbox"/>	<input type="radio"/> Vic.
540,001	1.000m	4.50%	<input type="checkbox"/>	<input type="radio"/> S.A.
1.000m		5.75%	<input type="checkbox"/>	<input type="radio"/> W.A.
			<input type="checkbox"/>	<input type="radio"/> N.T.
			<input type="checkbox"/>	<input type="radio"/> Tas.
			<input type="checkbox"/>	<input type="radio"/> A.C.T.
			<input type="checkbox"/>	<input type="radio"/> N.Z.
			<input type="checkbox"/>	<input type="radio"/> Other
			<input type="checkbox"/>	<input checked="" type="checkbox"/> Default

?
OK
Cancel

### 3.4 Investments row

Purchase costs	\$14,425					
Investments	\$40,000					
Loan amount	\$379,356	379,356	379,356	379,356	379,356	379,356

The value for *Investments* in the input column in the *Investments row* on the Investment Analysis spreadsheet shows the total cash and equity investment at the time of purchase. Overwriting this value is a signal for PIA to allocate the amount towards the property's purchase price and to reduce the loan accordingly. If the amount exceeds the cost of the property, the remainder is allocated towards purchase costs, renovation costs (if any) and loan costs (if any). If the amount exceeds the total cost of purchase, the investment amount is reduced accordingly.

The values in the projection columns show projected investments for the selected years.

#### Investments dialog

Clicking on the *Investments row* title opens the Investments dialog.

The initial outlay is the total amount of cash (as opposed to borrowed funds) invested at the time of purchase. Investments can be made toward the purchase price (that is, a cash deposit), associated purchase costs, renovation costs (if any), and loan costs (if there is a loan). Investment can also take the form of equity: For example, where you have already owned the investment for many years and want to evaluate the return on investment for a renovation of that property. Use this field to ensure that the Loan amount is correct for an investment property that you already own.

Any cash (or equity) invested reduces the size of the loan. For example, paying the loan costs as an initial investment results in a smaller loan which, in turn, reduces loan costs. PIA adjusts loan cost contribution in this case.

You can specify each cost item separately in the Investments dialog. Any entry in the *Investments* column results in a corresponding reduction of the value shown in the *Loan* column. The sum of the two is shown in the *Costs* column.

The combined values in each row of the *Investments* and *Loan* column cannot exceed the value shown in the *Costs* column. If the value is exceeded, PIA displays an error message, prompting you to review your entries in the appropriate dialog.

If you choose to pay (rather than borrow) the *Loan costs*, PIA displays a message indicating that the Loan costs have been reduced. The total investment is adjusted accordingly.

In the Investment Analysis spreadsheet, the values in the projection columns of the *Investments row* allow you to enter additional cash outlays made during the years shown. These could include such things as principal payments on a principal & interest loan or simply a cash payment to add a capital improvement.

At 2013	Cash Invested	Equity Invested*	Loan	Costs
Property cost	40,000	0	360,000	400,000
Renovation costs	0		0	0
Purchase costs	0		14,425	14,425
Furniture package	0		0	0
Holding costs	0		0	0
Loan costs	0		4,931	4,931
Additional loan			0	
<b>Totals</b>	<b>40,000</b>	<b>0</b>	<b>379,356</b>	<b>419,356</b>

\* To be used where you already have equity in the property

After Purchase ? OK Cancel



### Annual Investments dialog

Clicking on any of the cells in the projection columns opens the Annual Investment dialog, revealing the derivation of the total amounts shown.

- ① If a credit line has been chosen as the loan type (see 3.5), the *Credit Line Payments dialog* opens showing the derivation of the principal payments (see below).

Use the toolbar scroll buttons (">", ">>", "<", "<<") to select the next, next five, previous, or previous five years.

### Loan costs

To make changes to the loan costs, click **Loan costs** in the Investments dialog. This takes you to the Loan Costs dialog described in 3.15.

### After purchase

Additional cash outlays may also be made in later years. These could be a result of regular principal payments, ad hoc lump sum payments (for example, to pay for a renovation) or (under a linked loans model available in the Professional editions) from the re-direction of ex-home loan payments, (see 3.5), rental income (see 3.9) and tax credits (see 3.5) to repay the loan.

### Renovations

If renovations are to be carried out in later years, their cost can be specified in the appropriate cell. The amount is added to the loan and to the value of the property and taken into account in calculating building depreciation (see 3.13). If all or part of the cost of these renovations is paid in cash, it must appear as a cash outlay in the appropriate *Investments/Payments* cell in the bottom half of the Annual Investment dialog.

- ① Where a *Principal & Interest* loan has been chosen, the loan amount reduces over time in line with the principal repayments shown in the *Investments* row of the spreadsheet. The *Investments* row title changes to "Investments/principal" and the *Interest* row title changes to "Interest (P&I)". This is described in 3.5.

- ① Some items in this dialog are followed by a (c) or a (d):

(c) indicates that amounts in this row have been "capitalised" (i.e. borrowed)

(d) indicates that the amounts in this row have been used to repay debt.

### Credit Line Payments dialog

If a credit line has been chosen as the loan type (see 3.5), clicking on any of the cells in the projection columns in the *Investments* row opens the Credit Line Payments dialog showing the derivation of the principal payment.

**Annual Investments**

Year:	2006	2007	2008	2010	2015
Capital Improvements					
Renovations:	0	0	0	0	0
Investments/Payments					
Cash invested:	0	0	0	0	0
Principal payments:	0	0	0	0	0
Ex-home payments:	0	0	0	0	0
Rent (d):	0	0	0	0	0
Tax credits (d):	0	0	0	0	0
Totals:	0	0	0	0	0

? << < > >> OK Cancel

**Credit Line Payments**

Year:	1yr	2yr	3yr	5yr	10yr
Current taxable	110,000	113,300	116,699	123,806	143,525
Rental income:	20,384	20,996	21,625	22,942	26,596
Total income:	130,384	134,296	138,324	146,748	170,122
Rental expenses:	6,832	7,037	7,248	7,689	8,914
Living expenses:	30,950	31,879	32,835	34,834	40,383
New tax liability:	11,975	13,569	15,231	18,638	29,462
Home loan payments:	33,672	33,672	33,672	33,672	33,672
Maximum interest:	23,780	22,621	21,345	18,412	8,563
Total expenditure:	107,209	108,778	110,331	113,246	120,994
Cash available:	23,175	25,518	27,994	33,502	49,128
Cash paid:	23,175	25,518	27,994	33,502	49,128
Total loan payments:	46,424	47,554	48,697	51,146	56,565

? << < > >> OK Cancel



### 3.5 Loan amount row

Investments	\$40,000					
Loan amount	\$379,356	379,356	379,356	379,356	379,356	379,356
Equity	\$20,644	44,644	70,084	97,051	155,935	336,983

The value in the input column on the *Loan amount* row on the spreadsheet shows the total loan amount at the time of purchase. The values in the projection columns show the anticipated loan balance at the end of each year.

#### Loan Amount dialog

Clicking on the *Loan amount* row title on the Investment Analysis spreadsheet opens the Loan Amount dialog.

The initial loan amount represents the total of all costs (property price, purchase costs, loan costs etc.) less any initial investments. If renovations were carried out immediately, the loan would account for these costs as well. Additional loans may also be sought for items such as furniture or to help supplement initial cash flows.

The *Equity Invested* field allows you to enter the amount of equity in an investment property that you may already own. For example, you might use this option if you have owned an investment property for many years and only wish to analyse the current cash flows and/or are evaluating the investment return on major renovations that you wish to undertake.

- ① The values for *Property cost*, *Renovation costs*, *Purchase costs* and *Furniture package* are those entered in the *Investments* dialog described in 3.4.

**Loan Amount**

**At 2013**

	Cash Invested	Equity Invested*	Loan	Costs
Property cost	40,000	0	360,000	400,000
Renovation costs	0		0	0
Purchase costs	0		14,425	14,425
Furniture package	0		0	0
Holding costs	0		0	0
Loan costs	0		4,931	4,931
Additional loan			0	
<b>Totals</b>	<b>40,000</b>	<b>0</b>	<b>379,356</b>	<b>419,356</b>

\* To be used where you already have equity in the property

Loan Type    ?    OK    Cancel

### Investment Loan Balance dialog

Clicking on any of the cells in the projection columns of the *Loan amount* row opens the Investment Loan Balance dialog, which reveals the derivation of the totals shown. Annual loan balances are a function of initial balances, items added and items paid. In general, the only item added would be the interest bill. If the rental expenses were to be capitalised, they too would be added to the loan. If capital improvements (renovations) were carried out in later years, their cost would also be added to the loan. Unless interest is capitalised (*capitalise interest*), it is usually the main payment. Other payments could include principal payments (for a principal & interest loan), cash outlays (to pay for any capital improvements), *ex-home loan payments* (if the loan is linked to a home loan), and rent and tax credits (if used to repay the loan principal).

Use the toolbar scroll buttons (“>”, “>>”, “<”, “<<”) to select the next, next five, previous, or previous five years.

- ① Some items in this dialog are followed by a (c) or a (d):  
 (c) indicates that amounts in this row have been “capitalised” (i.e. borrowed)  
 (d) indicates that the amounts in this row have been used to repay debt.

Investment Loan Balance					
Year:	1yr	2yr	3yr	5yr	10yr
Initial loan balance:	285,469	285,469	285,469	285,469	285,469
<b>Loan Additions</b>					
Interest added:	19,983	19,983	19,983	19,983	19,983
Expenses (c):					
Renovations:					
Total:	19,983	19,983	19,983	19,983	19,983
<b>Loan Payments</b>					
Interest paid:	19,983	19,983	19,983	19,983	19,983
Principal paid:					
Cash outlays:					
Ex-home payments:					
Rents (d):					
Tax credits (d):					
Total:	19,983	19,983	19,983	19,983	19,983
Closing balance:	285,469	285,469	285,469	285,469	285,469
(c) if capitalised	?				
(d) if deducted from loan	<< < > >>				
Close					

### Loan costs

Clicking **Loan Costs** in the Loan Amount dialog displays the Loan Cost dialog (see 3.15).

### Loan Interest & Type dialog

Clicking **Loan Type** in the Loan Amount dialog displays the Loan Interest & Type dialog.

The loan type can be either interest-only (I/O), principal & interest (P&I), interest-capitalised (c), credit line (CL) or a combination of the above.

In the case of an *Interest Only* loan, there are no principal repayments in the *Investments* row of the spreadsheet, the loan balance remains static and the interest payments are constant. The row title in the Investment Analysis spreadsheet is "Interest (I/O)".

In the case of a *Principal & Interest* loan is chosen, the loan amount reduces over time in line with the principal repayments shown in the *Investments* row of the spreadsheet. The *Investments* row title in the Investment Analysis spreadsheet changes to *Investments/principal* and the *Interest* row title changes to *Interest (P&I)*.

Loan A		Loan B	
Loan Amount	Interest Rate (Average)	Interest Only	Principal & Interest
475,600	5.00%	From: 1yr To: 40yr	From: To: From: To: From: To: From: To:
Loan Summary (1st year)		Loan Type	
Total Loan:	\$475,600	<input type="checkbox"/> Split rate	
Interest:	\$23,780	<input type="checkbox"/> Capitalised component tax-deductible	
Payment:	\$23,780	Specify Annual Rates	

Where a loan is chosen for which the interest is borrowed (*Capitalise Interest*), there are no principal or interest payments. The loan balance increases in line with the interest owed while investor's cash flow is usually positive, being made up of the net rental income and tax credits. The *Interest* row title changes to *Interest (c)*.

Where a *Credit Line* has been specified (that is, one in which repayments are made in accordance with the investor's full disposable income), (CL) appears in the row title. Under a Credit Line, PIA calculates the total income of the investor and partner, their total committed expenditure (living expenses, mortgage payments and tax liabilities) and any extra is used as additional principal payments off the loan. Examine the Credit Line Payments dialog (described in 3.4) to see how the payments are derived.

### Loan Type

The Loan Type checkbox provide an option to have split loans (two loans: Loan A and Loan B) or split rates (one loan with two rates: Rate A and Rate B). If the checkbox is ticked, the total rate of interest is the sum of each rate in each year, which in turn are specified in the Annual Rates dialog. If the checkbox is unticked, the total loan amount is the sum of the loan amounts for the two loans. See [http://www.somersoft.com.au/split\\_rate\\_loan.htm](http://www.somersoft.com.au/split_rate_loan.htm) for an example.

### Capitalised Interest

The financial model in PIA assumes that the additional interest on the increased loan balance (that is, the interest on the capitalised interest) is not tax deductible. This default can be changed by ticking the *Capitalised component tax-deductible* check box at the bottom of the dialog. You should check with your accountant to see if this is the case in your situation.

For further details of the uses of the Loan Interest & Type dialog, see 3.10.

① Note that the most common use of a credit line is in accelerated mortgage reduction and this is usually in relation to a non-deductible home loan rather than a tax-deductible investment loan. Where an investment loan and a home loan are part of the same credit line, it is more effective (and usually more accurate in practice) to make the investment loan interest-only and the home loan a line of credit.

### 3.6 Equity row

Loan amount	\$379,356	379,356	379,356	379,356	379,356	379,356
Equity	\$20,644	44,644	70,084	97,051	155,935	336,983
Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%

The value in the input column on the spreadsheet shows equity at the time of purchase. The equity in each year is the difference between the property value and the loan. It is not an input variable as PIA calculates the difference between the property market value and the loan. Equity increases in line with the increasing value of the property and – in the case of a principal & interest loan – with decreasing debt. If the property is sold (not recommended in the short term), selling costs (sales commission and solicitor's fees) and Capital Gains Tax must be deducted to establish equity.

The values in the projection columns show the anticipated equity for the projected years displayed.

#### Equity dialog

Clicking on the *Equity* row title (or on any cell in the row) opens the Equity dialog.

This shows property value, outstanding loan, and the equity after 5- and 10-year periods.

It also shows projected selling costs (sales commission, solicitor's fees, etc), exit stamp duty (where applicable), capital gains tax (where appropriate) and the corresponding after-sale equity if the property is sold at the projected market value.

- ❶ *If all the monies are borrowed, the initial equity is likely to be negative as the total cost of a property acquisition includes purchase and loan costs in addition to the cost of the property itself. Equity increases with the increasing market value of the property and with any decrease in the debt (for example in the case of a principal & interest loan).*
- ❶ *Detailed Capital Gains Tax (CGT) calculations for the property are show in more detail in the Capital Gains Tax item in the Reports and Calculator menus (see Chapter 7).*

Equity
✕

Projected values over...	5 yrs	10 yrs
Property value	373,855	465,891
Loan	285,469	285,469
Equity	88,386	180,422
Approximate costs if sold...		
Capital gains tax	17,819	46,096
Solicitor's fees	1,869	2,329
Sales commission	10,776	13,307
Stamp duty on sale	0	0
Other selling costs	0	0
Equity (after sale)	57,921	118,689

?
Close

### 3.7 Capital growth rate row

Equity	\$20,644	44,644	70,084	97,051	155,935	336,983
Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Inflation rate (CPI)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%

The value in the input column on the *Capital growth rate* row title shows the anticipated average annual rate of growth of the property market value. If you select and overwrite this value, the growth rate for all years is set to the new value.

The values in the projection columns show the anticipated capital growth rates for the individual years of the projection. These values can also be selected and overwritten, in which case the change is reflected in the corresponding property values.

#### Investment Property Growth dialog


Clicking on the *Capital growth rate* row title or double-clicking on any of the cells in the row opens the Investment Property Growth dialog.

If you select and overwrite an individual property value in the *Property Value* row of the Investment Analysis spreadsheet, the change is reflected in the *Capital growth rate* row of the spreadsheet and in the Capital growth rate dialog.


If you change the growth rate in a year of the Investment Property Growth rate dialog, subsequent years are changed to the same rate.

If the growth rate is specified, it will determine the projections in property value. However, there is now the option to specify the Capitalisation rate rather than the growth rate. The capitalisation rate (or net yield) is the net rent (rental income less expenses) as a percentage of property value. If you specify a capitalisation rate, the property value in the spreadsheet will be determined by this rate, and the net rent. The growth rate will then be calculated accordingly.

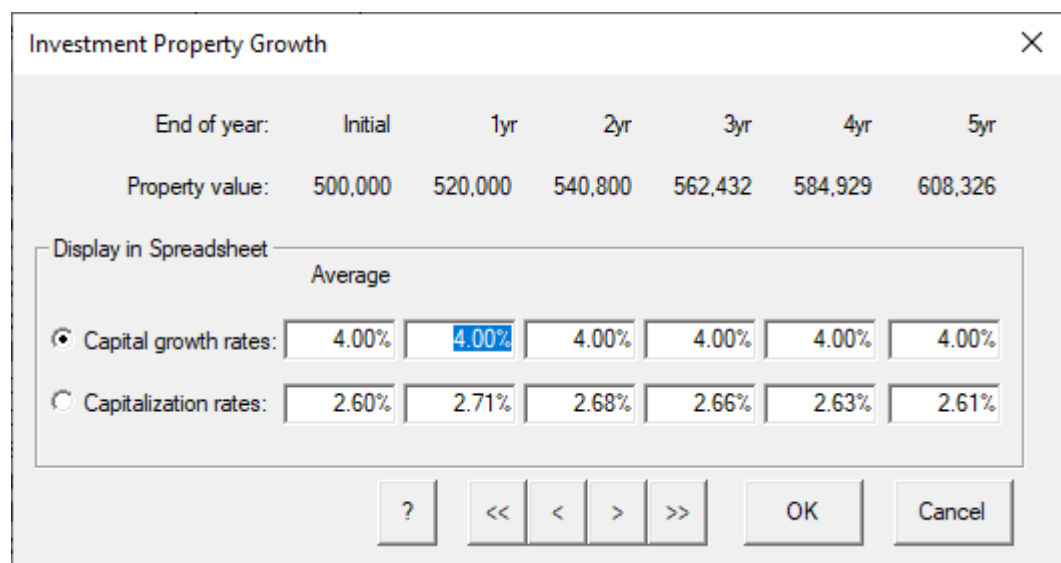
Either the growth rates or the capitalisation rates can be displayed in the spreadsheet row.

-  Note that the spreadsheet cells do not behave in this way – a change to an annual rate does not effect subsequent years.

Entering a value into a *Growth rates* field resets all fields to this growth rate, including any individual property values entered into the *Property value* row of the Investment Analysis spreadsheet

-  The years shown in the Capital Growth Rate dialog depend on the years currently displayed in the Investment Analysis spreadsheet as defined in the Projections Displayed dialog described in 3.1.

Use the toolbar scroll buttons (“>”, “>>”, “<”, “<<”) to select the next, next five, previous, or previous five years.



The dialog box titled "Investment Property Growth" displays a table of property values over time. The table has columns for "End of year:", "Initial", "1yr", "2yr", "3yr", "4yr", and "5yr". The "Property value:" row shows values: 500,000, 520,000, 540,800, 562,432, 584,929, and 608,326. Below the table, there is a section "Display in Spreadsheet" with a radio button selected for "Capital growth rates" and another for "Capitalization rates". The "Capital growth rates" section shows a list of rates: 4.00%, 4.00%, 4.00%, 4.00%, 4.00%, and 4.00%. The "Capitalization rates" section shows a list of rates: 2.60%, 2.71%, 2.68%, 2.66%, 2.63%, and 2.61%. At the bottom, there are navigation buttons: "?", "<<", "<", ">", ">>", "OK", and "Cancel".

### 3.8 Inflation rate (CPI) row

Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Inflation rate (CPI)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Gross rent /week	\$350	17,836	18,549	19,291	20,866	25,386

The value in the input column on the spreadsheet is the anticipated long-term average annual rate of inflation. In Australia, this can be thought of as the rate of change in the Consumer Price Index (CPI).

The values in the projection columns show the anticipated inflation rate for the individual years of the projection. If you overwrite a value for the inflation rate in the *Inflation rate* row of the Investment Analysis spreadsheet, only that year is affected.

#### Inflation Rate dialog

Clicking on the *Inflation rate* (CPI) row title or double-clicking on any of the cells in the row opens the Inflation Rate dialog. If you select and overwrite a value in the Inflation Rate dialog, the inflation rate for all subsequent years is set to the new value.

#### Indexed Variables

PIA uses the inflation rate to project rental income, rental expenses, taxable income and living expenses. These are referred to as indexed variables, as their annual values are indexed to the rate of inflation.

Use the toolbar scroll buttons (">", ">>", "<", "<<") to select the next, next five, previous, or previous five years.

#### Indexed

If a variable is not indexed (check box not checked), it does not mean that the variable does not change. It simply means that any change to its value in one year has no effect on its value in later years.

If a value is not indexed, all changes to that variable's annual values must be made by selecting the variable (either in the appropriate dialog or in the spreadsheet row) and overwriting it.

#### From Year

When the Indexed check box is checked, the *From Year* field specifies the year from which the variable is indexed. Earlier annual values remain static in their current state and can only be changed by selecting and overwriting.

#### Average Rate

This is the annual rate of inflation used to project the variable forward from the specified year. This may or may not be the same rate as the CPI.

#### Linked to CPI

If the variable is linked to the CPI, the Average Rate is always set to the CPI rate (that is, a change in the CPI rate results in the same change to that average rate for the variable). However, if you specify an Average Rate for the variable different to that of the CPI rate, it is no longer linked to changes in the CPI rate (check box not checked).



*If direct changes are made to any of the annual variables for rents, rental expenses, taxable income or living expenses, it is assumed that the variable is no longer inflation-indexed up to that year. The variable is still inflation-indexed for the remaining years of the 40-year projections.*

### 3.9 Gross rent/week row

Inflation rate (CPI)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Gross rent /week	\$350	17,836	18,549	19,291	20,866	25,386
Cash deductions						

The value in the input column shows the initial gross weekly, monthly or annual rental income, depending on the current preference in the Rental Income dialog.

The values in the projection columns show the anticipated annual gross rents, after allowance is made for vacancies. These values can be selected and overwritten, in which case annual values prior to this year remain static even if the inflation rate is changed. (Rent projections are based on the inflation rate.)

#### Rental Income dialog

Clicking on the *Gross rent/week* row title or double-clicking on the value in the input column opens the Rental Income dialog.

Most values can be selected and overwritten, however in the case of holiday letting, changes can only be made on a seasonal basis in the *Holiday Letting* area of the Rental Income dialog.

#### Preferences

In the Rental Income dialog, the *Preferences* area allows you to choose the way in which rental income is specified: either by absolute amount per week, month, year, or season (holiday letting), or simply by gross yield.

#### Rental Income (1st year)

The *Rent per week* (or month or year) shows the potential rent for the specified period.

The *Potential annual rent* represents the corresponding annual rent (for example, the weekly rent multiplied by 52).

The *Annual vacancy rate* is the anticipated percentage of time that the property is vacant (and not generating income).

The *Actual annual rent* is the anticipated rent per year (potential annual rent less vacancies).

The *Gross yield* is calculated by PIA as the actual annual rent expressed as percentage of the property value.

#### Holiday Letting

If you have a property where the rents change seasonally (for example, a holiday unit), click on the *Holiday letting* radio button (Preferences) to enable the *Holiday Letting* part of the Rental Income dialog. Here you can enter the duration (number of weeks), rent per week, and the anticipated occupancy rate for each of the three seasons (peak, shoulder and off-season). The figures in the top half of the dialog change to reflect the entries you make.

The *Gross yield* is calculated by PIA as the actual annual rent expressed as percentage of the property value. The *Net yield* is calculated as the net rental income (actual annual rent less rental expenses) expressed as a percentage of the property value.



### Annual Rental Income dialog

Clicking **Annual Rent** in the Rental Income dialog or double-clicking on any of the annual values in the *Gross rent/week* row of the Investment Analysis spreadsheet opens the Annual Rental Income dialog.

This allows you to enter annual rent values for individual years and to control how those rent values are projected forward. If you make a change to a particular year, the values for subsequent years are still indexed according to the settings in the *Rental Projections* part of the Annual Rental Income dialog.

### Rental Projections

If the *Inflation-indexed from year* check box is checked, rents are projected forward from the year specified by the rate of inflation, whilst rents for earlier years remain static irrespective of subsequent changes to the inflation rate. This does not mean that these rents are made to be the same. If rents are not indexed (check box not checked), all annual rents remain static and any changes made to the individual years do not impact the annual rent rental income values of later years.

Use the toolbar scroll buttons (">", ">>", "<", "<<") to select the next, next five, previous, or previous five years.

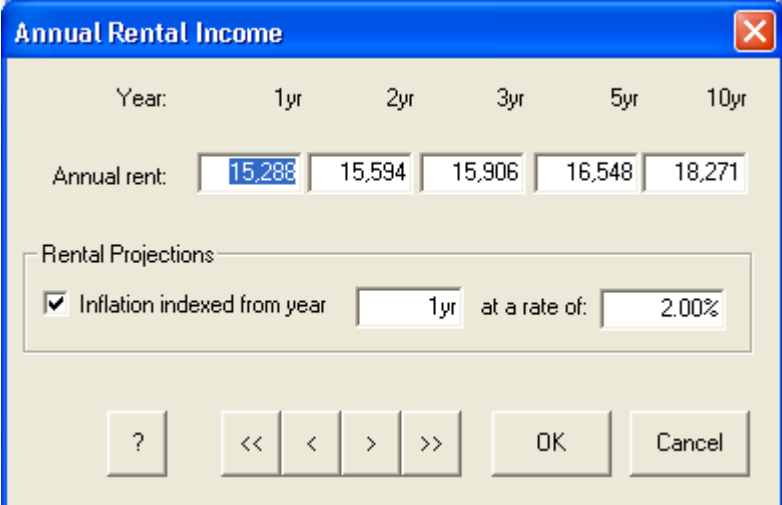
### Advanced options

Clicking **Advanced** in the Rental Income dialog, opens the Advanced Options dialog.

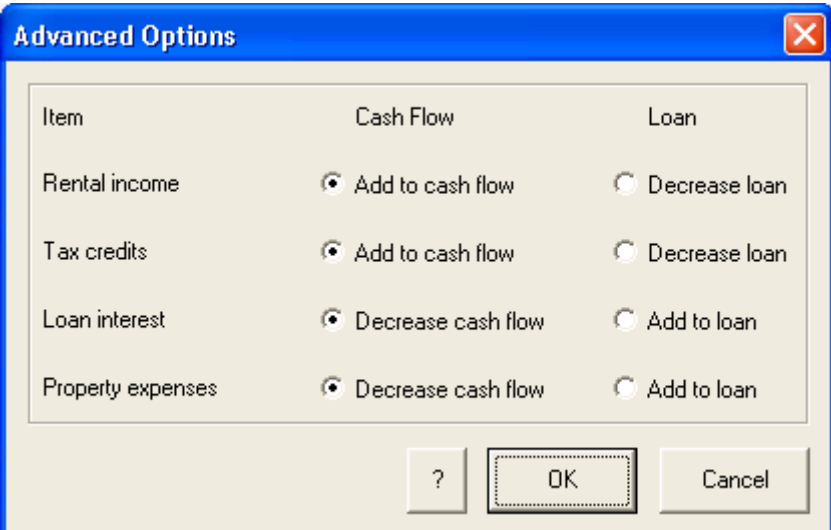
### Advanced Options dialog

This allows you to control the underlying financial model by redirecting income and expenditure to or from the *cash flows* or the loan amount. Normally, all income (rents and tax credits) and expenditure (interest payments, rental expenses) are accounted for in the cash flows associated with the investment. However, it may sometimes be useful to examine the implications of modifying these defaults.

For example, in the case where a property is cash-flow positive, you may wish to use the rental income or *tax credits* to make additional loan payments and reduce debt. Another example might be where you wish to internalise the investment, that is, having all income paid into the loan and all expenditure added to the loan.



The 'Annual Rental Income' dialog box has a blue title bar with a close button. It contains a 'Year:' label with radio buttons for 1yr, 2yr, 3yr, 5yr, and 10yr. Below this is the 'Annual rent:' label followed by five input fields containing the values 15,288, 15,594, 15,906, 16,548, and 18,271. A 'Rental Projections' section contains a checked checkbox for 'Inflation indexed from year' with a '1yr' input field and 'at a rate of:' with a '2.00%' input field. At the bottom is a toolbar with buttons: '?', '<<', '<', '>', '>>', 'OK', and 'Cancel'.



The 'Advanced Options' dialog box has a blue title bar with a close button. It contains a table with three columns: 'Item', 'Cash Flow', and 'Loan'. The table has four rows: 'Rental income', 'Tax credits', 'Loan interest', and 'Property expenses'. Each row has two radio button options. At the bottom is a toolbar with buttons: '?', 'OK', and 'Cancel'.

Item	Cash Flow	Loan
Rental income	<input checked="" type="radio"/> Add to cash flow	<input type="radio"/> Decrease loan
Tax credits	<input checked="" type="radio"/> Add to cash flow	<input type="radio"/> Decrease loan
Loan interest	<input checked="" type="radio"/> Decrease cash flow	<input type="radio"/> Add to loan
Property expenses	<input checked="" type="radio"/> Decrease cash flow	<input type="radio"/> Add to loan



### 3.10 Interest row

Cash deductions						
Interest (I/O)	8.00%	30,348	30,348	30,348	30,348	30,348
Rental expenses	30.89%	5,621	5,846	6,080	6,576	8,001

In the Investment Analysis spreadsheet, the *Interest* row shows the type of loan, the interest rate and the projected annual interest payments. The type of loan is reflected in the row title:

Interest (I/O)	Interest Only
Interest (P&I)	Principal & Interest
Interest (I/O, P&I)	Combination of Interest Only for a number of years followed by Principal & Interest
Interest (c)	Interest capitalised in loan
Interest (CL)	Credit Line
Interest (split)	Split loan (two parts)

The input column shows the average interest rate over the maximum term of the loan. If you select and overwrite this value, the interest rate for all years for all loan components are set to the new value.

The values in the projection columns show the projected annual interest payments.

Any principal payments (for example, principal component of regular P&I repayments, ad hoc lump-sum repayments, or principal payments via a credit line) are displayed in the *Investments* row (see 3.5).

#### Loan Interest & Type dialog

Clicking on the *Interest* row title or double-clicking on the interest rate in the Input column opens the Loan Interest & Type dialog, also discussed in 3.4. This dialog allows you to specify exactly how the investment is to be financed.

#### Interest Only

For an Interest Only loan, the loan payment covers interest only. The amount owed (the principal) remains constant.

#### Principal & Interest

In the case of a principal & interest loan, the loan

must be completely repaid over the term specified. Thus the loan payments consist of the interest owed plus a contribution towards reduction of the principal. While the loan payments stay constant, the relativity of the two components changes over time: the loan interest component decreases with the decrease in principal.

#### Capitalise interest

For a loan where the interest is capitalised (capitalise interest), no loan payments are made. The interest owed is simply added to the loan balance: The loan balance and the loan interest components increase over time.

**i** Under Australian tax law, if the interest on an investment loan is capitalised (that is, added to the loan), the interest on the additional loan (that is, the interest on the interest) may not be tax deductible against other income. This is especially the case where the rationale for capitalising the interest is to facilitate accelerated payments on linked non-deductible home or personal loans (refer to Taxation Ruling TR 1998/22 and its Addendum (TR 1998/22A, August 2004) which is available at Tax Offices, or via the Internet at

[www.ato.gov.au](http://www.ato.gov.au)). You should consult your accountant or the Taxation Office to determine the tax status in your situation.

### Credit Line

For a credit line, all available monies are deposited in the loan (including salaries, etc) and personal living expenses are drawn from it. Normally, this means that additional principal contributions are made in addition to regular principal & interest payments. This accelerates mortgage reduction for this loan type.

### Split loans (Loan B)

The loan can be split into two separate components (Loan A and Loan B) with different loan types and interest rates. Naturally, the total of the two loans equals the Total Loan.

### Split rates (Rate A & B)

The Loan Type checkbox provides an option to have split loans (two loans: Loan A and Loan B) or split rates (one loan with two rates: Rate A and Rate B). If the checkbox is ticked, the total rate of interest is the sum of each rate in each year, which in turn are specified in the Annual Rates dialog. If the checkbox is unticked, the total loan amount is the sum of the loan amounts for the two loans. See [http://www.somersoft.com.au/split\\_rate\\_loan.htm](http://www.somersoft.com.au/split_rate_loan.htm) for an example.

### Annual Interest Rates dialog

Clicking **Specify Annual Rates** button on the Loan Interest & Type dialog or clicking the projected interest values in the Investment Analysis spreadsheet displays the Annual Interest Rates dialog.

This dialog allows you to enter interest rates for individual years and individual loans.

The *Interest* and *Principal* rows under Loan A and Loan B show the interest paid and the principal repaid each year.

The *Totals* area at the bottom of the dialog shows the total principal remaining (*Totals* row), the total interest paid per year (*Interest*) and the total payments per year (*Payment*).

The *Average interest rate* field shows the average interest rate for the period of the loan. Overwriting it resets the interest rate for all years.

Use the toolbar scroll buttons (">", ">>", "<<", "<") to select the next, next five, previous, or previous five years.

Year	1yr	2yr	3yr	5yr	10yr
Loan A	285,469	285,469	285,469	285,469	285,469
Rates	7.00%	7.00%	7.00%	7.00%	7.00%
Interest	19,983	19,983	19,983	19,983	19,983
Principal					
Loan B					
Rates					
Interest					
Principal					
Totals	285,469	285,469	285,469	285,469	285,469
Interest	19,983	19,983	19,983	19,983	19,983
Payment	19,983	19,983	19,983	19,983	19,983
Average rate	7.00%				

Navigation buttons: << < > >> OK Cancel

### 3.11 Rental expenses row

Interest (I/O)	8.00%	30,348	30,348	30,348	30,348	30,348
Rental expenses	30.89%	5,621	5,846	6,080	6,576	8,001
Pre-tax cash flow	-\$40,000	-18,134	-17,645	-17,137	-16,059	-12,963

The value in the input column of the *Rental expenses* row on the Investment Analysis spreadsheet represents the first year's rental expenses as a percentage of potential annual rent.

The values in the projection columns show the projected annual rental expenses. These values are derived from the sum of normal recurring expenses and any special one-off expenses.

#### Rental Expenses dialog

Clicking on the *Rental expenses* row title or the value in the Input column opens the Rental Expenses dialog.

#### Normal Expenses (1st year)

This is an editable list of the individual items that comprise the normal expenses (rates, insurance, maintenance, etc.) for the first year of the investment.



*By default, normal rental expenses are projected annually by the rate of inflation specified in the Inflation Rate dialog discussed in 3.8. Expenses for individual years can also be specified directly by clicking the **Annual & Special Expenses** button (described below).*

#### Agent's Commission dialog

Agent's commission can be entered as a figure or as a percentage. To enter a percentage, click on **Agent's Commission** to display the Agent's Commission dialog.

#### Annual Rent

The Annual rent shows the actual annual gross rent, (potential annual rent less vacancies).

*Expenses/rent* shows rental expenses as a percentage of the potential annual rent (i.e. assuming no vacancies).

Net rent is actual annual rent (i.e. excluding vacancies) less rental expenses.

Net yield shows the annual net rent as a percentage of the property value.

Clicking **Annual Rent** displays the Rental Income dialog discussed in 3.9.

#### Advanced

Clicking **Advanced** in the Rental Expenses dialog displays the Advanced Options dialog discussed in 3.9.

#### Annual and Special Expenses

Clicking on **Annual and Special Expenses** in the Rental Expenses dialog opens the Annual and Special Expenses dialog.

#### Annual and Special Expenses dialog

This dialog allows the entry of any special expenses incurred from time to time that are best treated separately from normal indexed rental expenses. Such expenses are most commonly incurred in the first year as one-off expenses (for example, quantity surveyor costs for assessing depreciable items).

By default, the normal annual expenses are indexed by the rate of inflation. If the expenses are changed for any specific year, indexing is applied forward from that year. The values for previous years remain unchanged, but can be edited.

Use the toolbar scroll buttons (">", ">>", "<", "<<") to select the next, next five, previous, or previous five years.

Year:	1yr	2yr	3yr	5yr	10yr
Normal expenses:	4,411	4,499	4,589	4,775	5,272
Special expenses	0	0	0	0	0
Total expenses:	4,411	4,499	4,589	4,775	5,272

Projecting Normal Expenses

☒ Inflation indexed from year: 1yr at a rate of: 2.00%

? << < > >> OK Cancel

### 3.12 Pre-tax cash flow row

Rental expenses	30.89%	5,621	5,846	6,080	6,576	8,001
Pre-tax cash flow	-\$40,000	-18,134	-17,645	-17,137	-16,059	-12,963
Non-cash deductions						

**Pre-tax cash flow** is the sum of all the monies that flow into and/or out of your pocket before tax is taken into account. In most cases, this represents gross rent less interest, expenses and any payments toward the principal.

If you enter initial investments in the Investments dialog these are reflected in the input column of the *Pre-tax cash flow* row. The projection columns show the projected pre-tax cash flow in selected years

Interest and expenses are not included in the cash flow if they are capitalised in the loan. Likewise, rents are not included if they are used to directly reduce the loan.

#### Pre-tax Cash Flow dialog

Clicking on the *Pre-tax cash flow* row title displays the Pre-tax Cash Flow dialog. This box gives an overview of rent, outlays, principal payments, interest and expenses for each projected year, plus the net pre-tax cash flow.

Use the toolbar scroll buttons (“>”, “>>”, “<”, “<<”) to select the next, next five, previous, or previous five years.

Pre-tax Cash Flow

Year:

Initial

1yr

2yr

3yr

5yr

10yr

Rent:

15,288

15,594

15,906

16,548

18,271

Cash outlays:

-30,000

0

0

0

0

0

Principal payments:

0

0

0

0

0

Interest:

-19,983

-19,983

-19,983

-19,983

-19,983

Expenses:

-4,411

-4,499

-4,589

-4,775

-5,272

Pre-tax cash flow:

-30,000

-9,106

-8,889

-8,667

-8,209

-6,984

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Close

### 3.13 Depreciation of building row

Non-cash deductions						
Deprec.of building	2.50%	5,000	5,000	5,000	5,000	5,000
Deprec.of fittings	\$24,000	3,850	5,043	3,487	1,795	526

The value in the input column on the spreadsheet shows the depreciation rate.

The values in the projection columns show the claimable depreciation allowance per year.

#### Depreciation of Building dialog

Clicking on the *Deprec. of building* row title opens the Depreciation of Building dialog.

Depreciation on the building (more correctly called capital allowance) represents the depreciation on all capital improvements (including the original construction).



*In some countries, such as New Zealand, you have the choice of depreciation methods (diminishing value or straight line) and the depreciation calculation is based on the value of the improvements at the time of purchase (see document IR264 from [www.ird.govt.nz](http://www.ird.govt.nz)).*

*In Australia, it is calculated using the straight line method only and is based on the original construction cost of the building and the date on which construction commenced, as described below. In 2010, the NZ moved to remove this as a tax deduction.*

#### Capital Costs

In order to provide reasonable defaults when creating a new property file, by default, the PIA assumes that the building costs are 50% of the specified property price. You can change the building costs in the *Building costs* field to reflect the appropriate amount on which the capital allowance is based. The *Building costs as a % of property price* field is then updated and the link to property price is severed.

If the *Link costs to property price* check box is checked (default), the building costs change with any change to the property price, using the percentage shown in the *Building costs as a % of property price* field. If you do not want this link, deselect the check box.

#### Capital Allowance

Total capital cost includes the building cost plus any renovation costs. You can enter the appropriate depreciation rate into the *Depreciation rate* field (see notes below).

The *Depreciation of building* field shows the first year's depreciation.

&

*An in-depth treatment of all the changing rules and regulations governing depreciation is beyond the scope of this publication, however, for more detail on depreciation rules and schedules, there are several booklets readily available to property investors.*

*In Australia please see the booklets *Rental Properties* (NAT 1729) and *Guide to Depreciation* (NAT 1996), both of which are published by the Australian Taxation Office and available from their website ([www.ato.gov.au](http://www.ato.gov.au)).*

*In New Zealand, please see the booklet *Rental Income* (IR 264) published by the New Zealand Department of Inland Revenue and available from their website ([www.ird.govt.nz](http://www.ird.govt.nz)).*

### 3.14 Depreciation of fittings (or chattels) row

Deprec.of building	2.50%	5,000	5,000	5,000	5,000	5,000
Deprec.of fittings	\$24,000	3,850	5,043	3,487	1,795	526
Loan costs	\$4,931	986	986	986	986	

This row title is dependent on the default country setting you selected for PIA (Australia or New Zealand) in the Specify Country Defaults dialog (see Chapter 2.3):

Deprec. of fittings	Australia selected
Deprec. of chattels	New Zealand selected

The term “fittings” (or “chattels” in New Zealand) refers to all items, excluding the building, that can depreciated for tax purposes.

The value in the input column on the spreadsheet shows the total value of furniture and fittings (or chattels). Initially, the amount has a default value of 6% of the property price (set at 6%), but this can be overwritten in the Depreciation of Fittings dialog (see below).

The values in the projection columns show the corresponding total annual depreciation write-off for these items.

#### Depreciation of Fittings dialog

Clicking on the *Deprec. of fittings* row title opens the Depreciation of Fittings dialog, which contains an itemised depreciation schedule and access to settings for how the depreciation is calculated in your situation.

#### Itemised Depreciation Schedule

The *Furniture package* field shows the value (if any) entered in the Property Value dialog, discussed in 3.2. You can change the names of any of the other items, listing them individually. Alternatively, you can group them as “General fittings”.

#### Depreciation Preferences

Depreciation is calculated using either the diminishing value method or the prime cost method. The diminishing value method confers tax benefits sooner and is thus more tax effective than the prime cost

method. If an annual depreciation schedule has already been prepared independently of the PIA program, it may be more convenient to specify the annual total depreciation claims rather than the individual items. If this is done, the method is specified as “Annual claim”.

The depreciation method can be set with the appropriate radio button at the bottom left of the dialog.

#### Link value to property price

Prior to 2019, by default, when the property price is first specified, the total value of fittings is set to equal 6% of this price and individual items are all consolidated into the General fittings category (or split 50:50 with the Low-value pool). In Australia, the default is now 0% as the deductibility for fixtures and fittings in non-new properties was removed. If changes are made to items the depreciation schedule, the *Link value to property*

price check box is de-selected. Values of fittings then remain unaffected by further changes in the property price.

**Use “effective life” rules**

In Australia, tax legislation dictates that, for items acquired after September 21, 1999, depreciation be defined in terms of 'effective life' rather than a specified rate of depreciation. Under these rules, the rate at which items are written off is equal to 150% (called the Diminishing Value Rate) divided by the years of effective life. This legislation also introduced a low-value pool for items under \$1000. These items are to be written off using the diminishing value method at a rate of 37.5% (effective life of 4 years), but at only half this rate (18.75%) in the year of acquisition.

For items acquired after May 9, 2006, the diminishing value rates were increased from 150% to 200% of the prime rate. For example, an item with an expected life of 4 years is now written off at the rate of 50% per year rather than 37.5%. This change does not apply to the low-value pool.



*For details of depreciation rules in Australia and New Zealand, please see the references at the end of the previous section.*



### 3.15 Loan costs row

Deprec.of fittings	\$24,000	3,850	5,043	3,487	1,795	526
Loan costs	\$4,931	986	986	986	986	
<b>Total deductions</b>		45,806	47,224	45,902	44,706	43,876

The value in the input column of the *Loan costs* row title shows the total costs associated with financing the investment property.

The amounts shown in the projection columns represent the amounts written off for tax purposes in the years specified.

#### Loan Costs dialog

Clicking on the *Loan costs* row title or anywhere in the *Loan costs* row opens the Loan Costs dialog.

#### Cost components

Loan costs are made up of several components, some of which are a function of the size of the loan while others may be a flat fee.

Loan costs vary between institutions, but as a general guide expect total loan costs to be between 1 to 2% of the total loan (including costs). If loan costs are paid at the time of purchase, this reduces the size of the loan and in turn, the overall loan costs.



*If you enter a dollar amount in the Cost (\$) column, the Flat fee tick appears. It disappears if you enter a percentage in the column % of Loan. In practice, the first three items tend to be percentages, the remainder tend to be flat fees.*

*Total costs* shows the total costs as a percentage of the total loan and as a dollar amount.

*Total loan (including costs)* shows the total loan with the costs added. Here, the various cost components can either be entered directly as a flat fee or as a % of the loan.

#### Loan cost write-off period

Enter the appropriate figure into the Loan cost write-off period field.



*In Australia, these loan costs can be written off over 5 years or the term of the loan, whichever is the lesser. In New Zealand, loan costs are considered a revenue cost and can be written off in the year they are incurred.*

Loan Costs

Cost Component	% of Loan	Cost (\$)	Flat Fee
Establishment fees	0.50%	2,378	<input type="checkbox"/>
Mortgagee stamp duty	0.00%	0	<input type="checkbox"/>
Mortgage insurance	0.32%	1,522	<input type="checkbox"/>
Mortgagee's solicitor's fees	0.21%	1,000	<input checked="" type="checkbox"/>
Valuation fees	0.06%	300	<input checked="" type="checkbox"/>
Registration of 1st mortgage	0.04%	197	<input checked="" type="checkbox"/>
Registration of 2nd mortgage	0.04%	197	<input checked="" type="checkbox"/>
Search fees	0.04%	200	<input checked="" type="checkbox"/>
Other loan costs	0.00%	0	<input checked="" type="checkbox"/>
<b>Total costs</b>	<b>1.22%</b>	<b>5,794</b>	
<b>Total loan (including costs)</b>		<b>475,600</b>	
Loan cost write-off period	5 yrs		

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OK
Cancel

### 3.16 Total deductions row

Loan costs	\$4,931	986	986	986	986	
<b>Total deductions</b>		45,806	47,224	45,902	44,706	43,876
<b>Tax credit (single)</b>	\$65,000	9,929	10,165	9,392	8,323	6,850

The input column of the *Total deductions* row remains blank as the purpose of this row is to show the total annual tax deductions.

The projection columns show the projected annual tax deductions for the specified years.

#### Total Tax Deductions dialog

Clicking on the *Total deductions* row title opens the Total Tax Deductions dialog.

This shows the derivation of the total tax deductions. This is made up of both the "cash" deductions (interest, expenses) and "non-cash" deductions (depreciation and loan costs).

Use the toolbar scroll buttons (">", ">>", "<", "<<") to select the next, next five, previous, or previous five years.

Where purchase costs have been specified as a revenue cost (such as for properties purchased in the ACT (see 3.3), these also appear in the dialog, as shown.

Total Tax Deductions

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Year	1yr	2yr	3yr	5yr	10yr
Interest	25,871	25,871	25,871	25,871	25,871
Expenses	6,832	7,037	7,248	7,689	8,914
Deprec. of building	6,749	6,749	6,749	6,749	6,749
Deprec. of fittings					
Loan costs	1,227	1,227	1,227	1,227	
Purchase costs	21,352				
<b>Total deductions</b>	<b>62,031</b>	<b>40,884</b>	<b>41,095</b>	<b>41,537</b>	<b>41,534</b>
Deductions claimed	62,031	40,884	41,095	41,537	41,534

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Close

### 3.17 Tax credit row

<b>Total deductions</b>		45,806	47,224	45,902	44,706	43,876
<b>Tax credit (single)</b>	\$65,000	9,929	10,165	9,392	8,323	6,850
<b>After-tax cash flow</b>	-\$40,000	-8,205	-7,480	-7,745	-7,736	-6,113

The name of the row title changes to reflect how tax credits are calculated:

Tax credit	Calculation based on a specified marginal rate
Tax credit (single)	Calculation based on taxable income, property purchased by investor in a single name
Tax credit (joint)	Calculation based on taxable income, property purchased by two investors in joint names
Tax credit (super)	Calculation based on taxable income for a property purchased a super fund
Tax credit (company)	Calculation based on taxable income for a property purchased by a company

For details, see the description of the Tax Credits dialog below.

The value in the input column of the spreadsheet shows either the investor's marginal tax rate, the investor's taxable income or the combined taxable income of the investor and partner.

The values in the projection columns show the projected tax credits in the specified years.

#### Tax Credits dialog

Clicking on the *Tax credit* row title opens the Tax Credits dialog.

#### Tax Credit Calculation

You can select the method for calculating tax credits by selecting the *Use marginal rate* or *Use taxable income* radio button.

Marginal rate gives a quick approximation as it makes the assumption that all tax credits accrue at that rate of tax.

Taxable income gives a more precise result as it takes account of tax credits accruing in different tax brackets.

If *Use marginal rate* is selected, the row title in the Investment Analysis spreadsheet is *Tax credit* and the marginal rate is shown in the input column cell.

If the taxable income is known, the tax credits can be calculated more precisely. If *Use taxable income* is selected and the title is registered in the investor's name only, the row title changes to *Tax credit (single)* and the input cell shows the investor's taxable income.

If the property is registered in joint names, the row title becomes *Tax credit (joint)* and the taxable incomes of both partners are used to calculate the tax credits and the total is shown in the input column cell.

#### Ownership

Proportional ownership can be specified for a property purchased in joint names.

**Tax Credits**

**Tax Credit Calculation**

☐ Use marginal rate

☒ Use taxable income

**Tax Scale:** **Australia**

**Ownership**

☒ Single name **Proportional Ownership**

☐ Joint names Investor

Partner

**Taxable Income Year 1**

	Investor	Partner	Total
Assessable Income	65,000	30,000	95,000
Allowable Deductions	0	0	0
<b>Current Taxable Income</b>	<b>65,000</b>	<b>30,000</b>	<b>95,000</b>

**Taxable Income Projections**

☒ Auto-indexed from year:  at a rate of:

Advanced ? Year: 1yr << < > >> OK Cancel

Using taxable income (in single or joint names) takes account of tax credits accruing in different tax brackets, thus providing a more precise assessment of the tax credits. However, it requires knowledge of the current and future taxable income, and assumes that tax brackets do not change. As a result of bracket creep, it may in some cases be more accurate to use the marginal tax method for longer-term projections (10+ years).

### Taxable Income Projections

By default, taxable income for the first year is used to project taxable income for later years by indexing at the inflation rate entered in the Inflation Rate dialog described in 3.8.

If the *Inflation indexed* check box is not checked, it means that changing a taxable income in any year has no effect on the taxable income in other years. Note that it does *not* imply that taxable income remains constant from one year to another.

If the *Inflation indexed* check box is checked and you enter a value for a particular year, subsequent years are still automatically indexed at the rate indicated. If you make a manual change to the taxable income in a later year, that year appears as the base year for any further automatic indexing.

### Advanced

Clicking **Advanced** opens the Advanced Options dialog described in 3.9.

### Tax Benefits dialog

Clicking on items in the *Tax Credits* row opens the Tax Benefits dialog.

#### Property ownership

You can enter the relative shares of investor and partner in the property ownership in the *Property ownership* row. Selecting the **Single name** radio button in the *Property ownership* area, gives 100% ownership to the investor.

#### Number of properties

You may vary the number of properties for which you wish to calculate potential tax benefits by changing the values in the *Properties/number* area.



*Changing the number of properties in the dialog does not feed back to the spreadsheet. It is simply a means of checking the total tax benefits of multiple properties.*

#### Taxable income and tax credits

New taxable income equals present taxable income minus rental deductions. When you enter the present taxable income of both investor and partner, the dialog may then be used to compare the level of tax savings (tax credits) that may result from the different numbers of investment properties.

#### Tax Options: Quarantine losses

Choosing **Quarantine losses** results in all tax losses being carried forward and offset against future profits. They will not be claimed against other income (eg salary) in the same year they occur.

#### Tax Options: NRAS

Choosing **NRAS** results in tax credit subsidies and discounted rental income for a number of years as specified in the NRAS Options dialog (Settings menu)..

#### Report button

Clicking on the **Report button** closes the dialog and generates a *Tax benefits* report based on current taxable incomes and current tax rates.

	Investor	Partner	Total
Property ownership:	100.00%	0.00%	100.00%
Current taxable income:	75,000	35,000	110,000
Rental income:	20,384	0	20,384
Total income:	95,384	35,000	130,384
Rental deductions:	38,020	0	38,020
New taxable income:	57,364	35,000	92,364
Present tax:	15,262	2,937	18,199
New tax:	9,038	2,937	11,975
Tax savings:	6,224	0	6,224
<b>Tax credits:</b>	<b>6,224</b>	<b>0</b>	<b>6,224</b>

Properties: Number: 1

Property Ownership: ☒ Single name ☐ Joint names

Tax Options: Personal use: 0.00%  
☐ Quarantine tax losses  
☐ NRAS

Year: 1yr << < > >> ? Report OK Cancel

### 3.18 After-tax cash flow row

Tax credit (single)	\$65,000	9,929	10,165	9,392	8,323	6,850
After-tax cash flow	-\$40,000	-8,205	-7,480	-7,745	-7,736	-6,113
Rate of return (IRR)	15.27%	Your cost/(income) per week				

The *After-tax cash flow* row displays the monies that flow into or out of your pocket after tax is taken into account. In most instances, the figures simply represent the *pre-tax cash flows* adjusted for any tax credits or tax payments.

The input column on the spreadsheet shows any cash flow at the time of purchase (usually an initial cash deposit).

The projection columns show the annual projected after-tax cash flows for the specified years. Negative values (shown in red in the spreadsheet) represent investments made in the property while positive values (shown in black) represent cash dividends received as a result of the investment.

#### After-tax Cash Flow dialog

Clicking on the *After-tax cash flow* row title, or anywhere in the row itself, opens the After-tax Cash Flow dialog. This shows how the after-tax cash flows have been derived from the annual rental income less any outlays, principal payments, interest and other expenses. Where appropriate, the tax credits are then added, resulting in the annual after-tax cash flow.

The cost per week (after-tax cash flow divided by 52) is given in the bottom row.

If you have specified that tax credits be used to reduce the investment loan through additional principal repayments (see 3.4 and 3.5) the *after-tax cash flow* is the same as the pre-tax cash flow.

Note that in this case, tax refunds are credited for the year on which they are based.

Use the toolbar scroll buttons (">", ">>", "<<", "<") to select the next, next five, previous, or previous five years.

After-tax Cash Flow
✕

Year:	Initial	1yr	2yr	3yr	5yr	10yr
Rent:		15,288	15,594	15,906	16,548	18,271
Cash outlays:	-30,000	0	0	0	0	0
Principal payments:		0	0	0	0	0
Interest:		-19,983	-19,983	-19,983	-19,983	-19,983
Expenses:		-4,411	-4,499	-4,589	-4,775	-5,272
Pre-tax cash flow:	-30,000	-9,106	-8,889	-8,667	-8,209	-6,984
Tax credits:		5,419	5,799	5,527	5,313	4,935
After-tax cash flow:	-30,000	-3,687	-3,090	-3,140	-2,896	-2,049
Cost per week:		71	59	60	56	39

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>
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Close

### 3.19 Rate of return (IRR) row

After-tax cash flow	-\$40,000	-8,205	-7,480	-7,745	-7,736	-6,113
Rate of return (IRR)	15.27%	Your cost/(income) per week				
Pre-tax equivalent	23.13%	158	144	149	149	118

This item is one of the measures used to evaluate the investment. The *Internal Rate of Return* (IRR) is a measure of the return on a series of cash flows where the time factor is taken into account. On the spreadsheet, the input column shows the IRR over the projected years of the investment. It is calculated by taking into account all of the after-tax cash flows (negative values represent your investments) and your equity at the end of the period.

#### Internal Rate of Return dialog

Clicking on the *Rate of return (IRR)* row title opens the Internal Rate of Return dialog.

#### Total investment

This shows the total amount (adjusted by inflation to convert it to today's dollars) invested by you over the projected period.

#### Equity at end

This shows your equity in the property at the end of the term, both in nominal and today's dollars.

#### Net present value (NPV)

The *Net Present Value* (NPV) represents the total value of your investment less the total cash that you have invested, all adjusted to today's dollars.

#### Real Return

This shows the effective interest on your investment, that is, the after-tax, after-inflation rate of return. This measure takes into account the buying power of the money made.

The year displayed in the right-most column of the Investment Analysis spreadsheet determines the range of years over which the Internal Rate of Return is calculated.

This can be changed in the Projections Displayed dialog described in 3.1.

If the Real return is undefined, the value shown is "?????" (or the value set by you in the Preferences dialog (see 7.7).

Internal Rate of Return

Year	Cash Flow	Today's \$
Initial investment	-30,000	-30,000
1yr	-3,832	-3,794
2yr	-3,401	-3,301
3yr	-3,618	-3,443
5yr	-3,703	-3,388
10yr	-3,478	-2,882
Total investment		63,526
Equity at end	180,422	149,474
Net present value		<b>85,949</b>
<b>Internal rate of return</b>		<b>13.36%</b>
Inflation rate		2.00%
Real return		<b>11.14%</b>
<b>If Sold...</b>		
After-sale equity	125,822	104,240
Internal rate of return		8.52%

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Close

- In our example, the Investment Analysis spreadsheet shows a projection over 10 years, so the Rate of Return shown near the bottom of the input column is the Internal Rate of Return calculated over 10 years. Note also that the inflation rate shows the value entered in the Inflation Rate dialog described in 3.8.*
- To understand the Internal Rate of Return, think of the money you are outlaying on your investment property as being deposited in a bank account, with the interest added each year. In this case the "Deposits" are represented as the after-tax cash flows. The total amount in your "account" (including interest) at the end of the period is the equity in the investment property. The IRR represents the effective "interest rate" that you have received, but with one important difference: because the interest remains in the property, it is not taxed. The internal rate of return is also calculated and presented for the case where the property is sold and where selling costs and capital gains tax are taken into account.*

### 3.20 Pre-tax equivalent row

Rate of return (IRR)	15.27%	Your cost/(income) per week				
Pre-tax equivalent	23.13%	158	144	149	149	118

This item is related to the Internal Rate of Return (IRR) and is used for comparison with cash investments. Whereas the IRR gives the after-tax rate of return, this cell displays the equivalent before-tax rate of return using the marginal tax rate to make the adjustment. The Pre-tax equivalent of the Internal Rate of Return provides a useful comparison with cash investments, as this is the interest rate that you would need to achieve from a bank to get the same after-tax return. Any such bank interest would be taxed at your marginal rate.

This is not to be confused with the Pre-Tax Internal Rate of Return, which is the return calculated on your pre-tax cash flows.

#### Pre-tax Equivalent of IRR dialog

Clicking on the *Pre-tax equivalent* row title or input column opens the Pre-tax Equivalent of IRR dialog.

This itemises both pre-tax cash flow and equity, and shows pre-tax IRR, after-tax IRR, marginal tax rate and pre-tax equivalent of IRR.

In the example, the after-tax IRR is 13.32% while the pre-tax equivalent is shown as 23.57%. In other words, to achieve the same after-tax return (13.32%) on your cash investments, you would have to invest your money at 23.57%.

There are several options for displaying useful investment indices as the “bottom line” for the investment. This row can be replaced with Net present value or the Real IRR (that is, inflation adjusted). For details, see the *Preferences* option in the *Settings* menu in Chapter 7.

Pre-tax Equivalent of IRR

Year

Initial

1yr

2yr

3yr

5yr

10yr

Pre-tax cash flow

Equity

-30,000

-9,106

-8,889

-8,667

-8,209

-6,984

180,422

Pre-tax IRR

After-tax IRR

Marginal tax rate

Pre-tax equivalent of IRR

7.29%

14.43%

43.50%

25.53%

?

Close

### 3.21 Your cost/(income) per week

Rate of return (IRR)	15.27%	Your cost/(income) per week				
Pre-tax equivalent	23.13%	158	144	149	149	118

This is literally the bottom line, the reason for all the entries and calculations in the spreadsheet: It shows the projected *weekly net cost or income* resulting from the investment.

The default title is *Your cost/(income) per week*. Cost is shown without brackets, income in brackets.

If you prefer to reverse the convention (see 7.7), you can set the title to *Your income/(cost) per week* with income shown without brackets and costs shown in brackets.



### 3.22 Property Details area

Property Details			
Address:			
Description:			
Property cost:	\$400,000	Total cost:	\$419,356
Gross rent (yr 1):	\$17,836	Gross yield:	4.46%
Net rent (yr 1):	\$12,215	Net yield:	3.05%
Cash neutral investment	\$199,493	Cash positive by:	22yr

The *Property Details* area at the bottom of the Investment Analysis spreadsheet key figures for the property. "Cash-neutral investment" is the initial deposit required to make the after-tax cash flow in the first year equal to zero. If the investment is already cash positive when there is no deposit, this variable is shown as \$0.

"Cash positive by" is the year in which the after-tax cash flow is positive for the first time.

The Gross yield is calculated by PIA as the actual annual rent expressed as percentage of the property value.

The Net yield is calculated as the net rental income (actual annual rent less rental expenses) expressed as a percentage of the property value.

Clicking on the *Property Details* area will open the Property Details dialog which then allows the entry of address, property description and an image, all of which will then appear as part fo the Property Details are below the spreadsheet.

Property Details

Address:

126 Layburn Avenue

Brief Description:

3 bedroom weatherboard 60 years old

Notes

☐ Include notes in property description in reports


Load Image

Clear Image

?

OK

Cancel

Property Details			
	Address:	126 Layburn Avenue	
	Description:	3 bedroom weatherboard 60 years old	
	Property cost:	\$500,000	Total cost: \$525,600
	Gross rent (yr 1):	\$20,384	Gross yield (yr 1): 4.08%
	Net rent (yr 1):	\$13,552	Net yield (yr 1): 2.71%
	Cash neutral invest.:	\$176,408	Cash positive: 15yr

## Chapter 4

### Home Loan Analysis spreadsheet

This spreadsheet has several aims but the primary one is to provide a tool to help people examine ways of owning their own home sooner. In contrast to an investment loan, the interest on your own home loan is not tax deductible and thus paying off the loan as fast as possible usually makes financial sense. For most property investors, this is generally the first step towards building a portfolio of investment property as the increased equity in your own home provides very convenient collateral when you are looking for finance to purchase your first investment property.

In keeping with the primary focus of the spreadsheet, the “bottom line” displays the remaining term of the loan (at the bottom of the Input Column) and the net cost per year, which usually represents the annual loan repayments. PIA assumes that the loan is of a principal and interest type with loan payments paid monthly in arrears.


John Dough - for personal use only						
Home Loan Analysis	Input	Projections over 10 years				
End of year	2013	1yr	2yr	3yr	5yr	10yr
Home value	\$480,000	508,800	539,328	571,688	642,348	859,607
Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Home equity	\$144,000	181,811	222,098	265,026	359,529	656,019
Amount owing	\$336,000					
Refinance costs	\$0					
<b>Repayments</b>						
Regular (mth/yr)	2963.77	35,565	35,565	35,565	35,565	35,565
Extra (mth/yr)	0.00	0	0	0	0	0
Irregular	0	0	0	0	0	0
Total repayments		35,565	35,565	35,565	35,565	35,565
<b>Redraws</b>						
Regular (mth/yr)	0.00	0	0	0	0	0
Irregular	0	0	0	0	0	0
Total redraws	0	0	0	0	0	0
Interest rates	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Interest		26,554	25,806	24,996	23,169	17,097
Loan balance	\$336,000	326,989	317,230	306,661	282,819	203,588
Loan value ratio	70.00%					
<b>Term remaining</b>	<b>17.7yr</b>	<b>35,565</b>	<b>35,565</b>	<b>35,565</b>	<b>35,565</b>	<b>35,565</b>

This spreadsheet has several useful applications

- You can use the spreadsheet to simulate the current home loan by specifying the amount of debt still owing together with the current repayments and interest rates. You are then at liberty to assess the impact on the term remaining of making additional regular or irregular payments. The spreadsheet shows you both the data you have entered and the projections based on that data (or based on default values, if these have not been changed).
- You can also use the spreadsheet to examine the impact of consolidating all your non-deductible loans (e.g. home, car and personal loans) and refinancing them into the one loan with a different term and interest rate. The aim here might be to reduce the cash flow burden rather than to reduce the remaining loan term. Another example might be to examine the use of a credit line facility where all available monies are deposited and only living expenses redrawn. This would give you an idea of just how fast you could possibly repay the loan.

- This spreadsheet is also an important precursor to using the Linked loans Analysis spreadsheet (see Chapter 6) and the Wealth Builder spreadsheet (see Chapter 5) as both rely on you having simulated your current home loan debt and repayment schedule.

This chapter describes each of the variables of the Home Loan Analysis spreadsheet (and their accompanying dialogs) row by row (from top to bottom).

You can open the spreadsheet by clicking on the triangle-shaped icon in the  toolbar.

The Home Loan Analysis spreadsheet has the same basic layout as the Investment analysis spreadsheet. For details of the user interface, please see Chapter 2.

## 4.1 Year row

John Doe – for personal use only						
Home Loan Analysis	Input	Projections over 10 years				
End of year	2013	1yr	2yr	3yr	5yr	10yr
Home value	\$480,000	508,800	539,328	571,688	642,348	859,607

In order for PIA to collate and synchronise information from both investment and home loans, the *Year* row is common to all PIA spreadsheets (see 3.1). As the primary focus of PIA is the Investment Analysis spreadsheet, the year in the Input column usually represents the year of purchase of the investment property which, by default, is set to the current year. The Home Loan Analysis spreadsheet is normally synchronised to the same year, with the Amount owing to be set accordingly. You may, however, simulate your home loan from the year it was originally obtained, but you should be aware that information you record for the investment property may not synchronise with the home loan and is probably best kept as a separate file.

The values in the projection columns specify the years for which projected values are displayed. The maximum value is 40 years. A value of zero results in no information displayed in that column. The years do not need to be consecutive or even in chronological sequence. To change any year, simply select the particular cell and overtype it. Note, however that if you change a year, PIA changes it in all spreadsheets.

### Set Projections dialog

Clicking on the *Year* row title opens the Set Projections dialog, allowing you to select the range of years displayed. (For details about setting projections, please see 3.1.). You can also overwrite the values in the *Year* row projections columns.

## 4.2 Principal residence row

End of year	2013	1yr	2yr	3yr	5yr	10yr
Home value	\$480,000	508,800	539,328	571,688	642,348	859,607
Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%


The value in the input column of the *Principal residence* row represents the value of your home for the year specified above.

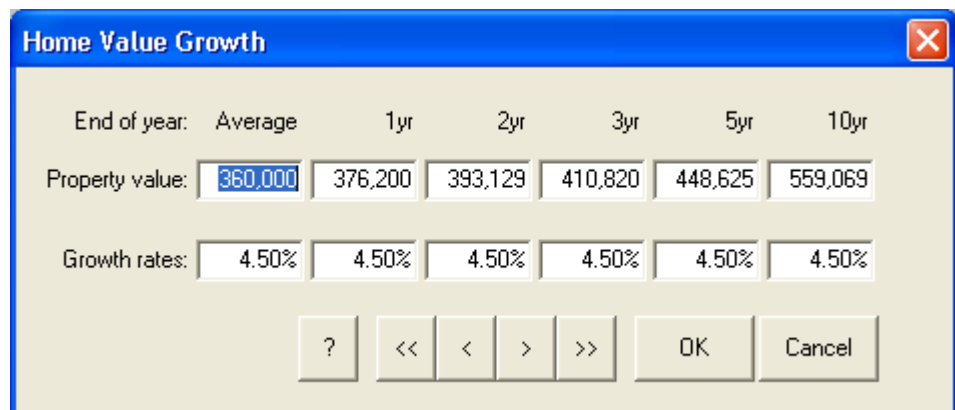
The values in the projection columns show the anticipated increase in the value of the investor's home over the projection period. PIA calculates these using the specified sequence of annual capital growth rates. However, the property value in any year can be selected and overwritten, in which case PIA recalculates the corresponding Capital growth rate parameter.

PIA uses the value of the investor's home to calculate the loan value ratio (see 4.17), an index often used by banks to determine your eligibility for refinancing the loan.

### Home Value Growth dialog

Clicking on the *Principal Residence* row title (or double-clicking on the value in the input column) opens the Home Value Growth dialog. This dialog allows you to change future property values by entering them in the *Property value* line and growth rates by entering them in the *Growth rates* line. Values may be set for any year up to 40 years. (For details of setting projections, please see 3.1.)

 *It is not necessary to obtain an official valuation on the value of your property. A phone call to a reputable real estate agent is sufficient to establish an approximate value for your own home.*



### 4.3 Capital growth rate row

Home value	\$480,000	508,800	539,328	571,688	642,348	859,607
Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Home equity	\$144,000	181,811	222,098	265,026	359,529	656,019

The value in the input column on the *Capital growth* row title shows the anticipated average annual rate of capital growth of the investor's home over the range of annual projections. If you select and overwrite this value, PIA sets the growth rate for all years to the new value.

The values in the projections columns show the anticipated capital growth rates for the individual years of the projection. These values can also be selected and overwritten, in which case the change is reflected in the corresponding values of the investor's home.

#### Home Value Growth dialog

Clicking on the *Capital growth* row title (or double-clicking on the value in the input column or projections columns) opens the Home Value Growth dialog (see 4.2). This dialog allows you to enter property values/ and or growth rates for any year up to over the maximum projection of 40 years.

If you change a property value for a particular year, PIA recalculates the growth rate for that year. Growth rates for subsequent years remain unchanged.

## 4.4 Equity row

Capital growth rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Home equity	\$144,000	181,811	222,098	265,026	359,529	656,019
Amount owing	\$336,000					

Home equity is the difference between the value of the home (principal residence) and the outstanding loan amount at any point in time. Ideally, equity increases as your home value increases and the loan is repaid. The value in the input column on the *Home equity* row title shows the current equity in your principal place of residence.

The values in the projections columns show the projected equity in the home in the selected years.

### Home Equity dialog

Clicking on the *Home equity* row title (or on any cell in the row) opens the Home Equity dialog. This shows the derivation of the equity projections (projected value less projected loan balance) for up to forty years.

For details about how to set projections, see 3.1.

The screenshot shows a dialog box titled "Home Equity" with a close button (X) in the top right corner. Inside the dialog, there is a table with the following data:

Years:	Initial	1yr	2yr	3yr	5yr	10yr
Home value:	480,000	508,800	539,328	571,688	642,348	859,607
Home loan:	336,000	326,989	317,230	306,661	282,819	203,588
Home equity:	144,000	181,811	222,098	265,026	359,529	656,019

Below the table, there are navigation buttons: a button with a question mark (?), buttons for navigating between years (<<, <, >, >>), and a "Close" button.

## 4.5 Amount owing row

Home equity	\$144,000	181,811	222,098	265,026	359,529	656,019
Amount owing	\$336,000					
Refinance costs	\$0					

The value in the input column of the *Amount owing* row normally represents the total amount owing on the loan for your home. If this is the case, it is possible to change the amount by selecting it with the mouse and over-writing it. The amount must correspond to the end of the year shown at the top of the input column (see 4.1), usually the current year. However, as outlined below, the amount may represent not just a home loan balance, but a consolidation of non-deductible loans refinanced into the one mortgage.

### Loan Consolidation dialog

Clicking on the *Amount owing* row title (or clicking or double-clicking the value in the input column) opens the Loan Consolidation dialog. This facility allows you to consolidate and refinance all your non-deductible principal and interest loans into the one mortgage package with your home loan.

### Current Principal & Interest Loans

For each of your loans, enter the principal (original amount of the loan), the original interest rate, the term of the loan, the amount owing in the appropriate columns in the *Current P&I Loans* area.

Pressing the *Enter* key then prompts PIA to calculate the corresponding monthly payment and the remaining term for each of the loans (right-hand column) and to display the total amount owing and total repayments in the *Current totals* line of the *Current P&I Loans* area

Loan	Principal	Rate	Term	Amount owing	Monthly payment	Years left
Home loan	336,000	8.00%	25.0	336,000	2,964	17.7
Car Loan						
Personal Loan						
Bankcard						
Other Loans						
Current totals:				336,000	2,964	

Repayments:

☐ Minimise repayments (default 30 yrs)

☒ Maintain current total repayments

☐ Maximise repayments (credit line)

☐ Payment specified

Consolidated Loan

Current amount owing: 336,000

Refinance Costs: 0

Total amount owing: 336,000

Interest rate: 8.00%

Term (years): 17.7

New monthly payment: 2,964

? OK Cancel

### Refinance costs

If you are refinancing the total loan and have associated finance costs, click on the **Set Finance Costs** button (see 4.6) and ensure that the *Refinance not applicable* check box is unchecked. If you are not refinancing, check the *Refinance not applicable* box and they are shown as zero.

### Repayments

Consolidation and refinancing is normally done to save on interest costs or to reduce the repayment burden. If you wish to continue make the same total repayments and thereby reduce the remaining term and save on interest costs, check the *Maintain current payments* check box. To reduce the repayments, simply specify a new lower monthly payment.

### Refinanced Home Loan

In the *Refinanced Home Loan* area, the *Current amount owing* line shows the sum of the amounts from each of the Principal & Interest loans listed above. If you check the *Refinance not applicable* check box, the *Refinance costs* line is set to zero. If you do not check the *Refinance not applicable* check box, the *Refinance costs* field in the dialog shows the total *refinance costs* specified in the Home Loan Refinance Costs dialog which opens when you click on the **Set Refinance Costs** button. (This is fully described in 4.6 below). The



*Total amount owing* line includes any refinance costs if applicable. The *New monthly payment* line shows the sum of the monthly payments listed above (if you check the *Maintain current payments* check box) or you can specify them as required.



*On return to the Home Loan Analysis spreadsheet, PIA uses the New monthly payment to recalculate the remaining term of the loan for the Total amount owing and the interest rates specified on the spreadsheet. If the repayment is less than the interest, the loan would never be repaid and the term remaining is undefined (that is, it shows as '????').*

## 4.6 Refinance costs row

Amount owing	\$336,000	
Refinance costs	\$0	
<b>Repayments</b>		

The value in the input column of the *Refinance costs* row is zero if there is no refinancing involved, otherwise the value is the sum of the individual components that make up the cost of refinancing (e.g. establishment fees, mortgagee stamp duty, etc). This amount is added to the *Amount owing* to give the current *Loan balance*.

### Home Loan Refinance Costs dialog

Clicking anywhere in the row opens the Home Loan Refinance Costs dialog. This can also be accessed via the **Set Refinance Costs** button in the *Loan Consolidation* dialog (see 4.5).

Here you may override the PIA defaults and specify the various loan cost components and their values.

### Cost components

Loan costs are made up of several components, some of which are a percentage of the size of the loan while others may be a flat fee.

*If you enter a dollar amount in the Cost (\$) column, the Flat fee tick appears. It disappears if you enter a percentage in the column % of Loan. In practice, only the first three items tend to be percentages, the remainder tend to be flat fees.*

The *Total costs* line shows the total loan costs as a percentage of the total loan and as a dollar amount.

The *Total loan* line shows the total loan excluding any refinancing costs.

### Refinance costs

If, after entering the values for the refinancing costs, you decide to apply these to the loan, check the *Apply to loan* check box. The Total loan line now includes these refinance costs. When you click OK, PIA recalculates the term remaining for the new loan balance.

If you do not check the *Apply to loan* check box, the costs are not added to the loan (and have no effect).

Cost Component	% of Loan	Cost (\$)	Flat Fee
Establishment fees	0.50%	1,702	<input type="checkbox"/>
Mortgagee stamp duty	0.00%	0	<input type="checkbox"/>
Mortgage insurance	0.32%	1,089	<input type="checkbox"/>
Mortgagee's solicitor's fees	0.29%	1,000	<input checked="" type="checkbox"/>
Valuation fees	0.09%	300	<input checked="" type="checkbox"/>
Registration of mortgage	0.07%	230	<input checked="" type="checkbox"/>
Other loan costs	0.00%	0	<input checked="" type="checkbox"/>
<b>Total costs</b>	<b>1.27%</b>	<b>4,321</b>	
<b>Total loan</b>		<b>336,000</b>	

Refinance costs  
☐ Apply to loan

? OK Cancel

## 4.7 Regular Repayments row

Repayments						
Regular (mth/yr)	2963.77	35,565	35,565	35,565	35,565	35,565
Extra (mth/yr)	0	0	0	0	0	0

PIA allows you to take regular monthly, extra monthly and irregular annual loan payments into account in repaying your home (or consolidated) loan. These types of payment are covered by the next three rows of the spreadsheet.

The value in the input column represents the regular amount repaid monthly. The amounts shown in the projections columns show the amounts repaid each year.

### Home Loan Repayments dialog

Clicking on the Regular (mth/yr) row title (or double-clicking on the value in the input column or clicking a value in a projections columns) opens the Home Loan Repayments dialog. This shows a summary of all payments and redraws based on entries in the three repayments and three redraws rows. The various types of repayment and redraw are described in the following sections.

### Credit line check box

Clicking the Use credit line to repay home loan check box turns the Credit line option on or off (see 3.8 and/or 7.7).

**Home Loan Repayments**

Years: 1yr 2yr 3yr 4yr 5yr

**Repayments**

Regular/mth:	2,964	35,565	35,565	35,565	35,565	35,565
Additional/mth:	0	0	0	0	0	0
Irregular/yr:		0	0	0	0	0
Invest. surplus/yr:		0	0	0	0	0
Total/yr:		35,565	35,565	35,565	35,565	35,565

**Redraws**

Regular/mth:	0	0	0	0	0	0
Irregular/yr:		0	0	0	0	0
Total/yr:		0	0	0	0	0

☐ Use credit line to repay home loan

? << < > >> OK Cancel

## 4.8 Extra repayments row

Regular (mth/yr)	2963.77	35,565	35,565	35,565	35,565	35,565
Extra (mth/yr)	0	0	0	0	0	0
Irregular		0	0	0	0	0

The value in the input column shows the extra monthly loan repayment and the values in the projections columns show the equivalent annual amounts repaid in the specified years. This changes if a credit line has been specified. Under a credit line, all after-tax income is channelled into the mortgage account and living expenses are redrawn from that account. When you select a credit line the following occurs:

- The input column of this row is blank (an extra monthly payment is not applicable under a credit line)
- PIA calculates the annual values in the projection columns based on your total after-tax income less the regular payments
- The row title changes from “Extra (mth/yr)” to “Extra (credit line)”
- The projected living expenses appear as redraws until the loan is repaid

**i** You may select *Credit Line* under the *Settings* menu on the spreadsheet or the *Credit line* toolbar icon (see 7.7).

### Extra Payments dialog

Clicking on the *Extra (mth/yr)* row title (or on a value in a projections columns) opens the Extra Payments dialog. You can enter extra regular payments here.

### Credit line

A Credit line means that all salary and wages are paid directly into the loan and living expenses are taken out as *redraws* (see below). This can speed repayment, for the following reasons:

You have to draw the money to spend it. Instead of paying in what you can afford, you take out what you need.

The Credit Line encourages you to draw up a budget – which increases awareness of spending behaviour.

If you have a loan and a current or savings account, surplus cash earns little interest. With a credit line, “surplus” cash helps reduce your interest bill. This can be done by checking the *Use all available cash for payments* check box.

**i** Please note that income is specified in the *Current Income* dialog in the *Investor* menu and living expenses are specified in the *Living Expenses* dialog in the *Investor* menu. For further details, please see Chapter N.

### Regular Payments

In the *Regular Payments* area, the *Regular monthly payment* is normally the scheduled amount to be paid monthly in arrears so that the entire loan is repaid over a pre-determined number of years.

The *Extra monthly payment* line enables you specify an extra monthly payment in order to repay the loan sooner than originally scheduled.

### Fortnightly Payments

If you want to know the effect of paying half of the monthly payment each fortnight rather than one payment per month, you can simulate the fortnightly payment schedule by making an additional payment each month of one twelfth of a normal monthly payment (it is equivalent to making 13 monthly payments – one more per year than normal). Click on the **Add to extra** button to add 1/12 of a regular payment to the *Extra monthly payment* field. Click the **Remove from extra** button to remove the payment again.

As PIA uses a monthly time step for calculations, the result is only a close approximation – the interest saved by making the earlier payment of half the monthly amount is not taken into account.

#### 4.9 Irregular repayments row

Extra (mth/yr)	0	0	0	0	0	0
Irregular		0	0	0	0	0
Total repayments		35,565	35,565	35,565	35,565	35,565

You can enter irregular (that is, ad hoc, unscheduled) payments into the appropriate projections column by selecting the default value and overwriting it. PIA assumes that the amount entered is to be paid into the loan account at the end of the year and recalculates the term remaining when you press the *Enter* key.

#### 4.10 Total repayments row

Irregular		0	0	0	0	0
Total repayments		35,565	35,565	35,565	35,565	35,565
Redraws						

This row shows the sum of all the various repayments (regular, additional and irregular) itemised in the Loan Consolidation dialog (see 4.5).

## 4.11 Regular redraws row

Redraws						
Regular (mth/yr)	0	0	0	0	0	0
Irregular		0	0	0	0	0

The value in the input column of the *Regular redraws* row shows the regular monthly withdrawals from the loan account loan. The values in the projections columns show the equivalent annual amounts withdrawn in the specified years. Technically they act as extra borrowings but in practise they are used as a means of budgeting for things such as normal living expenses and counterbalance any extra repayments specified above (see 4.8).

Under a credit line, all after-tax income is channelled into the mortgage account and living expenses are redrawn from that account. When you select a credit line, the following occurs:

- The input column of this row is blank (a fixed regular monthly redraw is not applicable under a credit line),
- The projected living expenses appear as redraws until such time as the loan is repaid
- The row title changes from “Regular (mth/yr)” to “Regular (living exp)”,
- The *Extra repayments* row shows your total after-tax income less the regular payments (see 4.8)

For regular monthly redraws, enter the value into the input column in the *Regular* row. PIA then shows the annual redraws in the projections columns of the row.

For irregular (that is, ad hoc unscheduled) redraws, enter the value directly into the spreadsheet in the year in which the redraw is made.

### Annual Living Expenses dialog

Clicking anywhere in the row when a credit line has been selected opens the Annual Living Expenses dialog.

Here, you can specify the total annual living expenses in any year or specify the rate at which these might change with time. Your living expenses for the first year can be entered via the Annual Living Expenses Budget dialog (For further details see *Living Expenses* under the *Investor* menu, described more fully in 7.4).

### Living expense projections

By default, annual living expenses are assumed to increase in line with inflation. You can over-ride this assumption and specify your precise living expenses for any year. Note that unless you uncheck the *Inflation indexed from year* check box, the remaining years continue to increase by the specified rate.



*In the year in which the loan is repaid, the redraw column may show a much lower figure than the previous years. This is because redraws are only made until the loan is fully cleared repaid. The loan account then goes into credit – or is closed by the borrower.*

#### 4.12 Irregular redraws row

Regular (mth/yr)	0	0	0	0	0	0
Irregular		0	0	0	0	0
Total redraws		0	0	0	0	0

You can enter irregular (ad hoc unscheduled) redraws for projected years directly into the appropriate projections columns on the spreadsheet. Such entries do not affect redraws in other years.

#### 4.13 Total redraws row

Irregular		0	0	0	0	0
Total redraws		0	0	0	0	0
Interest rates	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%

The *Total redraws* row shows the annual projected totals of all redraws. Because this row contains calculated fields only, no entries can be made here.

#### 4.14 Interest rates row

Total redraws		0	0	0	0	0
Interest rates	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Interest		26,554	25,806	24,996	23,169	17,097

The *Interest rates* row allows you to specify the annual interest rates applying to the home loan year by year. The value in the input column shows the average annual interest rate over the term of the loan. If you select and overwrite this value, the interest rates for all years are set to the new value.

The values in the projections columns show the interest rate for the specified years. If you select and overwrite any of these values, PIA recalculates the average rate but the interest rates in other years are unaffected.

##### Interest Rates dialog

Clicking on the *Interest rates* row title opens the Interest Rates dialog. As in the spreadsheet cells, you may overwrite the average interest rate or the rate for individual years. Note, however, that in this case, making a change to any one year results in the same change to all following years. You can enter rates for each year up to 40 years. (See 3.1 for details on how to set projections)

The Interest Rates dialog box is shown with the following fields and controls:

- Average:** 8.00%
- 1yr:** 8.00%
- 2yr:** 8.00%
- 3yr:** 8.00%
- 4yr:** 8.00%
- 5yr:** 8.00%
- Navigation buttons:** A question mark button, and left/right double and single arrow buttons.
- Action buttons:** OK and Cancel.

#### 4.15 Interest row

Interest rates	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Interest		26,554	25,806	24,996	23,169	17,097
<b>Loan balance</b>	\$336,000	326,989	317,230	306,661	282,819	203,588

The *Interest* row shows the projected total interest component payable each year. PIA calculates these values, so no entries can be made here.



*Note that unlike the interest on investment property loans, PIA does not treat the interest on the loan for your home as tax-deductible, even if you were to use an investment property as collateral for the loan. The important issue in the eyes of the tax office is the purpose of the loan, not what is used as security for it.*

#### 4.16 Loan balance row

Interest		26,554	25,806	24,996	23,169	17,097
<b>Loan balance</b>	\$336,000	326,989	317,230	306,661	282,819	203,588
<b>Loan value ratio</b>	70.00%	<b>Your net cost per year</b>				

The values in the input column of the *Loan balance* row shows the amount still owing on the loan on your home at the end of the current year. The values in the projections columns show the amount owing for each of the years displayed, taking into account all repayments and redraws. Note that at the outset, this may include refinance costs if the loan represents a consolidation of several principal and interest loans (see 4.5).

#### Home Loan Balance dialog

Clicking on the *Loan balance* row title (or double-clicking on the value in the input column) opens the Home Loan Balance dialog. This box explains how the balance of the loan is derived, taking interest, redraws and repayments into account.

The annual loan balances are a function of initial balances, items added and items paid. In general, the only item added is the interest bill, if you also have a credit line, redraws are shown here (see 4.11, 4.12).

Items paid are generally just the regular home loan payment, but you may also be paying an additional amount per month, or even making irregular “one-off” payments (see 4.8, 4.9). (See 3.1 for details on how to set projections)

Year:	1yr	2yr	3yr	5yr	10yr
Initial loan balance:	336,000	326,989	317,230	295,215	222,057
<b>Loan Additions</b>					
Interest added:	26,554	25,806	24,996	23,169	17,097
Regular redraws:					
Irregular redraws:					
Total:	26,554	25,806	24,996	23,169	17,097
<b>Loan Payments</b>					
Regular payment:	35,565	35,565	35,565	35,565	35,565
Regular extra:					
Irregular extra:					
Total:	35,565	35,565	35,565	35,565	35,565
Closing balance:	326,989	317,230	306,661	282,819	203,588

Buttons: ? << < > >> Close



#### 4.17 Loan value ratio row

<b>Loan balance</b>	<b>\$336,000</b>	326,989	317,230	306,661	282,819	203,588
Loan value ratio	70.00%	<b>Your net cost per year</b>				
<b>Term remaining</b>	<b>17.7yr</b>	<b>35,565</b>	<b>35,565</b>	<b>35,565</b>	<b>35,565</b>	<b>35,565</b>

The loan value ratio is the ratio of the loan to the value of the property. It is an index used by lenders as a measure of risk in lending you the money. For example it is common for lenders to charge for mortgage insurance if the loan to value ratio exceed 80%.

The figure in the input column on the Loan value ratio row is the current loan value ratio.

#### Home Loan Value Ratio dialog

Clicking on the *Loan value ratio* row title or on the value in the input column) opens the Home Loan value ratio dialog.

The two examples show how the loan value ratio alters over time as the value of the property increases and the home loan balance is reduced.

The dialog box titled "Home Loan Value Ratio" displays a table with the following data:

Years:	Initial	16yr	17yr	18yr	19yr	20yr
Home loan balance:	336,000	55,748	23,476	0	0	0
Value of residence:	480,000	1.219m	1.293m	1.370m	1.452m	1.539m
Loan value ratio:	<b>70.00%</b>	<b>4.57%</b>	<b>1.82%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

Navigation buttons at the bottom include: ?, <<, <, >, >>, and a Close button.

The dialog box titled "Home Loan Value Ratio" displays a table with the following data:

Years:	Initial	1yr	2yr	3yr	5yr	10yr
Home loan balance:	336,000	326,989	317,230	306,661	282,819	203,588
Value of residence:	480,000	508,800	539,328	571,688	642,348	859,607
Loan value ratio:	<b>70.00%</b>	<b>64.27%</b>	<b>58.82%</b>	<b>53.64%</b>	<b>44.03%</b>	<b>23.68%</b>

Navigation buttons at the bottom include: ?, <<, <, >, >>, and a Close button.

#### 4.18 Term remaining row

Loan value ratio	70.00%	Your net cost per year				
Term remaining	17.7yr	35,565	35,565	35,565	35,565	35,565

The input column of the *Term remaining* row displays the number of years remaining to pay out the loan for your home completely. The remainder of the row displays the annual net cost (see 4.19).

For the loan to be repaid, the repayments must be greater than the interest being charged by the lender. If the repayments are not sufficient to meet the interest bill, the loan cannot be repaid and the term remaining is not defined and is displayed as ?????, unless you have chosen another string for undefined values (Preference command in the *Settings* menu, 7.7)

#### 4.19 Your net cost per year

Loan value ratio	70.00%	Your net cost per year				
Term remaining	17.7yr	35,565	35,565	35,565	35,565	35,565

The projections columns in this area show the net sum of all the loan repayments and redraws for each year. By default, these are simply the regular scheduled loan repayments and remain constant until the loan is repaid. However, where you use a credit line, or where ever extra payments and/or redraws are specified, these indicate the total net cost.

Negative values are shown in red with a minus sign. A negative net cost indicates that redraws exceed repayments, so the loan is increasing. PIA displays a warning message if you enter a value that creates this situation.

## Chapter 5

# Wealth Builder spreadsheet

This chapter provides an overview of the Wealth Builder spreadsheet and its related dialogs. The term “wealth builder” refers to the main application of this spreadsheet, which is to provide an interactive analysis of each step in accumulating a portfolio of investment properties (building wealth). The Wealth Builder spreadsheet helps you to address the question: “When can I take the next step and buy another investment property?” The answer is “when you can afford to and/or when a bank would lend you the money”, both of which are indicated in the spreadsheet.

This spreadsheet draws together the information from both the Investment Analysis spreadsheet (Chapter 3) and the Home Loan Analysis spreadsheet (Chapter 4) to give a more holistic guide to building wealth through a portfolio of investment properties. You simply need to specify the total number of investment properties (including those in any portfolio you have created) accumulated at any time and the spreadsheet analyses

- Whether you can afford them
- Whether a bank is likely to finance them
- Equity accumulation
- 



*To function as a relatively simple and interactive tool, the Wealth Builder spreadsheet assumes that any additional investment properties in the hypothetical portfolio are all derived from projected values of the property defined in the Investment Analysis spreadsheet. If you wish to simulate the accumulation of different investment properties over time, you should use the Create Portfolio (Investor Menu) (see 7.4) to collate them. The data (number of properties, rents, loan payments, etc.) from an existing portfolio will be added to the Wealth Builder but unlike additional properties, can only be changed by recreating the portfolio.*



*It is recommended that you read Chapter 12 in Jan Somers **More Wealth from Residential Property**, for a detailed example of using the PIA Wealth Builder to build a portfolio of investment properties.*

The three key indicators that help to answer the question “When can I buy another investment property?” are:

- Cash savings
- Loan value ratio (LVR)
- Debt service ratio (DSR)

### Cash savings

Cash savings is simply the accumulated difference between total income and total expenditure and if positive, indicates that the investors can afford the loan. This is simply an extension of the method used in the calculation of investment capacity (see also 7.4) which refers to the amount of investment property that an investor (or a couple) can afford after setting aside sufficient funds to cover their normal living expenses. In this spreadsheet cash savings are accumulated from year to year and, naturally, total expenditure (which includes taxes, living expenses, rental expenses and any loan payments) in any year should not exceed the monies available (i.e. accumulated savings up to that year plus total salaries, rental and other income for that year).

### Loan value ratio (LVR)

The LVR is used by banks as a measure of your loan security and is calculated as total monies borrowed, including the new loan, divided by the total value of assets being used as security for the loans. As a general guide, the LVR should definitely not exceed 100% and preferably, should not exceed 80% (loans with higher LVRs would likely attract mortgage insurance).

### Debt service ratio (DSR)

The DSR is used by banks as a measure of your ability to service the loan and is calculated as a function of total debt repayments compared to total income, including rental income. The method that lending institutions use to calculate this index varies considerably. Generally, only a percentage of income is deemed eligible (as a guide it is 30% of salary plus about 80% of gross rents) and loan payments are often deemed higher than actual to allow for a potentially higher interest rate during the course of repayments. The DSR is then simply

the ratio of deemed loan payments to eligible income. As a guide, the DSR should be below 100%. If the DSR is greater than 100%, then the loan is less likely to be granted.

$$\text{e.g. DSR} = \frac{\text{Loan payments} \times 100\%}{30\% \text{ wages} + 80\% \text{ Rent}}$$

Somerset						
Wealth Builder		Projections over 10 years				
Start of Year	Input	1yr	2yr	3yr	5yr	10yr
Home value	4.00%	600,000	624,000	648,960	701,915	853,987
Home loan balance	19.6yr	420,000	407,033	393,403	364,015	276,334
Inv. property value	1.88%	539,933	498,532	513,488	544,759	631,525
Total inv. properties		1	1	1	1	1
Total of all loans		937,422	924,455	910,824	881,436	793,756
Total of all values		1.140m	1.123m	1.162m	1.247m	1.486m
<b>Loan value ratio</b>		<b>82%</b>	<b>82%</b>	<b>78%</b>	<b>71%</b>	<b>53%</b>
Rental income	3.00%	20,384	20,996	21,625	22,942	26,596
Other income (net)	3.00%	110,000	113,300	116,699	123,806	143,525
Total income		130,384	134,296	138,324	146,748	170,122
Rental expenses	3.00%	6,832	7,037	7,248	7,689	8,914
Living expenses	3.00%	30,950	31,879	32,835	34,834	40,383
Tax payments		11,018	12,195	13,397	15,856	22,997
Loan payments		59,543	59,543	59,543	59,543	59,543
Total expenditure		108,343	110,653	113,023	117,924	131,837
<b>Cash savings</b>	<b>\$50,000</b>	<b>22,041</b>	<b>45,684</b>	<b>70,985</b>	<b>126,856</b>	<b>298,033</b>
<b>Debt service ratio</b>		<b>121%</b>	<b>117%</b>	<b>114%</b>	<b>107%</b>	<b>93%</b>
Investment cash flow	-50,000	-5,138	-4,911	-4,677	-4,190	-2,799
Total value (end of yr)	\$600,000	1.123m	1.162m	1.204m	1.291m	1.539m
Total loans (end of yr)	\$420,000	924,455	910,824	896,497	865,605	773,438
<b>Net worth</b>	<b>\$230,000</b>	<b>220,118</b>	<b>297,307</b>	<b>378,299</b>	<b>552,345</b>	<b>1.063m</b>
Investment equity	4.69%	-18,890	-3,934	11,471	43,680	133,049

The Wealth Builder spreadsheet is divided into two areas:

- Start of Year
- End of Year

This chapter describes each row (and the associated dialogs) from top to bottom. For your orientation, the row being described is shown with the row above and below:

*If you have not made any changes, projections are based on default values.*

## 5.1 Start of year row

John Doe – for personal use only						
Wealth Builder	Input	Projections over 10 years				
Start of Year	2013	1yr	2yr	3yr	5yr	10yr
Home value	6.00%	480,000	508,800	539,328	605,989	810,950

The value in the input column of the spreadsheet shows the year from which PIA calculates future wealth building. The year variable is common to all spreadsheets within PIA. The projections columns show the projected results for the years selected. Note that all variables in the upper part of the spreadsheet refer to values at the *start* of the year whereas those at the bottom refer to values at the *end* of the year. For details of setting projections, see 3.1.

## 5.2 Home value row

Start of Year	2013	1yr	2yr	3yr	5yr	10yr
Home value	6.00%	480,000	508,800	539,328	605,989	810,950
Home loan balance	17.7yr	336,000	326,989	317,230	295,215	222,057

The *Home value* row shows the projected value of the investor's home.

The value in the input column reflects the average capital growth rate over the years shown in the Projection columns. Changing this average rate by selecting and over-writing it will result in the growth rates for each year being set to this same rate. The individual annual home values and/or growth rates may be altered in the Home Value Growth dialog (see below). The future home values shown in the projections columns of the spreadsheet are calculated using these annual capital growth rates.

### Home Value Growth dialog

Clicking on the *Home value* row title (or double-clicking on the number in the input column) displays the Home Value Growth dialog. This facility allows you specify the individual annual capital growth rates or the actual home valuations. When one is changed, PIA calculates the others. The value of your home is used in calculating the loan value ratio.

### Property value

This row shows the projected property values for up to 40 years. These are based on the growth rates shown in the next column.

### Growth rates

The value in the input column in the spreadsheet reflects the current capital growth rate upon which the future value of your home is to be calculated. These values may be altered in the *Growth rates* row in the Home Value Growth dialog.

### 5.3 Home loan balance row

Home value	6.00%	480,000	508,800	539,328	605,989	810,950
Home loan balance	17.7yr	336,000	326,989	317,230	295,215	222,057
Inv. property value	6.00%	400,000	424,000	449,440	504,991	675,792

The value in the input column of the *Home loan balance* row shows the remaining term of the home loan. The rest of the row shows the projected balance of the home loan over the projected years. In general this loan will be on the home only but, in general, could be the consolidation of several non-deductible loans (see below).

#### Loan Consolidation dialog

Clicking on the *Home loan balance* row title (or on any value in the projection columns) opens the Loan Consolidation dialog. This enables you to enter details of all your non-deductible loans, including that on your home (see 4.5).

### 5.4 Investment property value row

Home loan balance	17.7yr	336,000	326,989	317,230	295,215	222,057
Inv. property value	6.00%	400,000	424,000	449,440	504,991	675,792
Total inv. properties		1	1	1	1	1

The value in the input column of the *Investment property value* row title on the spreadsheet represents the anticipated average annual capital growth rate of the investment property. If you select and overwrite this value, the growth rate for all years is set to the new value.

The values in the projections columns show the anticipated increase in the property value over the projection period. PIA calculates these using the specified capital growth rates.

#### Property Value dialog

Clicking on the *Investment property value* row title opens the Property Value dialog. This allows you to make adjustments for renovations or the additional purchase of a furniture package. It also allows you to enter a different Market value if this is not the same as the purchase price of the property (Book value) (see 3.2).

#### Investment Property Growth dialog

Clicking on a cell in the projections columns (or double-clicking the cell in the Input column) opens the Investment Property Growth dialog, which allows you to specify growth rates year by year (see 3.7).

### 5.5 Total inv. properties row

Inv. property value	6.00%	400,000	424,000	449,440	504,991	675,792
Total inv. properties		1	1	1	1	1
Total of all loans		715,356	706,345	696,586	674,571	601,412

The values in the projections columns of the *Total inv. properties* row specify the cumulative number of investment properties. If you already have existing investment properties that you have specified in creating a portfolio (see 7.4), these properties will be included. When properties from a portfolio are included, the row title reads "Total inv. properties (pf)".

You may enter values directly into the projections columns however you will not be able to specify fewer properties than shown in the previous year or fewer properties than defined in an existing portfolio.

You can also let PIA maximise the number of investment properties according to criteria that you set (see 7.4).

## 5.6 Total of all loans row (start of year)

Total inv. properties		1	1	1	1	1
Total of all loans		715,356	706,345	696,586	674,571	601,412
Total of all values		880,000	932,800	988,768	1.111m	1.487m

The values in the projections columns of the *Total of all loans* row show the derivation of the total loan balance (including any loan on your home and any loans on an existing property portfolio). In other words, for each projected year, the total loan on all properties is the total loan on all investment properties (including any you may have specified in an existing portfolio) plus the loan on your own home. If the "Show term" item is selected in the Preferences dialog, the first item in the Total of all loans row will show the years until all loans are repaid. If this is greater than 40 years, the undefined symbol ("????") will be displayed.

### Total Loans dialog

Clicking on the *Total of all loans* row title or double-clicking on any of the values in the projections columns opens the Total Loans dialog.

For the start of each year shown, this shows the cumulative number of investment properties included in the calculations, the amount owing on the home loan, the total of investment loans, and the total loan balance. Also included are the home and investment interest and payments. These figures are used to calculate the total loan balances for the ends of each year which are shown broken down into home loan, investment loan components (from the property in the Investment Analysis spreadsheet – see 3.10) and any existing portfolio loans.

### Credit line

If you check the *Use credit line to repay loans* check box, PIA recalculates the loan payments and balances when all surplus cash is used to help repay the loan principal. This is equivalent to clicking CL in the toolbar for this spreadsheet.

Total Loans

Start of Year:

Initial

1yr

2yr

3yr

5yr

10yr

Investment properties:

1

1

1

1

1

Home loan:

336,000

336,000

326,989

317,230

295,215

222,057

Investment loans:

379,356

379,356

379,356

379,356

379,356

379,356

Total loan balance:

715,356

706,345

696,586

674,571

601,412

Home interest:

26,554

25,806

24,996

23,169

17,097

Home payments:

0

35,565

35,565

35,565

35,565

35,565

Investment interest:

30,348

30,348

30,348

30,348

30,348

30,348

Investment payments:

30,348

30,348

30,348

30,348

30,348

30,348

End of Year:

Home loan balance:

336,000

326,989

317,230

306,661

282,819

203,588

Investment loan A:

379,356

379,356

379,356

379,356

379,356

379,356

Investment loan B:

0

0

0

0

0

0

Portfolio loans:

0

0

0

0

0

0

Total loan balance:

336,000

706,345

696,586

686,017

662,175

582,944

☐ Use credit line to repay loans

?

<<

<

>

>>

Close



## 5.7 Total of all values row (start of year)

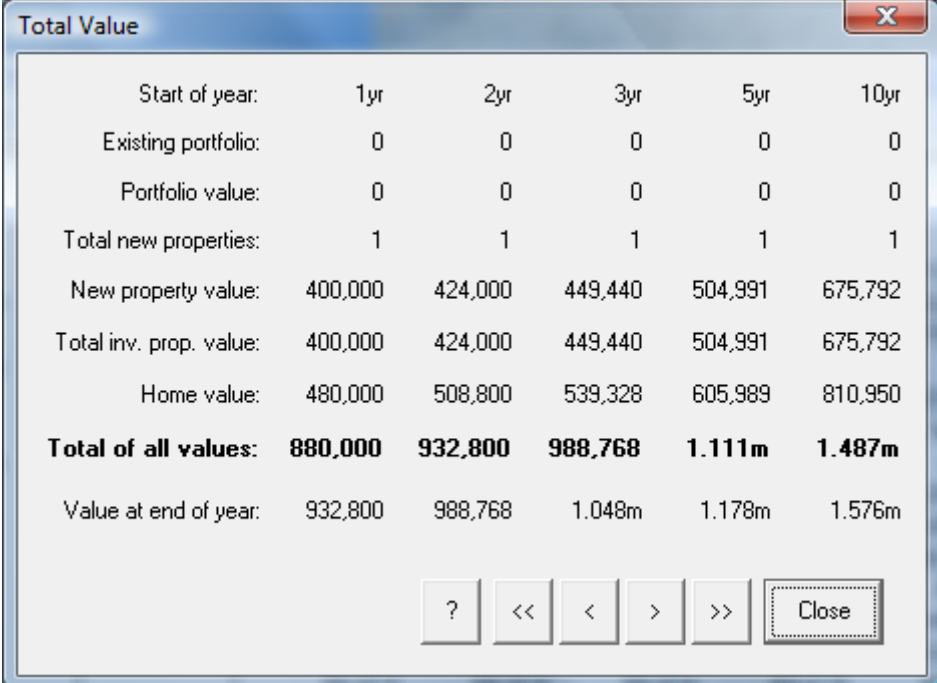
Total of all loans		715,356	706,345	696,586	674,571	601,412
Total of all values		880,000	932,800	988,768	1.111m	1.487m
Loan value ratio		<b>81%</b>	<b>76%</b>	<b>70%</b>	<b>61%</b>	<b>40%</b>

The values in the projections columns of the *Total of all values* row show the predicted value of all properties – including your home and any investment properties you have specified in an existing portfolio – in the selected years.

**i** *The total value of all properties is the total value of all investment properties, including any existing property portfolio, plus the value of your home. The total value is important in calculating the total loan value ratio when all properties are used as collateral for the loan.*

### Total Value dialog

Clicking on the *Total of all values* row title or on any of the values in the projections columns opens the Total Value dialog. This summarises the total value of all investment properties together with value of your home in the selected years.



The screenshot shows a dialog box titled "Total Value" with a close button (X) in the top right corner. Inside the dialog is a table with the following data:

Start of year:	1yr	2yr	3yr	5yr	10yr
Existing portfolio:	0	0	0	0	0
Portfolio value:	0	0	0	0	0
Total new properties:	1	1	1	1	1
New property value:	400,000	424,000	449,440	504,991	675,792
Total inv. prop. value:	400,000	424,000	449,440	504,991	675,792
Home value:	480,000	508,800	539,328	605,989	810,950
<b>Total of all values:</b>	<b>880,000</b>	<b>932,800</b>	<b>988,768</b>	<b>1.111m</b>	<b>1.487m</b>
Value at end of year:	932,800	988,768	1.048m	1.178m	1.576m

At the bottom of the dialog, there are navigation buttons: a question mark (?), double left arrow (<<), single left arrow (<), single right arrow (>), double right arrow (>>), and a "Close" button.



## 5.8 Loan value ratio row

Total of all values		880,000	932,800	988,768	1.111m	1.487m
Loan value ratio		<b>81%</b>	<b>76%</b>	<b>70%</b>	<b>61%</b>	<b>40%</b>
Rental income	4.00%	17,836	18,549	19,291	20,866	25,386

The values in the projections columns in the *Loan value ratio* row show the predicted loan value ratio (LVR) for the selected years.

The LVR is simply the ratio (expressed as a percentage) of the total loans to the total value of properties used as security for those loans. Naturally the lender would not want the LVR to exceed 100%, as it would not be possible to recover the total loan amount if you were to default on the loan repayments. In fact, if the LVR exceeds a certain figure (usually around 80%), the lender may insist on mortgage insurance, which the borrower has to pay for.

### Loan value ratio dialog

Clicking on the *Loan value ratio* row title or on any of the values in the projections columns opens the Loan value ratio dialog. This shows the derivation of the LVR for each year of the projection, taking into account the total value of investments and your home as well as the amounts owing on existing loans.

The screenshot shows a dialog box titled "Loan Value Ratio (LVR)". It contains a table with the following data:

Start of year:	1yr	2yr	3yr	5yr	10yr
Properties:	1	1	1	1	1
Value of properties:	400,000	424,000	449,440	504,991	675,792
Value of home:	480,000	508,800	539,328	605,989	810,950
Total value:	880,000	932,800	988,768	1.111m	1.487m
Existing loans:	336,000	706,345	696,586	674,571	601,412
New loans:	379,356				
Total loans:	715,356	706,345	696,586	674,571	601,412
<b>Loan value ratio:</b>	<b>81.29%</b>	<b>75.72%</b>	<b>70.45%</b>	<b>60.72%</b>	<b>40.45%</b>

At the bottom of the dialog, there is a question mark button, navigation buttons (double left arrow, left arrow, right arrow, double right arrow), and a "Close" button.

## 5.9 Rental income row

Loan value ratio		81%	76%	70%	61%	40%
Rental income	4.00%	17,836	18,549	19,291	20,866	25,386
Other income	4.00%	95,000	98,800	102,752	111,137	135,215

The value in the input column shows the anticipated average annual rate of increase in rental income for the investment property from the point in time rents are indexed (by default this is from the first year – see 3.9). If you overwrite this value, it resets the rate of increase to this value in all years (see 3.8).

The values in the projections columns show the anticipated total income from rent, including that from any existing property portfolio.

### Annual Rental Income dialog

Clicking on the *Rental income* row title or on any of the values in the projections columns opens the Annual Rental Income dialog, allowing you to change the annual rent per property and set inflation indexing. For details, see 3.9.

## 5.10 Other income row

Rental income	4.00%	17,836	18,549	19,291	20,866	25,386
Other income (net)	4.00%	95,000	98,800	102,752	111,137	135,215
Total income		112,836	117,349	122,043	132,002	160,601

The *Other income (net)* row shows your projected joint non-property net income over selected years. Rental income is expressed directly in the Wealth Builder spreadsheet. Non-property net income is simply the non-property taxable income plus any non-property non-taxable income. The non-property taxable income is calculated as the total non-property income (e.g. salary and wages) less the total non-property deductions (e.g. work-related expenses).

The value in the input column shows the anticipated average annual rate of increase in this non-property net income from the time that it is indexed (by default this is from the first year). You can overwrite this value if indexation is from the first year.

The values in the projections columns show the anticipated income for the selected years based on the rate of increase indicated in the input column.

### Joint Net Income dialog

Clicking on the *Joint net income* row title opens the Joint Net Income (Non-Property) dialog. This shows the derivation of the joint net income shown in the Wealth Builder spreadsheet.

#### Non-Property Income

Non-property income includes salary/wages and any other income excluding rents.

#### Non-Property Deductions

These include any work-related and other deductions, but exclude property-related deductions.

#### Non-Property Taxable Income

Your *non-property taxable income* is total non-property income less total non-property tax deductions.

#### Non-Property Net Income

Non-property net income is non-property taxable income plus any non-taxable income.

#### Non-taxable income

Non-taxable income for both investor and partner can be entered on the *Non-taxable income* row in the Current Taxable Income dialog (see 7.4).

**Joint Net Income (Non-Property)**

	Investor	Partner	Total
<b>Non-Property Income</b>			
Salary/wages:	65,000	30,000	95,000
Other income:	0	0	0
<b>Total Income:</b>	<b>65,000</b>	<b>30,000</b>	<b>95,000</b>
<b>Non-Property Deductions</b>			
Work related:	0	0	0
Other deductions:	0	0	0
<b>Total deductions:</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Non-Property Taxable Income</b>	<b>65,000</b>	<b>30,000</b>	<b>95,000</b>
<b>Non-Property Net Income</b>			
Non-taxable income:	0	0	0
<b>Total net income:</b>	<b>65,000</b>	<b>30,000</b>	<b>95,000</b>

Year: 1yr

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### 5.11 Total income row

Other income	4.00%	95,000	98,800	102,752	111,137	135,215
Total income		112,836	117,349	122,043	132,002	160,601
Rental expenses	4.00%	5,621	5,846	6,080	6,576	8,001

The values in the projections columns in the *Total income* row show your projected total income for each year of the projection, that is, Rental income (see 6.9) plus Joint net income (see 6.10).

### 5.12 Rental expenses row

Total income		112,836	117,349	122,043	132,002	160,601
Rental expenses	4.00%	5,621	5,846	6,080	6,576	8,001
Living expenses	4.00%	30,950	32,188	33,476	36,207	44,052

The *Rental expenses* row shows projected annual rental expenses.

The value in the input column shows the projected annual rate of increase for rental expenses from the point in time that they are indexed (see 3.11).

The values in the projections columns show the projected annual rental expenses for each year of the projection.

#### Annual & Special Rental Expenses dialog

Clicking on the *Rental expenses* row title or on any of the values in the projections columns opens the Annual & Special Rental Expenses dialog. This dialog allows the entry of any special expenses incurred from time to time that are best treated separately from normal indexed rental expenses (see 3.11).

### 5.13 Living expenses row

Rental expenses	4.00%	5,621	5,846	6,080	6,576	8,001
Living expenses	4.00%	30,950	32,188	33,476	36,207	44,052
Tax payments		5,940	6,859	8,807	12,370	22,421

The values in the projections columns of the *Living expenses* row are the predicted annual living expenses for the years of the projection. These values are based on data entered in the Annual Living Expense Budget dialog.

Clicking on any of the values in the projections columns of the *Living expenses* row opens the Annual living expenses dialog (see 4.11).

#### Annual Living Expense Budget dialog

Clicking on the *Living expenses* row title opens Annual Living Expense Budget dialog. Here you can record all monies that need to be put aside for household living expenses. These – together with any home loan payments – constitute the total non-deductible expenses and need to be taken into account in calculating your capacity to purchase property.

**Annual Living Expense Budget**

Item	Annual	Weekly	Monthly	Quarter
Rates	1,800	34.62	150.00	450
Home insurance	750	14.42	62.50	188
Household maintenance	1,500	28.85	125.00	375
Fuel & power	1,500	28.85	125.00	375
Transport/Car/Boat	7,500	144.23	625.00	1,875
Food & Drink	7,500	144.23	625.00	1,875
Clothing & footwear	3,000	57.69	250.00	750
Telephone	500	9.62	41.67	125
Superannuation	0	0.00	0.00	0
Medical & Dental	500	9.62	41.67	125
Personal Insurance	0	0.00	0.00	0
Household furniture	2,000	38.46	166.67	500
Gifts/Birthdays/Xmas	800	15.38	66.67	200
Holidays & Travel	1,800	34.62	150.00	450
Sport/Entertainment	1,800	34.62	150.00	450
School Fees/Education	0	0.00	0.00	0
Other	0	0.00	0.00	0

Total living expenses: **30,950**

Home loan payments (annual):

Total non-deductible expenses: **66,515**

Buttons: Add, Remove, Modify, Home Loan, Report, OK, Cancel, ?

#### Add, remove and modify buttons

You can modify or remove items or add new items by clicking on the **Add, Remove or Modify** buttons or double-clicking the item itself. (To remove or modify an item, select the item before clicking the appropriate button.)

The Expense Item dialog opens, allowing you to enter yearly, weekly, monthly and quarterly expenses.

**Expense Item**

Item:

Amount:

**Home Loan Details**

Home Value:

Amount owing:

Loan Interest:

Loan Payments:  /mth

Annual total: **35,565** /year

Buttons: ? , OK, Cancel

### Home loan button

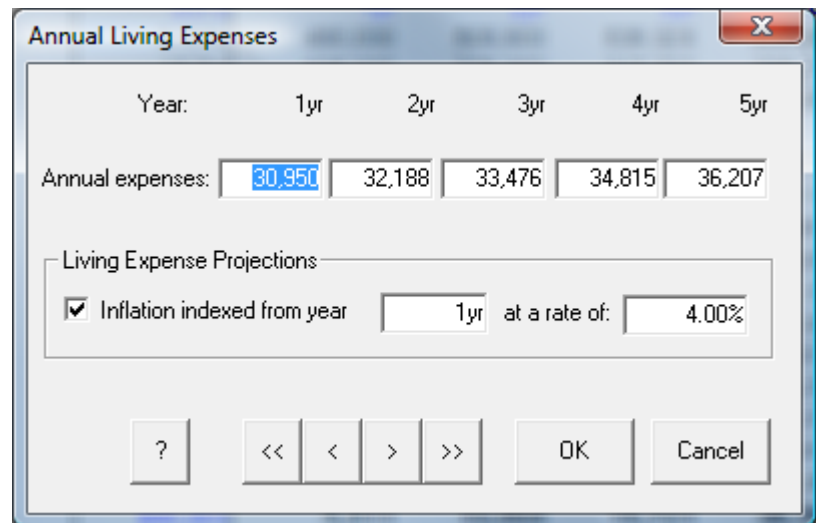
Clicking on the **Home Loan** button in the Annual Living Expenses Budget dialog enables you to make alterations to the conditions governing repayment of the home loan, that is, amount owing, interest rate, loan payment rate. PIA then indicates the remaining term of the loan. Any changes are reflected in the *Home loan payments (annual)* row of the Annual Living Expense Budget dialog.

### Report button

Clicking on the **Report** button closes the dialog and generates a Living expenses report (see 7.2).

### Annual Living Expenses dialog

Clicking on any of the values in the projections columns of the *Living expenses* row opens the Annual living expenses dialog (see 4.11).



The dialog box is titled "Annual Living Expenses" and has a close button (X) in the top right corner. It contains the following elements:

- Year:** A row of five buttons labeled "1yr", "2yr", "3yr", "4yr", and "5yr".
- Annual expenses:** A row of five input fields containing the values "30,950", "32,188", "33,476", "34,815", and "36,207". The first field is highlighted with a blue border.
- Living Expense Projections:** A section with a checkbox labeled "Inflation indexed from year" which is checked. To its right is an input field containing "1yr". Further right is the text "at a rate of:" followed by an input field containing "4.00%".
- Buttons:** A row of six buttons at the bottom: a question mark "?", two left arrows "<<" and "<", two right arrows ">" and ">>", "OK", and "Cancel".

## 5.14 Tax payments row

Living expenses	4.00%	30,950	32,188	33,476	36,207	44,052
Tax payments		5,940	6,859	8,807	12,370	22,421
Loan payments		65,914	65,914	65,914	65,914	65,914

The values in the projections columns in the *Tax payments* row show the projected total tax payable each year after current taxable income is adjusted to new taxable income as a result of rental deductions (see 6.10).

**i** *Under structured tax scales, the harder you work, the more you earn, the more tax you pay. With negatively geared investment property, the harder you work, the more you earn, the more tax you get back. This means that tax benefits are maximised if the property is purchased in the name of the highest-income earner. Such details can be entered in the Tax Benefits dialog.*

### New Tax Payments dialog

Clicking on the Tax payments row title opens the Tax Payments dialog

This shows the derivation of the new tax that will need to be paid.

Tax Payments

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Year:	1yr	2yr	3yr	5yr	10yr
Current taxable income:	110,000	113,300	116,699	123,806	143,525
Current tax payments:	18,199	19,196	20,213	22,284	28,386
Rental income:	20,384	20,996	21,625	22,942	26,596
Total income:	130,384	134,296	138,324	146,748	170,122
Rental deductions:	40,679	40,884	41,095	41,537	41,534
New taxable income:	89,705	93,411	97,229	105,212	128,588
New tax (investor)	8,081	9,037	10,022	12,082	17,995
New tax (partner)	2,937	3,158	3,375	3,775	5,002
Total tax payments	11,018	12,195	13,397	15,856	22,997

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Close

### 5.15 Loan payments row

Tax payments		11,451	11,698	12,606	14,117	17,711
Loan payments		44,409	44,409	44,409	44,409	44,409
Total expenditure		89,222	90,136	91,724	94,637	101,990

The values in the projections columns of the *Loan payments* row show the total amount of loan payments (home and investment loans) for the selected years.

#### Loan Interest & Type dialog

Clicking on the row title or on any of the values in the projections columns opens the Loan Interest & Type dialog, allowing you to specify the interest rates and type of investment loan (see 3.5).

To see the derivation of the total loan payments, click on the *Total of all loans* row of the spreadsheet to open the Total Loans dialog.

### 5.16 Total expenditure row

Loan payments		65,914	65,914	65,914	65,914	65,914
Total expenditure		108,425	110,807	114,277	121,067	140,387
Cash savings	\$40,000	<b>4,411</b>	<b>10,954</b>	<b>18,721</b>	<b>38,909</b>	<b>119,989</b>

This row simply totals all expenditures itemised in the rows above, that is, rental expenses, living expenses, loan payments and indicates projected values for the selected years.



### 5.17 Cash savings row

Total expenditure		108,425	110,807	114,277	121,067	140,387
Cash savings	\$40,000	4,411	10,954	18,721	38,909	119,989
Debt service ratio		154%	148%	142%	132%	108%

The value in the input column in the *Cash savings* row shows the Initial savings recorded in the Accumulated Cash Savings dialog described below. PIA assumes that you have sufficient cash savings to cover any initial deposits on properties purchased at the start of year 1.

The values in the projections columns show the projected accumulated savings for each of the selected years taking into account total income and expenditure. In other words, the *Cash savings* row shows the total monies available in an account after all income and expenditure items have been taken into account. Thus the cash savings in any year are the cash savings in the previous year less any initial outlays of new properties, plus the net income from all sources.

① *The initial cash savings available must (by definition) be sufficient to cover the initial outlay (specified in the Investment Analysis spreadsheet) for all the investment properties purchased at the beginning. If the initial savings are set to zero, it means that the initial outlay must also be zero and all costs borrowed.*

① *If an initial outlay was made (deposit paid) for the initial investment property, PIA assumes that an outlay of the same level (same percentage of the property value) applies to subsequent properties.*

#### Accumulated Cash Savings dialog

Clicking on the *Cash savings* row title or on any of the values in the projections columns opens the Accumulated Cash Savings dialog. This shows the total income and expenditure as well as net and accumulated savings for each selected year of the projection. The accumulated savings figures are also shown in the projections columns of the *Cash savings* row.

Accumulated Cash Savings

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Year:	1yr	2yr	3yr	5yr	10yr
Properties	1	1	1	1	1
Cash in:					
Rental income:	20,384	20,996	21,625	22,942	26,596
Other income (net):	110,000	113,300	116,699	123,806	143,525
Total:	130,384	134,296	138,324	146,748	170,122
Cash out:					
Tax payments:	11,018	12,195	13,397	15,856	22,997
Rental expenses:	6,832	7,037	7,248	7,689	8,914
Loan payments:	59,543	59,543	59,543	59,543	59,543
Living expenses:	30,950	31,879	32,835	34,834	40,383
Total:	108,343	110,653	113,023	117,924	131,837
Cash surplus:	22,041	23,642	25,301	28,825	38,285
Initial outlays:	50,000				
Initial savings:	50,000	22,041	45,684	98,031	259,748
Accumulated savings:	22,041	45,684	70,985	126,856	298,033

☐ Use credit line to repay loans

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## 5.18 Debt service ratio row

Cash savings	\$40,000	4,411	10,954	18,721	38,909	119,989
Debt service ratio		154%	148%	142%	132%	108%
Investment cash flow	-50,000	-5,138	-4,911	-4,677	-4,190	-2,799

The values in the projections columns of the *Debt service ratio* row show the projected debt service ratios (DSR) for the selected years.

Financial institutions commonly assess an investor's ability to service a loan based on a comparison of income (including that from the investment property) with total loan payments.

 The debt service ratio (DSR) is a guide to loan eligibility. It is defined here as the ratio of deemed payments to eligible income.

*Eligible income is that part of gross income that a financial institution will accept as disposable. This could be 30% of wages or salary, the remainder being required for living expenses, and may be 80% of rental income. Deemed payments are the financial institution's conservative estimate of future payments, allowing, for example, for an increase in interest rates.*

*The total of these qualified incomings must be equal to or greater than total loan payments. In most cases, these loan payments are adjusted for the risk of interest rate rises, so that a total of deemed outgoings is used.*

*As a guide, a DSR of less than 100% indicates that the loan payments are affordable.*

### Debt Service Ratio dialog

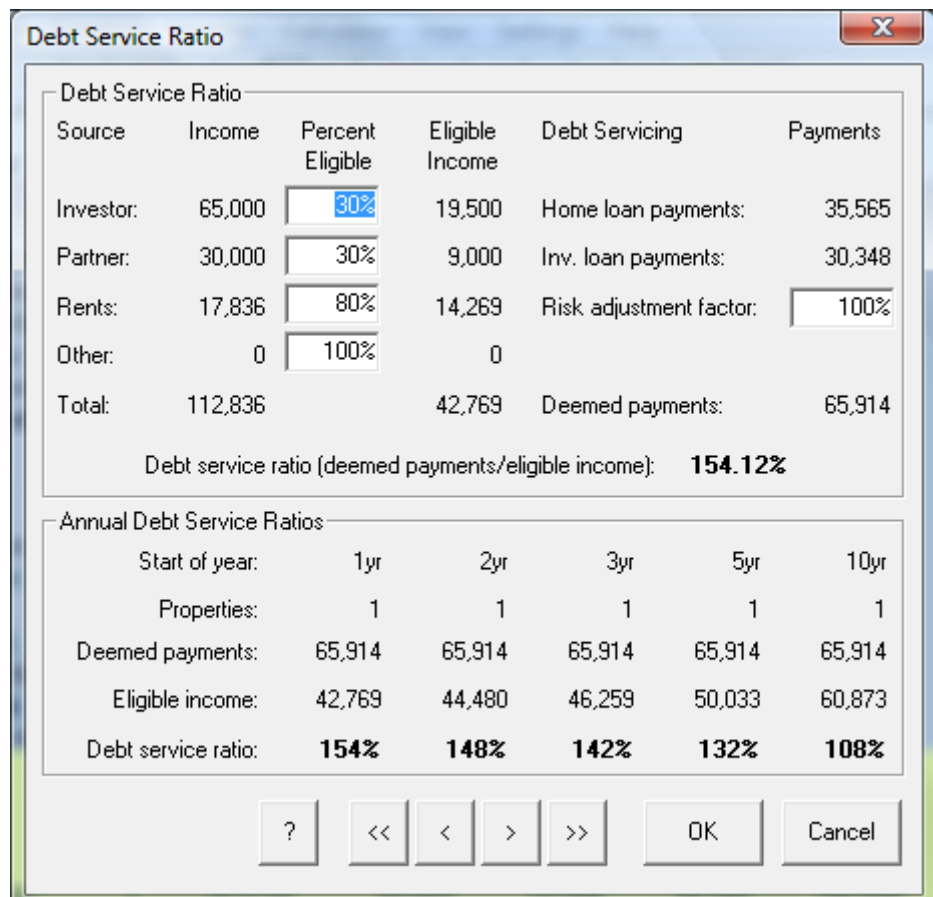
Clicking on the *Debt service ratio* row title or on any of the values in the projections columns opens the Debt service ratio dialog.

### Debt service ratio

The *Debt service ratio* area shows you the derivation of the DSR shown in the spreadsheet. It also allows you to enter eligibility factors for various types of income. It also allows you to enter a risk adjustment factor to "load" outgoings. (Example: a risk adjustment factor of 110% will add a loading of 10% to outgoings.) PIA then calculates the DSR (deemed payments divided by eligible income).

### Annual Debt service ratios

The *Annual Debt service ratios* area shows annual DSRs over projected years. Again, deemed payments divided by eligible income gives the debt service ratio.



The dialog box titled "Debt Service Ratio" contains two main sections. The top section, "Debt Service Ratio", is a table with columns: Source, Income, Percent Eligible, Eligible Income, Debt Servicing, and Payments. It lists inputs for Investor, Partner, Rents, and Other, along with a Risk adjustment factor. The bottom section, "Annual Debt Service Ratios", is a table showing the DSR over a 10-year period for Properties, Deemed payments, Eligible income, and the resulting Debt service ratio. Navigation buttons and OK/Cancel buttons are at the bottom.

Source	Income	Percent Eligible	Eligible Income	Debt Servicing	Payments
Investor:	65,000	30%	19,500	Home loan payments:	35,565
Partner:	30,000	30%	9,000	Inv. loan payments:	30,348
Rents:	17,836	80%	14,269	Risk adjustment factor:	100%
Other:	0	100%	0		
<b>Total:</b>	<b>112,836</b>		<b>42,769</b>	<b>Deemed payments:</b>	<b>65,914</b>

Debt service ratio (deemed payments/eligible income): **154.12%**

Annual Debt Service Ratios					
Start of year:	1yr	2yr	3yr	5yr	10yr
Properties:	1	1	1	1	1
Deemed payments:	65,914	65,914	65,914	65,914	65,914
Eligible income:	42,769	44,480	46,259	50,033	60,873
<b>Debt service ratio:</b>	<b>154%</b>	<b>148%</b>	<b>142%</b>	<b>132%</b>	<b>108%</b>

### 5.19 Investment Cash Flow row

Debt service ratio		154%	148%	142%	132%	108%
Investment cash flow	-50,000	-5,138	-4,911	-4,677	-4,190	-2,799
Total value (end of yr)	\$480,000	932,800	988,768	1.048m	1.178m	1.576m

The Investment cash flow row show the total cash flows for all the investment properties in the Wealth Builder and upon which the IRR below is calculated..

Investment Cash Flow						
Year:	Initial	1yr	2yr	3yr	5yr	10yr
Properties	0	1	1	1	1	1
Cash credits						
Rental income:		20,384	20,996	21,625	22,942	26,596
Tax credits:		7,181	7,001	6,816	6,428	5,389
Total:		27,565	27,997	28,441	29,370	31,985
Cash debits						
Initial cash outlays:	50,000	0	0	0	0	0
Loan payments:		25,871	25,871	25,871	25,871	25,871
Rental expenses:		6,832	7,037	7,248	7,689	8,914
Total:	50,000	32,703	32,908	33,119	33,560	34,785
Net cash flow	-50,000	-5,138	-4,911	-4,677	-4,190	-2,799
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### 5.20 Total value row (end of year)

Investment cash flow	-50,000	-5,138	-4,911	-4,677	-4,190	-2,799
Total value (end of yr)	\$480,000	932,800	988,768	1.048m	1.178m	1.576m
Total loans (end of yr)	\$336,000	706,345	696,586	686,017	662,175	582,944

The *Total value* row reflects the total end-of-year values of all investment properties (including any existing portfolio) plus the value of your home. The end-of-year value is carried forward to the start of the next year and the value of any new properties is added (see 6.7).

The value in the input column of the *Total value* row shows the current value of the investor's home.

The values in the projections columns reflect the projected total values for all properties – principle residence and one or more investment properties – for selected years.

The total value is important in calculating the total *loan value ratio* when all properties are used as collateral for the loan.

#### Total Value dialog

Clicking on the *Total value* row title or on any of the projections columns opens the Total Value dialog. See 6.7.

Total Value					
Start of year:	1yr	2yr	3yr	5yr	10yr
Existing portfolio:	0	0	0	0	0
Portfolio value:	0	0	0	0	0
Total new properties:	1	1	1	1	1
New property value:	539,933	498,532	513,488	544,759	631,525
Total inv. prop. value:	539,933	498,532	513,488	544,759	631,525
Home value:	600,000	624,000	648,960	701,915	853,987
<b>Total of all values:</b>	<b>1.140m</b>	<b>1.123m</b>	<b>1.162m</b>	<b>1.247m</b>	<b>1.486m</b>
Value at end of year:	1.123m	1.162m	1.204m	1.291m	1.539m
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### 5.21 Total loans row (end of year)

Total value (end of yr)	\$480,000	932,800	988,768	1.048m	1.178m	1.576m
Total loans (end of yr)	\$336,000	706,345	696,586	686,017	662,175	582,944
Net worth	<b>\$184,000</b>	<b>230,866</b>	<b>303,136</b>	<b>380,798</b>	<b>554,373</b>	<b>1.113m</b>

The *Total loans* row gives an overview of the total of all loans – on all investment properties plus the loan on your own home.

The value in the input column in the *Total loans* row reflects the total loan balance for your home and any existing property investment portfolio at the start of the initial year.

The values in the projections columns reflect the end-of-year total loan values for each of the selected years.

#### Total Loans dialog

Clicking on the *Total loans* row title or on any of the projections columns opens the Total Loans dialog (see 6.6). This shows the derivation of the values in the projection columns and the start-of-year and end-of-year values.

Total Loans

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Start of Year:	Initial	1yr	2yr	3yr	5yr	10yr
Investment properties:		1	1	1	1	1
Home loan:	420,000	420,000	407,033	393,403	364,015	276,334
Investment loans:		517,422	517,422	517,422	517,422	517,422
Total loan balance:		<b>937,422</b>	<b>924,455</b>	<b>910,824</b>	<b>881,436</b>	<b>793,756</b>
Home interest:		20,706	20,042	19,345	17,841	13,355
Home payments:	0	33,672	33,672	33,672	33,672	33,672
Investment interest:		25,871	25,871	25,871	25,871	25,871
Investment payments:	50,000	25,871	25,871	25,871	25,871	25,871
End of Year:						
Home loan balance:	420,000	407,033	393,403	379,075	348,183	256,017
Investment loan A:		517,422	517,422	517,422	517,422	517,422
Investment loan B:		0	0	0	0	0
Portfolio loans:	0	0	0	0	0	0
Total loan balance:	420,000	<b>924,455</b>	<b>910,824</b>	<b>896,497</b>	<b>865,605</b>	<b>773,438</b>

☐ Use credit line to repay loans

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## 5.22 Net worth row

Total loans (end of yr)	\$336,000	706,345	696,586	686,017	662,175	582,944
Net worth	<b>\$184,000</b>	<b>230,866</b>	<b>303,136</b>	<b>380,798</b>	<b>554,373</b>	<b>1.113m</b>
Investment equity	15.27%	44,644	70,084	97,051	155,935	336,983

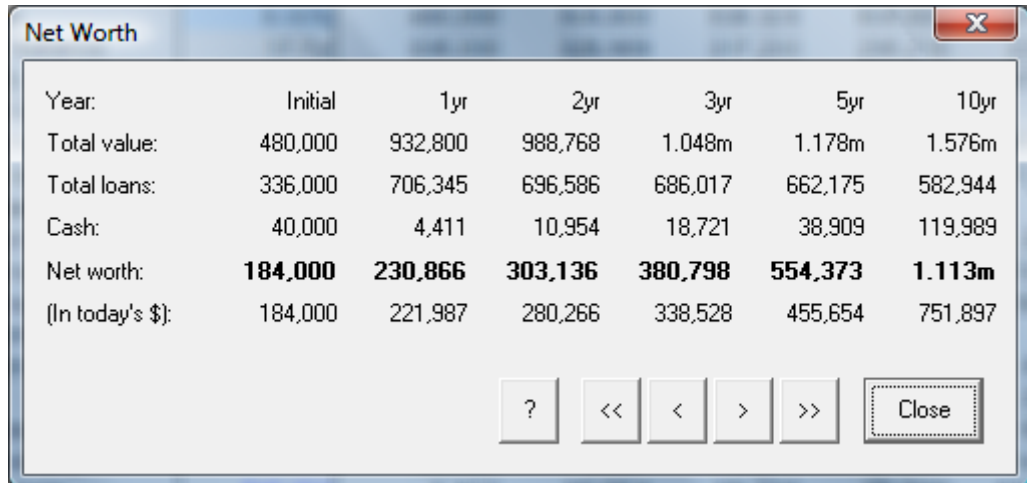
The value in the input column in the *Net worth* row is your net worth for the initial year. This includes the equity in your own home.

The values in the projections columns reflect your projected net worth for the selected years.

- ① *Your net worth is the total value of all property assets, including the family home, less the amount of outstanding loans.*

### Net Worth dialog

Clicking on the *Net worth* row title or on any of the projections columns opens the Net Worth dialog. This shows the derivation of the projected net worth from the total value, total loans and cash savings for each of the selected years. The net worth for each of the years selected is also given in today's \$.



Year:	Initial	1yr	2yr	3yr	5yr	10yr
Total value:	480,000	932,800	988,768	1.048m	1.178m	1.576m
Total loans:	336,000	706,345	696,586	686,017	662,175	582,944
Cash:	40,000	4,411	10,954	18,721	38,909	119,989
Net worth:	<b>184,000</b>	<b>230,866</b>	<b>303,136</b>	<b>380,798</b>	<b>554,373</b>	<b>1.113m</b>
(In today's \$):	184,000	221,987	280,266	338,528	455,654	751,897

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- ① *Today's dollars:*  
Because of inflation, a future dollar will be worth less than a dollar today. In the row marked (In today's \$): PIA shows the value of the net worth in today's dollars, allowing direct comparison.
- ① *If you have specified that a credit line be used, any cash surplus shown in the spreadsheet is taken off the loan amount before it is shown. Where no credit line is used, the cash surplus is simply added to the bottom line.*

### 5.23 Investment equity row

Net worth	\$184,000	230,866	303,136	380,798	554,373	1.113m
Investment equity	15.27%	44,644	70,084	97,051	155,935	336,983

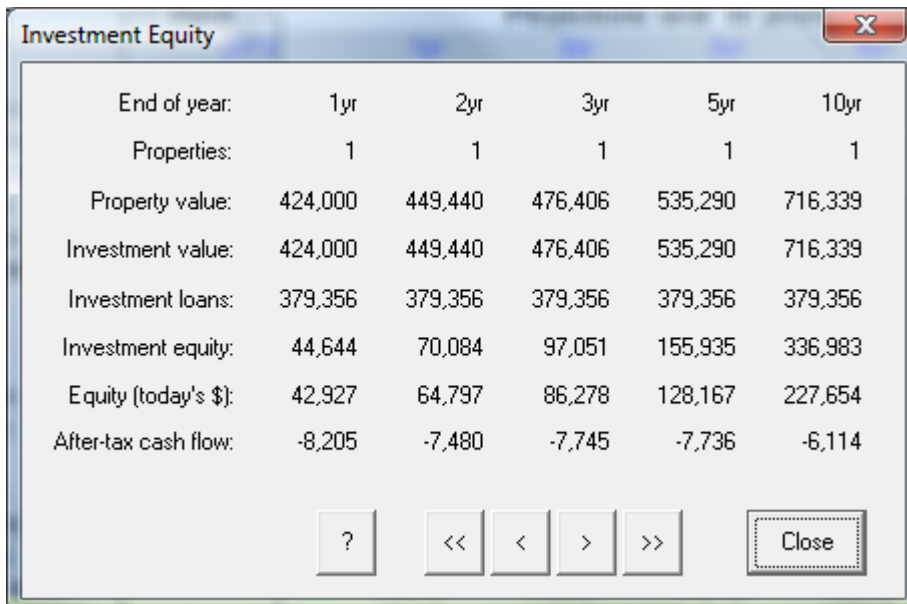
The investment equity is the difference between the total value of investment properties and the debt remaining on them,

The value in the input column of the *Investment equity* row reflects the Internal Rate of Return for your investments over the range of annual projections selected.

The values in the projections columns reflect the projected investment equity in each of the selected years.

#### Investment Equity dialog

Clicking on the *Investment equity row* title or on any of the projections columns opens the Investment Equity dialog. This shows the relationship between property value, total value and total loan (and hence the equity) for the selected years. It also shows the present value of the projected equity (that is, in today's dollars) and the after-tax cash flow for each of the years.



End of year:	1yr	2yr	3yr	5yr	10yr
Properties:	1	1	1	1	1
Property value:	424,000	449,440	476,406	535,290	716,339
Investment value:	424,000	449,440	476,406	535,290	716,339
Investment loans:	379,356	379,356	379,356	379,356	379,356
Investment equity:	44,644	70,084	97,051	155,935	336,983
Equity (today's \$):	42,927	64,797	86,278	128,167	227,654
After-tax cash flow:	-8,205	-7,480	-7,745	-7,736	-6,114



Note that if the property is sold – not recommended in the short-term – the full value of the equity will not be realised. Selling costs (sales commission and solicitor's fees) and any capital gains tax must be deducted.

## Chapter 6

# Linked Loans spreadsheet

This chapter provides an overview of the Linked Loans spreadsheet and its related dialogs. The term “linked loans” refers to the fact that the spreadsheet displays details for both investment and home loans and examines the impact of links between the two.

**The main role of this spreadsheet is to provide a fast and easy way of analysing accelerated loan reduction, especially for the home loan.**

As a result of the different tax status of home and investment loans (in Australia and New Zealand, the interest on a home loan is not tax-deductible whereas the interest on an investment loan can be claimed as a deduction against both property and non-property income), there is a financial advantage in repaying a home loan before an investment loan. This is the rationale behind the Linked Loans spreadsheet.

Repaying a loan faster will always involve making higher or more frequent repayments, or both. The Home Loan Analysis spreadsheet already allows you to investigate ways of accelerating home loan reduction using such facilities as credit lines or extra or fortnightly repayments.

There are three main scenarios:

- Additional home loan repayments are made using surplus cash flows from an investment property
- A credit line is used to accelerate the reduction of a home loan but investment loan repayments must also be taken into account
- A credit line is used to accelerate the reduction of both home and investment loans.

As these techniques impact on both investment and home loans, the variables displayed on the Linked loans spreadsheet are a combination of those from the Investment Analysis spreadsheet – with details of your investment property (see Chapter 3) – and the Home Loan Analysis spreadsheet – with details of your home loan (see Chapter 4). The descriptions in this chapter assume that you are acquainted with these two spreadsheets.

Like the Home Loan Analysis spreadsheet, the key results from the Linked loans spreadsheet are the remaining time it will take to repay the home loan and the total annual net cost of doing so, both of which are given at the bottom of the spreadsheet and are recalculated automatically whenever a change is made to any of the relevant variables.

This chapter also describes the difference between *independent* and *linked* loans as well as the impact of capitalising interest and capitalising expenses.

### What are independent and linked loans?

By default the Linked Loans spreadsheet simply shows a summary of the variables from the Investment Analysis and Home Loan Analysis spreadsheets with no interaction between the two sets of variables. In this case, **Independent loans** appears at the top left of the spreadsheet, indicating that the loans are not yet linked in any way.

If you choose to link the loans as described below, **Linked loans** appears at the top left of the spreadsheet. Any surplus cash flow from the investment property is now automatically channelled into home loan repayments until the home loan is paid out, after which the normal home loan payments (called ex-home payments) are diverted to the investment loan until it too is repaid. If the home loan is repaid before the investment property generates any surplus cash flow, no continuation of ex-home loan payments is used to toward investment loan repayments.

When the Linked Loans setting is selected, a Linked loans report is available in the *Reports* menu. This report describes all of the assumptions made with respect to variables and gives the “Current and Proposed” scenarios (that is with independent and linked loans) for the home and investment loans.

### Using and generating an investment surplus

Investment properties with positive cash flows (usually because the net rent exceeds the loan repayments) will have surplus monies that can be used to help repay non-deductible loans such as the home loan.



With negatively geared investment property (*negative gearing*), cash flows are generally negative (that is, the loan repayments exceed the net rent and tax credits). In this situation, there is not normally any investment surplus to use to help pay down the home loan. However, an investment surplus can be generated, in theory at least, by simply not paying the interest on the loan in the short term, that is by adding it to the loan. This is known as “capitalising the interest”. This might even be done until the home loan is completely repaid. In theory, you can even capitalise expenses in a similar way. These can be selected as items under the **Settings** Menu (see 7.7) and via icons on the toolbar (see 5.2).

Each time you link (or unlink) the loans or select (or deselect) capitalization of interest or expenses, PIA recalculates the term of the home loan.

By default, PIA assumes that the capitalised component is not tax deductible. However, as it may – under some circumstances – be deductible, there is a facility for switching interest to being wholly deductible. (See the **Loan Interest & Type** dialog.) If the capitalised component is deductible (you will need to determine the current status for your specific situation), there is a financial/tax advantage in effectively converting non-deductible debt (home loan) into deductible debt (investment loan). Even if capitalised component is not tax deductible, this method may still be of value by acquiring an investment property without any increase whatsoever in cash flow commitments.

Using the linked loans feature, the home loan is paid out faster whether or not your debt component is tax-deductible. You may also have the added advantage of accumulating equity in your investment property while the total loan repayments are limited to that of the original home loan.

### Using a credit line

The use of a credit line for accelerated home loan reduction has already been described in Chapter 4, the Home Loan Analysis spreadsheet. Credit line settings are independent for each spreadsheet. This means that if this option has been selected in the Home Loan Analysis spreadsheet, **it is not automatically selected in the Linked loans spreadsheet.** (The credit line toolbar icon will not be depressed.)

Nevertheless, if a credit line has been selected in the Home Loan Analysis spreadsheet, it will be used to calculate the Term remaining at the bottom of the Linked loans spreadsheet.

If the investment and home loans not linked (**Independent loans**), the Term remaining in the Linked Loans spreadsheet will be identical to that of the Home Loan Analysis spreadsheet.

Once the loans are linked (**Linked loans**), the cash flow surplus or cash flow commitments for the investment loan will also be taken into account, net repayments will be set to those possible under the home loan analysis, and the Term remaining will be adjusted accordingly. No changes are made to the investment loan repayment scheme unless there surplus cash flows are available to assist in repaying the home loan. In the latter case, the ex-home loan payments will be used to help repay the investment loan once the home loan is repaid.

If you choose to use a credit line from within the **Linked loans** spreadsheet, you are choosing a subtle change to the model described above. In this case, the credit line is used to repay the home loan and – once it is repaid – automatically reapplied to repayment of the investment loan.

### Link Options dialog

Link Options

Options available when home and investments loans are linked

**Home Loan Repayments**

Regular monthly payments: 2,964 35,565 /yr

☒ Use all other available cash (credit line)

☒ Use any surplus investment property cash flow (Linked loans)

☐ Capitalise investment interest

☐ Capitalise rental expenses

**Investment Loan Repayments**

(After home mortgage has been repaid)

☒ Pay down investment loans

☐ Keep net cost to regular ex-home loan repayments

☒ Use all available cash

? OK Cancel



The model has been made easier to follow and more flexible by providing a Link option dialog accessible under the Settings menu.

## 6.1 Structure of the Linked Loans spreadsheet

Somerset						
Independent loans	Input	Projections over 10 years				
End of year	2021	1yr	2yr	3yr	5yr	10yr
<b>Investment property</b>	<b>\$539,933</b>	<b>498,532</b>	<b>513,488</b>	<b>528,892</b>	<b>561,102</b>	<b>650,471</b>
Purchase costs	\$21,352					
Investments	\$50,000					
Investment loan	\$517,422	517,422	517,422	517,422	517,422	517,422
Gross rent /week	\$400	20,384	20,996	21,625	22,942	26,596
Interest (I/O)	5.00%	25,871	25,871	25,871	25,871	25,871
Rental expenses	32.84%	6,832	7,037	7,248	7,689	8,914
Deprec.of building	2.50%	6,749	6,749	6,749	6,749	6,749
Deprec.of fittings	\$0	0	0	0	0	0
Loan costs	\$6,137	1,227	1,227	1,227	1,227	
Tax credit (single)		7,181	7,001	6,816	6,428	5,389
After-tax cash flow	-\$50,000	-5,138	-4,911	-4,677	-4,190	-2,799
Inv. term & surplus	?????	-5,138	-4,911	-4,677	-4,190	-2,799
<b>Home value</b>	<b>\$600,000</b>	<b>624,000</b>	<b>648,960</b>	<b>674,918</b>	<b>729,992</b>	<b>888,147</b>
Refinance costs	\$0					
Cash deductions		33,672	33,672	33,672	33,672	33,672
Total redraws		0	0	0	0	0
Loan interest	5.00%	20,706	20,042	19,345	17,841	13,355
Loan balance	\$420,000	407,033	393,403	379,075	348,183	256,017
Total LVR	82.23%					
Term remaining	19.6yr					
		<b>Your total net cost per year</b>				
		<b>\$38,810</b>	<b>\$38,584</b>	<b>\$38,350</b>	<b>\$37,862</b>	<b>\$36,472</b>

As the above example shows, the rows of the Linked Loans spreadsheet are divided into two main areas:

- Investment property
- Home

You will recognize many of the rows – and their values – from the Investment Analysis spreadsheet (Chapter 3) and the Home Loan Analysis spreadsheet (Chapter 4).

Where rows have already been described in Chapter 3 or 4, these descriptions are cross-referenced.

The remaining rows are described in detail.

## 6.2 Using the Linked Loans spreadsheet

You cannot effectively use the Independent and Linked loans spreadsheet until you have entered the details of your investment property into the Investment Analysis spreadsheet and the details of your home into the Home Loan Analysis spreadsheet. For full details of how to do this, please refer to Chapters 3 and 4.

### The spreadsheet icons

You can use the toolbar icons to move quickly between the spreadsheets:



Displays the Investment Analysis spreadsheet.



Displays the Home Loan Analysis spreadsheet



Displays the Wealth Builder spreadsheet.



Displays a summary of the Investment Analysis and Home Loan Analysis spreadsheets:

- Independent Loan spreadsheet (if you have not linked the loans)
- Linked loans spreadsheet (if you have linked the loans).

### The Link icon

The Link icon links (or unlinks) the investment loan and the home loan:



- If loans are not linked (default), it links them.
- If you have linked the loans, it unlinks them.

If you click this icon when in another spreadsheet, you are taken to the Linked loans spreadsheet and the loans are set to Linked. When loans are linked, any *investment surplus* is added to the home loan repayments and the term of the home loan is shortened accordingly.

The Link icon reflects the current status of the link:



Independent (default)  
(not linked)



Linked

The spreadsheet title also reflects whether the loans are linked or independent, showing **Independent loans** or **Linked loans** in the top left-hand corner of the spreadsheet.

### Report

When loans have been linked, you can generate a detailed report outlining the interaction between the investment and home loans by selecting Linked loans from the *Report* menu (see 7.2).

### 6.3 Investment property rows

The following rows in the investment property area of the Loans summary spreadsheet are identical to those in the Investment Analysis spreadsheet. Please see Chapter 3 for details.

- Year
- Property value (here called Investment Property to distinguish it from the home)
- Purchase costs
- Investments
- Investment loan
- Gross rent /week
- Interest
- Rental expenses
- Depreciation of building
- Deprecation of fittings
- Loan costs
- Tax credit
- After-tax cash flow

Of the investment property rows, only the *Investment term & surplus* row is new. This is described below.

## 6.4 Investment term and surplus

After-tax cash flow	-\$40,000	-8,205	-7,480	-7,745	-7,736	-6,113
Inv. term & surplus	?????	-8,205	-7,480	-7,745	-7,736	-6,113
<b>Home value</b>	<b>\$480,000</b>	<b>508,800</b>	<b>539,328</b>	<b>571,688</b>	<b>642,348</b>	<b>859,607</b>

The *Investment term and surplus* row shows the term remaining for the investment loan (in the input column) and any *investment surplus* (in the projection columns).

Clicking on the *Investment term and surplus* row title or on any of the projections columns opens the Investment surplus dialog.

### Investment Surplus dialog

This dialog shows the derivation of any investment surplus and includes the variables (rents, tax credits, rental expenses, interest payments, principal payments and cash outlays) from which it is calculated.

(For details of how to set projections, see 3.1).

The implications for investment surplus of having independent or linked loans and capitalising interest or expenses or both are reviewed fully in 6.10.

Years:	1yr	2yr	3yr	5yr	10yr
Rents:	17,836	18,549	19,291	20,866	25,386
Tax credits:	9,929	10,165	9,392	8,323	6,850
Rental expenses:	-5,621	-5,846	-6,080	-6,576	-8,001
Interest payments:	-30,348	-30,348	-30,348	-30,348	-30,348
Principal payments:	0	0	0	0	0
Cash outlays:	0	0	0	0	0
<b>Investment surplus:</b>	<b>-8,205</b>	<b>-7,480</b>	<b>-7,745</b>	<b>-7,736</b>	<b>-6,113</b>

Buttons: ?, <<, <, >, >>, Close

## 6.5 Home value rows

The following rows in the investment property area of the Loans summary spreadsheet are identical to those in the Home Loan Analysis spreadsheet. Please see Chapter 4 for details.

- Home value row
- Refinance costs row
- Total repayments row
- Total redraws row

The rows that are not identical to those in the Home Loan Analysis spreadsheet are described in the following:

- Loan interest row
- Loan balance row
- Total LVR (loan value ratio) row
- Term remaining

## 6.6 Loan interest row

Total redraws		0	0	0	0	0
Loan interest	8.00%	26,554	25,806	24,996	23,169	17,097
Loan balance	\$336,000	326,989	317,230	306,661	282,819	203,588

The *Loan interest* row is a combination of the Interest rates (see 4.14) and Interest (4.15) rows in the Home Loan Analysis spreadsheet.

The value in the input column shows the average annual interest rate over the term of the loan. If you select and overwrite this value, the interest rates for all years are set to the new value.

The values in the projections columns show the projected total interest component for each year. PIA calculates these values, so no entries can be made here.

Clicking anywhere in the *Loan interest* row opens the Interest Rates dialog (see 4.14).

## 6.7 Loan balance row

Loan interest	8.00%	26,554	25,806	24,996	23,169	17,097
Loan balance	\$336,000	326,989	317,230	306,661	282,819	203,588
Total LVR	81.29%	<b>Your total net cost per year</b>				

The figures in the *Loan balance* row reflect the amount owing at the end of each year after all loan additions and repayments are accounted for. If the investment and home loans are linked, repayments may also include any investment surplus from the investment property cash flows. If the home loan has been refinanced, the initial loan balance may also include Refinance Costs (see 4.6).

Clicking on *Loan Balance* row title or on the value in the input column displays the Loan Consolidation dialog (4.5). This facility allows you to consolidate and refinance all your non-deductible principal and interest loans into the one mortgage package with your home loan.

Clicking on a value in the projection columns displays the Home Loan Balance dialog. This is the same dialog as described in 4.16, except that it has an extra row: *Investment surplus*.

**Home Loan Balance**

Year:	1yr	2yr	3yr	5yr	10yr
Initial loan balance:	336,000	326,989	317,230	295,215	222,057
<b>Loan Additions</b>					
Interest added:	26,554	25,806	24,996	23,169	17,097
Regular redraws:					
Irregular redraws:					
Total:	26,554	25,806	24,996	23,169	17,097
<b>Loan Payments</b>					
Regular payment:	35,565	35,565	35,565	35,565	35,565
Regular extra:					
Irregular extra:					
* Investment surplus:					
Total:	35,565	35,565	35,565	35,565	35,565
Closing balance:	326,989	317,230	306,661	282,819	203,588
* If loans were linked					

Buttons: ? << < > >> Close

## 6.8 Total LVR (loan value ratio) row

Loan balance	\$336,000	326,989	317,230	306,661	282,819	203,588
Total LVR	81.29%	<b>Your total net cost per year</b>				
Term remaining	17.7yr	\$43,770	\$43,046	\$43,311	\$43,301	\$41,679

The value in the input column shows the total to loan value ratio for the home loan and investment loan. Clicking on the *Total LVR* row title displays the Total Loan Value Ratio dialog.

### Total Loan Value Ratio dialog

This shows the projected annual combined loan to value ratio (LVR) for both your home and your investment property. The total LVR is used by the bank to determine whether you qualify for the loan with or without mortgage insurance.

Total Loan Value Ratio

Years:	Initial	1yr	2yr	3yr	5yr	10yr
Loans						
Home loan:	252,000	244,992	237,477	229,419	211,512	154,116
Investment loan:	285,469	285,469	285,469	285,469	285,469	285,469
Total loans:	537,469	530,460	522,945	514,887	496,981	439,585
Values						
Home value:	360,000	376,200	393,129	410,820	448,625	559,069
Property value:	300,000	313,500	327,608	342,350	373,855	465,891
Total value:	660,000	689,700	720,737	753,170	822,480	1.025m
Loan Value Ratio						
Total LVR:	<b>81.43%</b>	<b>76.91%</b>	<b>72.56%</b>	<b>68.36%</b>	<b>60.42%</b>	<b>42.89%</b>
Total equity:	122,531	159,240	197,791	238,282	325,499	585,375

?
<<
<
>
>>
Close



## 6.9 Term remaining

Total LVR	81.29%	Your total net cost per year				
Term remaining	17.7yr	\$43,770	\$43,046	\$43,311	\$43,301	\$41,679

The value in the input column of the *Term remaining* row shows the term remaining for the home loan.

This is the key value to watch when trying what-if scenarios with PIA, as reducing the term of the home loan is a key aim.

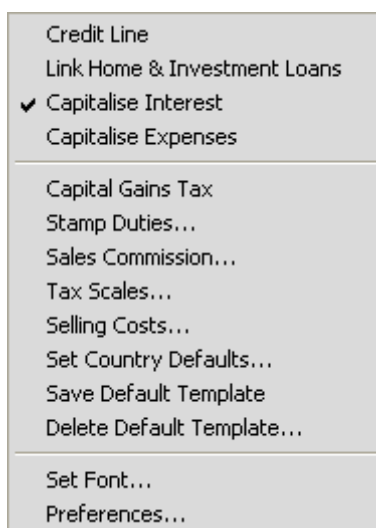
Clicking on the *Term remaining* row title or Input column displays the Loan Balance dialog (see 5.8). This allows you to see how the loan balance for each year. You can also scroll through to see where it becomes zero.

## 6.10 Using the Capitalise interest and Capitalise expenses options

As indicated at the beginning of the chapter, you can test a range of scenarios using the Independent and Linked loans spreadsheets by submitting each to the options capitalise interest and capitalise expenses.

Capitalise Interest and Capitalise Expenses are menu items in the Settings menu.

When switched ON, a tick (4) appears next to the item in the Settings menu.



When capitalization is selected, any investment surplus is added to the home loan repayments and the term of the home loan is shortened accordingly. The total net cost of both the investment and home loans remains at the level of the original home loan repayment schedule.

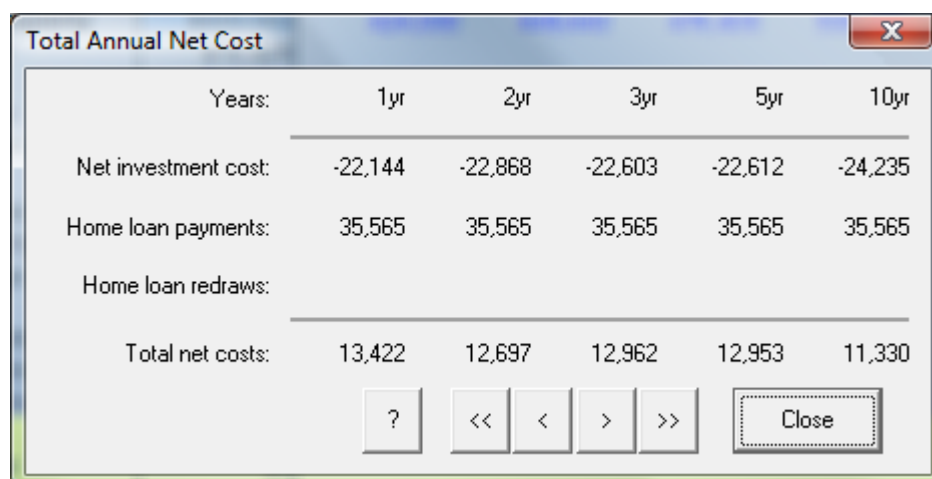
## 6.11 Your total net cost per year

Total LVR	81.29%	Your total net cost per year				
Term remaining	17.7yr	\$43,770	\$43,046	\$43,311	\$43,301	\$41,679

This is literally the bottom line, the reason for all the entries and calculations in the spreadsheet: It shows the projected total net cost per year resulting from the investment and the repayment of your home loan.

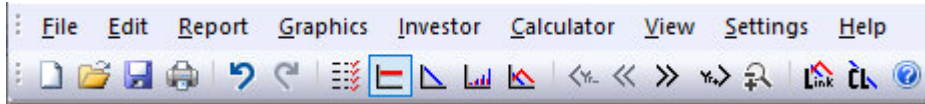
### Total Annual Net Cost dialog

Clicking on a value in the projection columns displays the Total Annual Net Cost dialog, showing the derivation of the values for the set projection.



## Chapter 7 Menus and toolbars

This chapter describes the functions of the pulldown menus and the toolbar at the top of the PIA screen.



The chapter reviews the menus first (from left to right), then the toolbar.

- ① *Please note that not all menu items are pertinent to all spreadsheets. Where individual items are not relevant and are made unavailable, they will appear dimmed in the menu.*

Many items will have been reviewed in earlier chapters. Where this is the case, a cross-reference is given.

## 7.1 File menu

Clicking *File* in the menu bar opens the *File* menu.

The *File* menu contains commands for opening, saving and deleting files, as well as for page and printer setup and printing.

- ① *There are additional items in the PIAPro version for saving and retrieving property, finance and investor components (see description below).*

### New

Clicking *New* opens the Data Entry Check List dialog, which enables you to enter data for a new property file (see 2.4). If you have specified not to display the Data Entry Check List (see 2.4), the new file will open with the investment analysis spreadsheet. The new file contains the values specified in the default template (see 7.7).

### Open

Clicking *Open* opens a dialog that allows you to open an existing document. The Open dialog shows the *default folder*.

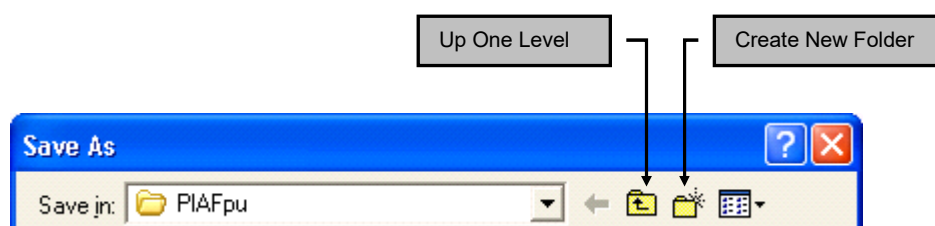
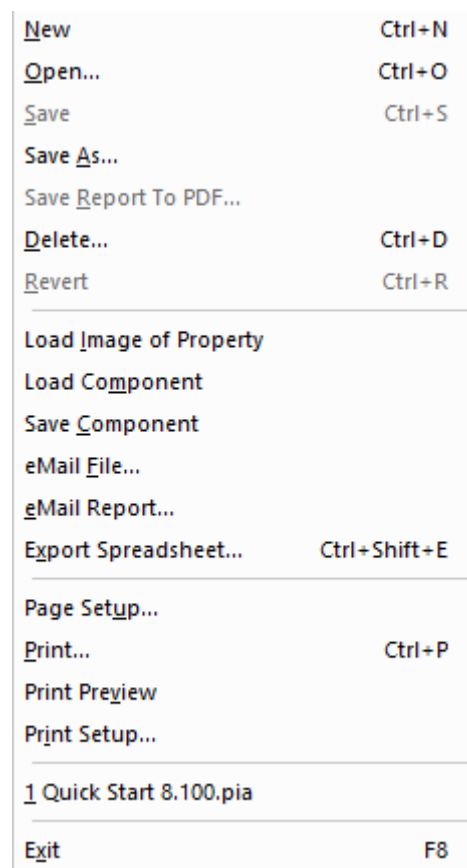
- ① The default folder presented when you click to open a file is the folder you last opened a file from or last saved a file to. The original default folder (before you have saved any files) differs depending on the operating system.

### Save

If the current file has already been saved – indicated by a filename in the title bar – clicking *Save* saves the current document. If no changes have been made since it was saved, the *Save* menu item is dimmed.

If the file has not yet been saved – indicated by "Untitled – ...." in the title bar – clicking *Save* opens the *Save As* dialog, allowing you to enter a filename (and optionally select or create a folder to save to).

- ① *It is recommended that you create a special folder to hold your PIA files. This can be done with the *Save As* dialog, using the navigation features and the *Create New Folder* icon. This becomes the default folder from which to open or save PIA files and makes it easier to locate and back up files.*

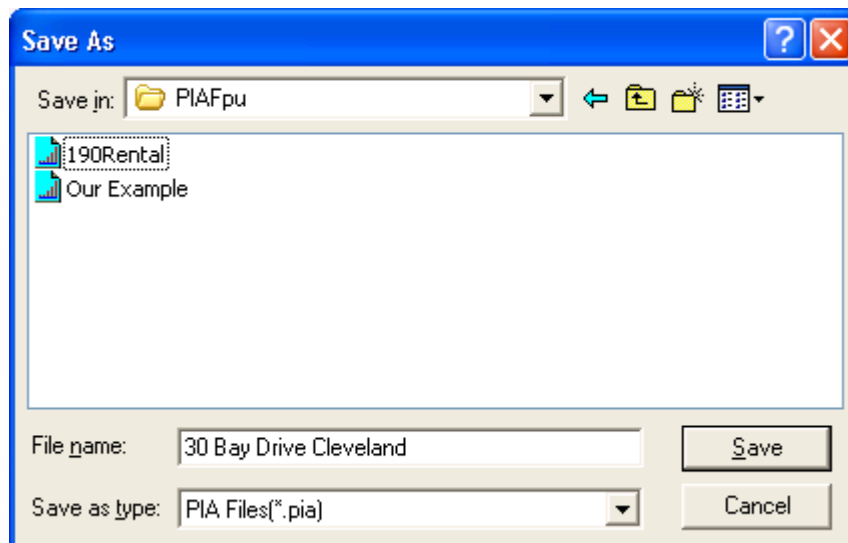


### Save As

Clicking **Save As** opens the Save As dialog, allowing you to save an opened document under a new filename (and, optionally, in a different folder). The folder in which the file is saved becomes the default folder.

### Save Report To PDF

If a report screen is currently displayed – after using one of the **Report** menu commands (see 7.2) – clicking **Save Report To PDF** opens the Save As dialog, allowing you to enter a filename (and, optionally, select a folder). The folder in which the file is saved becomes the default folder.



If no report is currently displayed – because, for example, you are in a spreadsheet – **Save Report As** is dimmed, as shown in the **File** menu example at the beginning of this section.

### Delete

Clicking **Delete** opens the Delete Files dialog, allowing you to select files from the default folder for deletion and then delete them by clicking the **Delete** button.

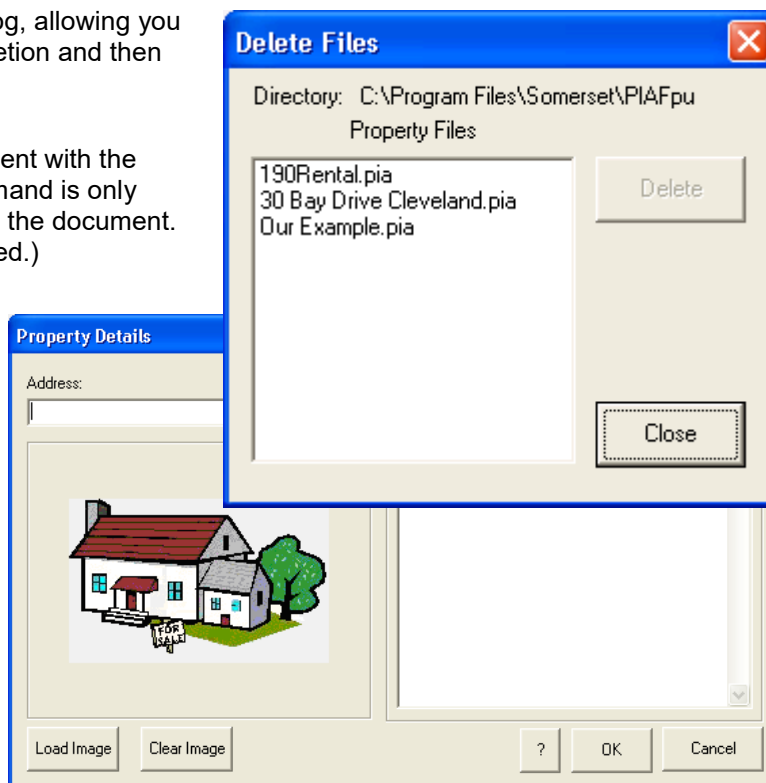
### Revert

Clicking **Revert** replaces the current document with the previously saved version. The **Revert** command is only enabled when changes have been made to the document. (If no changes have been made, it is dimmed.)

### Load Image of Property

Clicking **Load Image of Property** displays the Property Details dialog. This allows you to load an image of the property as well as to enter its address and description. If entered, these items are saved with the files and displayed in the relevant fields in any generated reports.

Additional notes (confidential or otherwise) can also be recorded and saved in the file. These notes will not appear in any of the reports.



### eMail File

Clicking **Email File** sends a message to your default email program to generate an email with the currently active PIA document as an attachment. The recipient must have PIA software installed to read the file. **Email File** is only available in the Professional Version of the software and, because it uses Window's MAPI messaging system, only on the Window's operating system.

### eMail Report

Clicking **Email Report** sends a message to your default email program to generate an email with the current report as an attachment. Naturally, you must first generate a report within PIA before it can be emailed. This uses Window's MAPI messaging system, hence only available on the Window's operating system. The attached report is sent as a PDF file.

### Load Component **PIAPro**

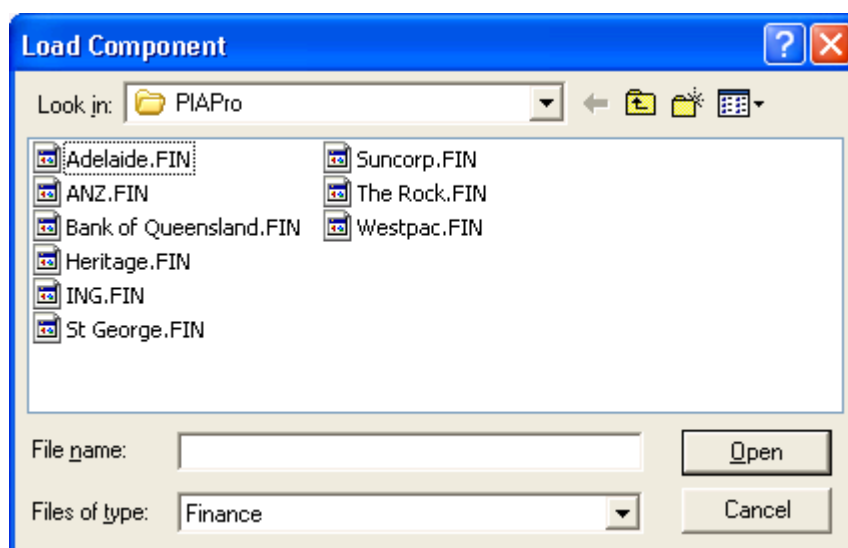
Clicking **Load Component** opens the Load Component dialog allowing you to load component information that you have previously saved to a component file (see *Save Component* below) into the current document.

To load a component, select Properties, Finance or Investor from the dropdown menu at the bottom of the Save Component dialog, click on the component you wish to load and click on the **Open** button.

➔ A component is a subset of a PIA file that describes one of the three major aspects required for investment analysis:

- Property and its attributes
- Finance and its attributes
- Investor(s) and their attributes

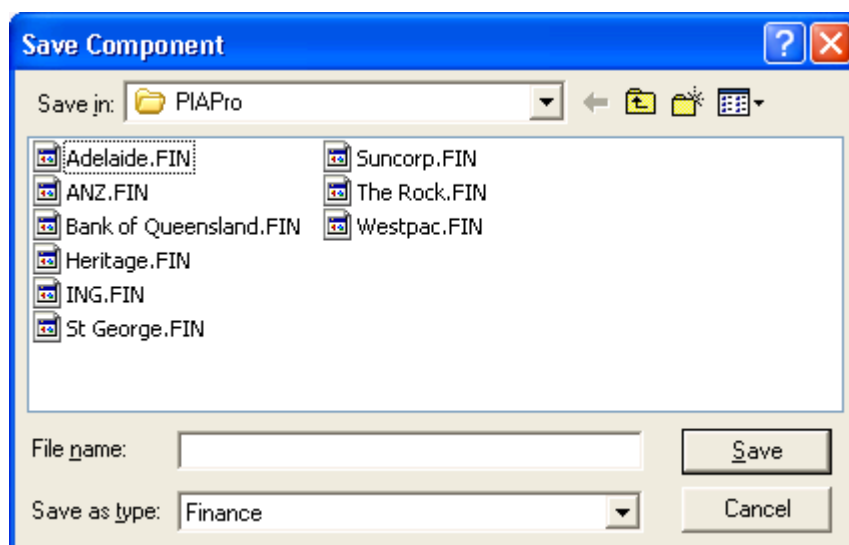
Components are used in PIA as a way of mixing and matching different properties, different sources of finance or different investors. When loaded, the data in a component replaces the corresponding information in the open document.



### Save Component **PIAPro**

Clicking **Save Component** opens the Save Component dialog allowing you to specify a file name and file type for the component you wish to save. A component can be a property, a loan or an investor. All parameters relating to the chosen component are saved in the file.

To save a component, select Properties, Finance or Investor from the dropdown menu at the bottom of the Save Component dialog, enter the filename (without a filename extension) and click the **Save** button.



Components are automatically assigned the following file extensions:

Property component	PRP
Finance component	FIN
Investor component	INV

Components can be retrieved and loaded into any document at any time, replacing the corresponding information.

## Export Spreadsheet

Clicking *Export Spreadsheet* will open the Save As dialog to enable you to specify a name for a text file to hold the variable and projected values (40 years) from the current active spreadsheet. The values are tab-delimited in the text file and can be easily read into an Excel spreadsheet.

## Page setup

Clicking *Page Setup* opens the Printer Page Setup dialog, allowing you to make adjustments to the page setup options for printing.

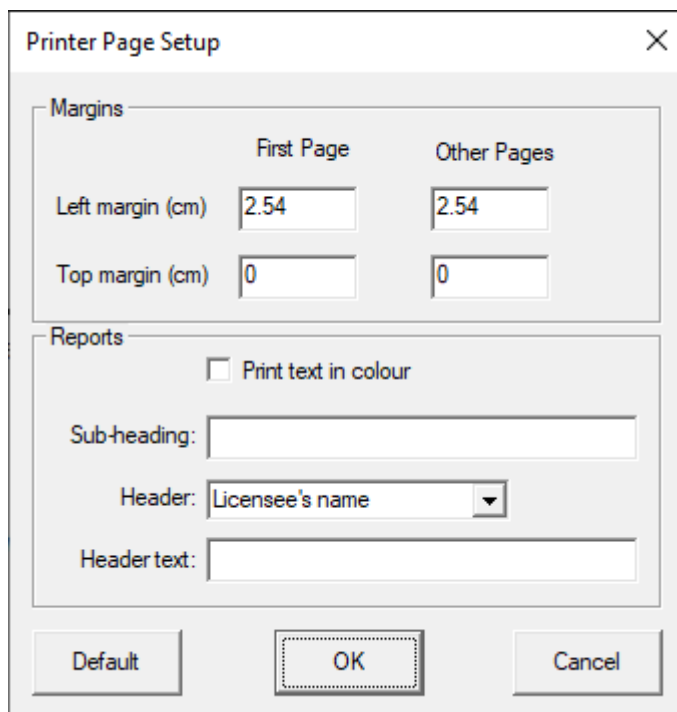
Margins for the first and subsequent pages can be specified in centimetres.

A header field can be selected for display on pages 2 onwards (e.g. property address, licensee name, client name, etc).

Text displayed in colour on screen (e.g. red for negative values) is printed black by default. Checking the Print text in colour check box prints the text in the same colour as shown on screen.

Reports will have a page header for the second and subsequent pages. This header is normally the name of the licensee, but can be changed to various options. The text of the header can also be specified manually.

A subheader is also an option.



The **Printer Page Setup** dialog box is shown. It has a title bar with a close button (X). The dialog is divided into two main sections: **Margins** and **Reports**.

**Margins:** This section contains two columns: **First Page** and **Other Pages**. There are two rows of input fields: **Left margin (cm)** and **Top margin (cm)**. The values entered are 2.54 for the first page and 0 for other pages.

**Reports:** This section contains a checkbox labeled **Print text in colour**, which is currently unchecked. Below this are three input fields: **Sub-heading:** (empty), **Header:** (a dropdown menu showing "Licensee's name"), and **Header text:** (empty).

At the bottom of the dialog are three buttons: **Default**, **OK** (highlighted with a dashed border), and **Cancel**.

## Print

Clicking *Print* opens the Print dialog, allowing you to enter specifications and properties for printing the selected document. The Print dialog is operating-system and printer dependent, so its appearance and options vary.

## Print Preview

Clicking *Print Preview* displays the selected document on the screen as it will appear when printed.

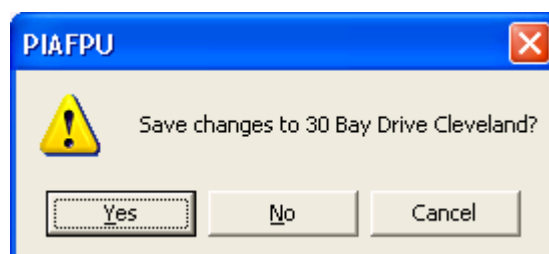
Click the **Close** button or press the ESC key to return to the previous PIA view.

## Print Setup

Clicking *Print Setup* opens the Print Setup dialog, allowing you to select a printer, print properties, paper size, paper source, orientation etc. The Print Setup dialog is operating-system dependent, so its appearance and options vary.

## Exit

Clicking *Exit* causes PIA to save any changes you have made to preferences and to exit the application. If you have made any changes to the current document since the last time it was saved, PIA displays a message asking if you wish to save the changes. Click **Yes** to save the changes, **No** to exit without saving changes, and **Cancel** to return to PIA.



The **PIAFPU** dialog box is shown. It has a blue title bar with the text "PIAFPU" and a close button (X). The dialog contains a yellow warning triangle icon on the left. To the right of the icon is the text "Save changes to 30 Bay Drive Cleveland?". At the bottom are three buttons: **Yes** (highlighted with a dashed border), **No**, and **Cancel**.

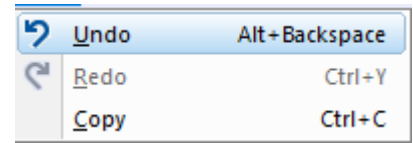
## 7.2 Edit menu

Clicking *Edit* in the menu bar opens the *Edit* menu.

The Undo and Redo options allow you to undo changes (up to the last 5 changes made).

This is useful when changing values to examine What if? scenarios with the software.

If unavailable, the option is shown dimmed.



The Copy option copies to the Windows clipboard a tab-delineated copy of the text in the current spreadsheet. This cannot be pasted back into PIA, but it can be pasted into other programs such as Microsoft Office. It does not allow the copying of reports (these can be saved as pdf files) and it only copyies the text that is shown in the spreadsheet. If the user want to copy the entire spreadsheet (40 years of projections), this is made possible through the Export Spreadsheet option in the File Menu.

## 7.3 Report menu

Clicking *Report* in the menu bar opens the *Report* menu.

PIA offers a number of report options. Reports can be viewed on screen, saved as a new document using the *Save Report As* command in the *File* menu, or printed using the *Print* command in the *File* menu.

Each of the report commands in the *Report* menu is described below. Not all reports are available in all spreadsheets – reports that are not currently available are dimmed.

The content of each report reflects the various options chosen for PIA.

A report is a different “view” of PIA data. It is not a separate window.

For this reason, to return to the spreadsheet you were previously viewing you must select the appropriate spreadsheet from the toolbar or – the simplest way – press the ESC key.

The Customised Report option – described below – allows you to combine various report components in a single document.

Cash Flow Analysis
Investment Analysis
Investment Analysis (Descriptive)
40 Year Projections
Home Loan Analysis
Wealth Builder Analysis
Linked Loan Analysis
Capital Gains Tax
Customised Report

### Cash Flow Analysis report

Clicking *Cash Flow Analysis* generates and displays the seven-page *Property Cash Flow Analysis* report. This shows the derivation of the after-tax cash flow for the selected property.

The first part of the report gives a tabulated breakdown of all the items that contribute to the cash flow in the first year of the investment. The later parts of the report show the cash flow projections over time.

### Investment Analysis report

Clicking *Investment Analysis* generates and displays a detailed report of the cash flow analysis and anticipated internal rate of return (IRR) for the current investment property.

The report begins with the summary report of the variables displayed on the spreadsheet, then gives a detailed explanation and breakdown of all input variables displayed on the spreadsheet. This report also includes details of projected *internal rate of return* (IRR), tax benefits and investment capacity. The report shows the projection period selected in the Investment Analysis spreadsheet. (To change the projection period, see 3.1 Set Projections.)

### Investment Analysis (Descriptive) report

Clicking *Investment Analysis (Descriptive)* generates and displays a full financial report of the cash flow analysis and anticipated *internal rate of return* for current investment property. The report – several pages in length – contains a breakdown of all of the input variables on the spreadsheet and shows how the cash flows are derived. The report shows the projection period selected in the Investment Analysis spreadsheet. (To change the projection period, see 3.1 Set Projections.)

### 40 Year Projections report

Clicking *40 Year Projections* generates and displays a report on the projected value of the selected property, your equity, rent, total deductions, pre-tax cash flow, your tax credit and after-tax cash flow for each year over a forty-year period. Values shown in red are negative.

### Home Loan report

Clicking *Home Loan* generates a *Home Loan Analysis* report that comprises:

- Details of the Home Loan Analysis spreadsheet's computer projections
- Details of home loan payments and balance including property value, loan balance, equity, interest, loan payments, loan redraws, and net cost over 30 years
- Summary statement indicating loan repayment period and total net repayments including interest payments.

This command is only available from the Home Loan Analysis spreadsheet.

### Wealth Builder Analysis

Clicking *Wealth Builder Analysis* generates a report showing the accumulation of investment properties specified in the Wealth Builder spreadsheet. The report includes the spreadsheet, projections of property values, income and expenditure, as well as graphics of Investment Equity & Net Worth, Loan to Value & Debt Service Ratios and After-Tax Cash Flows.



### Linked Loan Analysis report

Clicking *Linked Loan Analysis* generates a report describing the interest and repayment schedule for both the home and investment loans. This is a detailed report that includes the projections from the Linked Loans spreadsheet, together with detailed analysis of projected loan payments and balances, equity, and tax benefits.

This command is only available from the Linked Loan spreadsheet and when the loans have been linked (see Chapter 6).

### Capital Gains Tax report

Clicking *Capital Gains Tax* generates a Capital Gains Tax Calculation report. This report outlines CGT legislation and shows how the capital gains tax liability (for Australia) would be calculated if the investment property were to be sold at the end of the projection period selected in the Investment Analysis spreadsheet. (To change the projection period, see 3.1 Set Projections.)

### Customised report

Clicking *Customised Report* opens the Customise Investment Report dialog.

This dialog allows you to generate a customised report composed of various report components, including graphics pages.

The customised report options will be retained for the next time you wish to use this item..

#### Page header

This pull-down menu allows you to choose the page header for your

None
Licensee's name
Client's name
Property address
Property description
Report subheading
Header text (specify below)

customised report: The page header appears on the second and subsequent pages of a report.

#### Page header text

This box is used to specify the text when customising the page header.

#### Report heading

This box is used to specify the name when customising the report heading.

#### Report sub-heading

This box allows you to enter text to be displayed underneath the page header on each page of the report.

#### Report options

The options are largely self-explanatory and include the reports described above.

Clicking in the tickbox next to an item selects it for the customised report.

The approximate number of pages is given in each case. Where reports are less than a full page, the report generator paginates intelligently to save paper.

The customised report options are retained for the next time you wish to use this item

#### Graphics reports

You can include graphics in your customised report . For details of the graphics, see 7.4 *Graphics menu*.

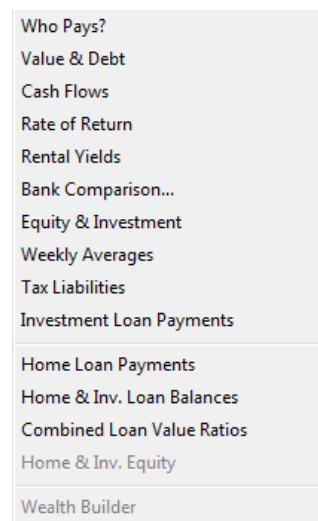
➔ We suggest you simply try generating various reports (on screen). You can then print out the ones you want.

## 7.4 Graphics menu

Clicking *Graphics* in the menu bar opens the *Graphics* menu. Each item in the menu generates a printable report, with a graphic depicting some aspect of the investment analysis. The rest of each report shows the data on which the graphic is based.

Not all graphics are available in all spreadsheets. The menu items for graphics that are not currently available are dimmed.

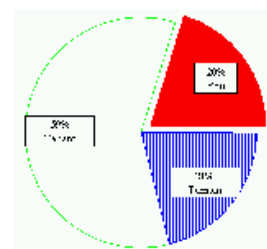
The thumbnails (miniature graphics) shown here are only intended to give you an idea of what the graphics look like.



### Who Pays?

Clicking *Who Pays?* generates and displays the *Who Pays?* graphics report. This shows a pie chart of the relative contributions of the tenant, the taxman and yourself (the investor) towards the cost of your property in the first year. Projections are also given for interest costs, rental expenses, total costs, rental income, tax credit and your contribution over a 25-year period.

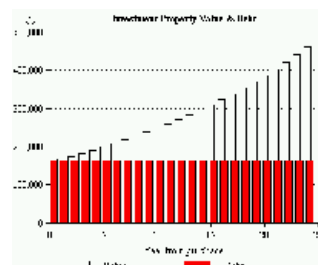
The second page of the report includes a pie chart and bar graph showing the relative contributions of the tenant, the taxman and yourself over the projected period.



### Value & Debt

Clicking *Value & Debt* generates and displays the *Investment Property Value and Debt* graphics report with a graph of projected value and debt over 25 years. The equity built up in the property is simply the difference between the value and debt and is shown clearly in the graphic.

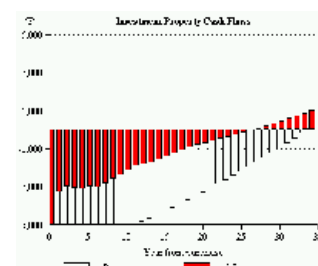
A summary table lists the projected growth rate, property value, amount owing and equity over 25 years. For an interest-only loan, the debt remains constant over time. For a principal & interest loan, the debt declines over time as the principal is gradually repaid.



### Cash Flows

Clicking *Cash Flows* generates and displays the *Investment Property Cash Flows* graphics report with a graph of investment property cash flows over 25 years, contrasting before- and after-tax cash flows.

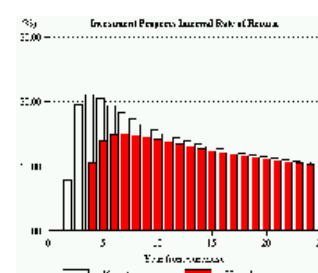
A summary table shows projections over 25 years including projected rental income, loan payments, rental expenses, pre-tax cash flow, tax credits and after-tax cash flows.



### Rate of Return

Clicking *Rate of Return* generates and displays the *Investment Property Internal Rate of Return* graphics report with a graph of projected equity in the property over 25 years for the two scenarios: if the property is kept and if the property is sold.

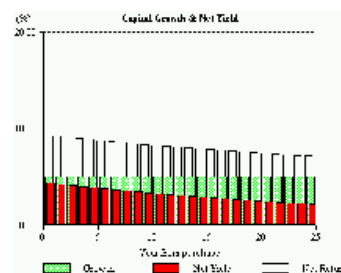
A summary table details after-tax cash flow, equity and rate of return on the property for two scenarios: if the property is kept and if the property is sold.



## Rental Yields

Clicking *Rental Yields* generates and displays the Capital growth & Net Yield report with a graph showing rate of growth, net yield and net return (growth + net yield) over the first 25 years of the investment.

The summary report shows the property value, growth rate, rental income, rental expenses, gross yield and net yield over 25 years.



## Bank Comparison

Clicking *Bank Comparison* displays the Bank Comparison dialog. This allows you to specify an interest rate to generate a report comparing the return from a bank deposit with the return from your investment property.

Enter the desired interest rate and click **OK**. PIA generates and displays a comparative graphic report showing projected returns from equivalent investments in cash and property over 25 years.

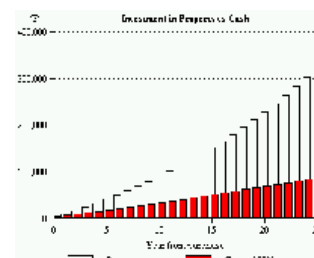
The summary report shows after-tax cash flow, cash invested, total cash and interest, property income, income and interest, property equity and equity and income projections over 25 years.

**i** *Cash investments are regarded as equivalent to any negative after-tax cash flows (i.e. contributions by the investor) for the property being analysed. Cash accumulated over time is calculated from the specified interest rate less any tax liability, which is calculated at the investor's marginal tax rate. The wealth accumulated in the property is the equity at any point in time, plus any positive after-tax cash flows accumulated at the same interest rate and taxed at the same marginal rate as for the cash investment. The Cash Invested column of the table shows cash investments made in both the property and as investments in the interest-bearing savings account (term deposit or similar).*

## Equity & Investment

Clicking *Equity & Investment* generates and displays the Equity & Investment graphics report with a graph of investment property equity versus cumulative monies invested over 25 years. The cumulative monies invested is an accumulation of the negative and/or positive after-tax cash flows for the investment (no time factor is taken into account). This is compared with the equity built up in the property as a result of those cash flows.

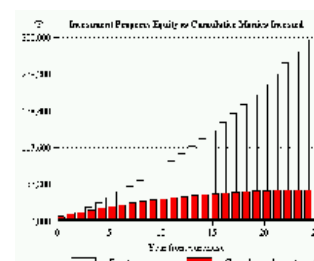
A summary table shows projected total investment and equity over 25 years, detailing after-tax cash flow, cumulative investment, property value, amount owing and equity.



## Tax Liabilities

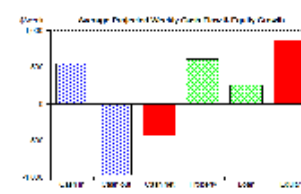
Clicking *Tax Liabilities* generates and displays the Cumulative Tax Liabilities graphics report with a graph of cumulative tax liabilities over 25 years.

A summary table shows projected tax liabilities over 25 years detailing taxable income (in single or joint name, as selected in the Tax Credits dialog, see 3.17), current tax liability, cumulative tax, current tax, new tax liability, cumulative new tax and cumulative savings.



## Weekly Averages

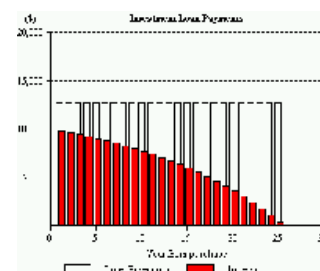
Clicking *Weekly Averages* generates and displays the Weekly Averages graphics report with a graph of average weekly projected cash flow and average equity growth over 10 years.



### Investment Loan Payments

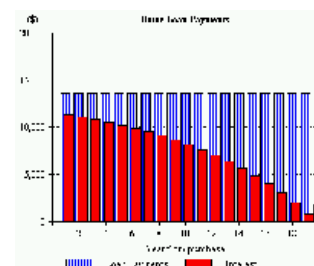
Clicking *Investment Loan Payments* generates and displays the Investment Loan Payments graphics report with a graph and table of investment loan interest and payments over 25 years.

If the investment loan is interest-only, the loan payment is the interest-only. If the investment loan is principal & interest, the loan repayment remains constant but the interest drops as the loan is gradually repaid.



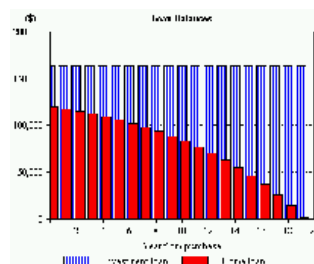
### Home Loan Payments

Clicking *Home Loan Payments* generates and displays the Home Loan Payments graphics report with a graph and table of home loan interest and payments over 25 years.



### Home & Investment Loan Balances

Clicking *Home and Inv. Loan Balances* generates and displays the Loan Balances graphics report with a graph showing the home & investment loan balances over time (the period usually for the remaining term of the home loan). A summary table shows interest accrued, loan payments and loan balance for both home and investment property loans over 25 years.

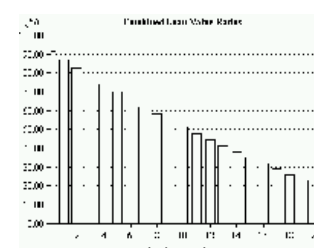


### Combined Loan Value Ratios

Clicking *Combined Loan Value Ratios* generates and displays the Combined Loan Value Ratios graphics report with a graph and table of the projected loan value ratio for combined home and investment properties over a 25-year period.



*Banks use the loan value ratio as a measure of security when the financing the investment – the lower, the better. For an LVR above 80%, mortgage insurance may be required, while an LVR above 100% will generally rule out any chance of finance. The LVR is measured over all loans and properties under the one mortgage. Thus, equity in one property (e.g. your home) can be leveraged to finance new property investments.*



### Home & Investment Equity

Clicking *Home and Investment Equity* generates and displays the Home and Investment Equity graphics report with a graph of projected equity over time under two scenarios:

- 1) The red bars show the projected increase in equity in the home under the current repayment scheme.
- 2) The blue bars show the projected increase in total equity when an investment property is included.

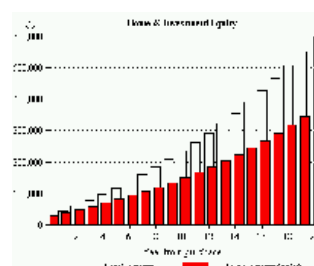
A summary table shows the current and proposed scenario for home and investment properties showing loan payments and equity build-up over 25 years.

➔ This command is only available from the *Linked Loans spreadsheet* and only when loans have been linked (see Chapter 6).

### Wealth Builder

Clicking *Wealth Builder* generates and displays the Wealth Builder graphics report. This provides a graph of total value vs. total debt over 25 years. A summary table details property projections including number of properties, value, debt, equity, income, expenditure and accumulated savings over 25 years.

This command is only available from the *Wealth Builder spreadsheet*.



## 7.5 Investor menu


Clicking *Investor* in the menu bar opens the *Investor* menu.

This menu provides a number of options for entering investor-specific data used in the spreadsheets and for generating investor-related reports.

Personal Details...	
Add Notes...	
Current Taxable Income...	
Current Investment Portfolio...	
Tax Benefits...	
Living Expenses...	
Investment Capacity...	
Maximise Wealth Builder	Ctrl+M
Tax Variation...	
Assets & Liabilities	
Income & Expenses	

### Personal Details

Clicking *Personal Details* in the *Investor* menu opens the Investor's Personal Details dialog, allowing you to enter investor type and personal details. If entered, these items are displayed in reports.

 The investor's personal details and any notes are stored in the property file with the property and finance data.

### Investor Type

For the most part, the investor will be a person, but it is also possible to analyse the cash flows on an investment by another entity such as a self-managed superannuation fund (SMSF) or a company. For example, if the entity is a SMSF, the entity's income would be that of contributions by a person or persons, the tax scale would be that for a superannuation fund, CGT rules would be different, there would be no "home" loan or home repayments, nor would there be any living expenses. Other options that pertain specifically to a superannuation fund are given in the SMSF dialog (Settings menu).

### Work-Related Income & Deductions

These fields allow you to enter investor and partner income and deductions. If this information has been entered elsewhere – such as via the Data Entry Check List (see 2.4), the Tax Credits dialog (see 3.17), or the Current Taxable Income Dialog (see next page) – it is shown here.

**Investor's Personal Details**

Investor Type:

- ☒ Person(s)
- ☐ Super Fund
- ☐ Company

Investor Details:

Investor: John Dough

Address:

Phone:

Email:

Work-Related Income & Deductions

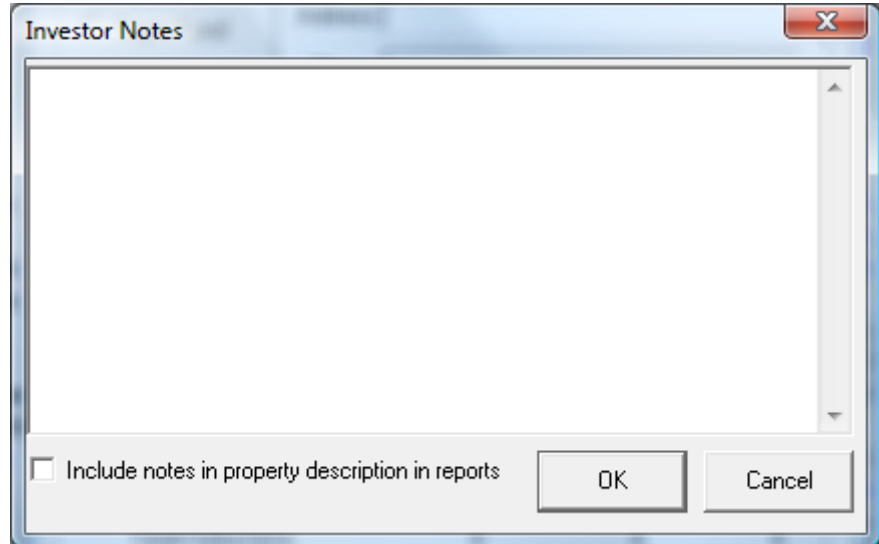
	Investor	Partner	Total
Assessable Income			
Salary/Wages:	65,000	30,000	95,000
Other income:	0	0	0
Total Income:	65,000	30,000	95,000
Allowable Deductions			
Work related:	0	0	0
Other deductions:	0	0	0
Total Deductions:	0	0	0
Taxable Work Income:	65,000	30,000	95,000

Notes ? OK Cancel

Clicking the **Notes** button opens the Investor Notes dialog. You can use it for recording any additional notes you want to save with the file. (This dialog can also be accessed by clicking *Add Notes* in the *Investor* menu.) (See next page...)

### Add Notes

Clicking the *Add Notes* menu item opens the Investor Notes dialog described above. The notes do not appear in any of the generated reports within PIA. The facility is provided so that you can record any additional information you wish about the investor, property or finance.



The **Investor Notes** dialog box features a large text area for notes and a checkbox labeled "Include notes in property description in reports". At the bottom right are "OK" and "Cancel" buttons.

### Current Taxable Income

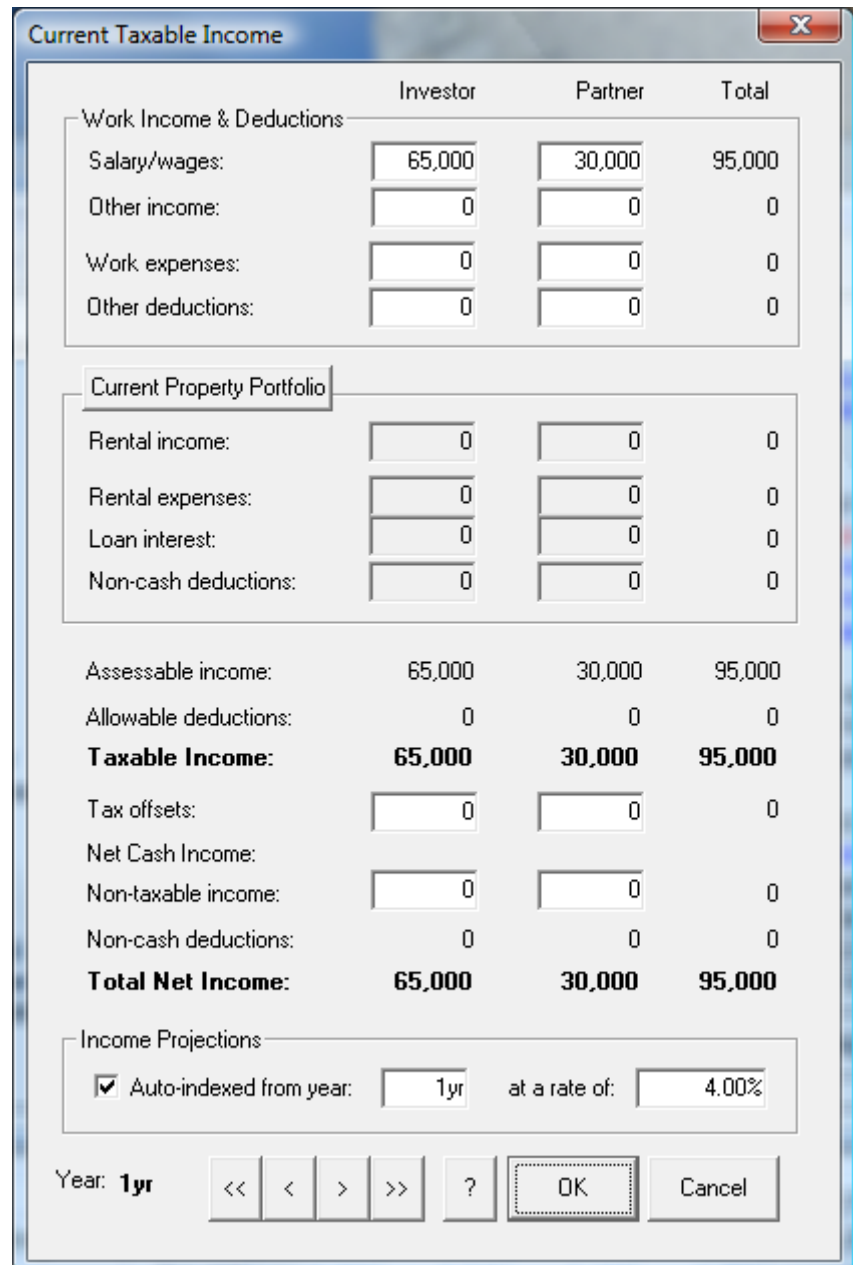
Clicking *Current Taxable Income* opens the Current Taxable Income dialog..

Current income and deductions are divided into those relating to working and those related to any existing investment properties you may have.

To enter the latter you must create an investment property portfolio by clicking the Current Property Portfolio button (see next page for details on creating a property portfolio). Once this information is extracted from the portfolio files, the income and expenses fields can then be edited if needed.

Your taxable income is simply your total income less total allowable tax deductions, including any non-cash deductions such as building and fittings depreciation. Whereas your current taxable income excludes non-cash deductions, your net income includes them as well as any tax rebates such as a spouse rebate.

If the Investor type chosen is not a person, the field names will reflect the entity chosen.



The **Current Taxable Income** dialog box displays a table for income and deductions, categorized by Investor, Partner, and Total. It includes sections for Work Income & Deductions, Current Property Portfolio, and Income Projections.

	Investor	Partner	Total
<b>Work Income &amp; Deductions</b>			
Salary/wages:	65,000	30,000	95,000
Other income:	0	0	0
Work expenses:	0	0	0
Other deductions:	0	0	0
<b>Current Property Portfolio</b>			
Rental income:	0	0	0
Rental expenses:	0	0	0
Loan interest:	0	0	0
Non-cash deductions:	0	0	0
Assessable income:	65,000	30,000	95,000
Allowable deductions:	0	0	0
<b>Taxable Income:</b>	<b>65,000</b>	<b>30,000</b>	<b>95,000</b>
Tax offsets:	0	0	0
Net Cash Income:	0	0	0
Non-taxable income:	0	0	0
Non-cash deductions:	0	0	0
<b>Total Net Income:</b>	<b>65,000</b>	<b>30,000</b>	<b>95,000</b>
<b>Income Projections</b>			
<input checked="" type="checkbox"/> Auto-indexed from year: 1yr at a rate of: 4.00%			
Year: 1yr << < > >> ? OK Cancel			



### Current Investment Portfolio

Clicking *Current Investment Portfolio* opens the Current Investment Portfolio dialog. This dialog allows you to create a new property portfolio or to view your current portfolio. If you create a new portfolio, the information is used to adjust your taxable income in the Investment Analysis spreadsheet and the entire portfolio data is added to the Wealth Builder spreadsheet. (For more on portfolios, see [Why create a portfolio?](#) on the next page.)

➔ The property investment portfolio only covers investment properties. PIA keeps the home (principal place of residence) separate from investment properties.

**Current Investment Portfolio**

Properties:

1. (2004 \$340000) 74 Layburn Road Cleveland Qld 4163 (joint owner)
2. (2005 \$300000) Property under review (sole owner)

Year:	2,005	2006	2007	2008	2010	2015
Properties:	2	2	2	2	2	2
Value:	640,000	672,200	706,036	741,592	818,221	1.047m
Loans:	640,826	635,555	629,891	623,806	610,243	566,456
Equity:	-826	36,645	76,145	117,786	207,977	480,204
Rents:		31,429	32,057	32,699	34,020	37,560
Expenses:		9,233	9,418	9,606	9,994	11,034
Loan payments:		50,668	50,668	50,668	50,668	50,668
Pre-tax cash flow:	-30,000	-28,472	-28,028	-27,576	-26,643	-24,142
Non-cash deductions:		15,381	16,710	14,432	11,892	8,137
Total deductions:		70,011	71,133	68,621	65,530	59,781
Tax credits:		11,605	11,995	11,116	10,345	8,730
After-tax cash flow:	-30,000	-16,867	-16,033	-16,460	-16,297	-15,412
New taxable income		46,418	47,625	52,512	60,496	79,362

☒ Include property under review

? Create Remove Report << < > >> Close

### Select Current Portfolio Files dialog

Clicking the **Create** button opens the Select Current Portfolio Files dialog. To add a property to the portfolio, click on a filename in the *Property Files* column and then click the **Add** button. (Alternatively, you can double-click the filename.) To add all the properties, click the **Add All** button.

The file name appears in the *Property Portfolio* column on the right.

You can click a file multiple times if it is to be added to the portfolio multiple times.

#### Remove

You can also remove files from the *Property Portfolio* column in a similar manner using the **Remove** button or the **Remove All** button.

**Select Current Portfolio Files**

Directory: C:\Program Files\Somerset\PIAproNEW

Property Files		Property Portfolio
PUG example.PIA	Add	
Quick Start Example.pia	Add All	
Untitled30.PIA	Remove	
	Remove All	

Done Cancel

### Changing directory

Clicking the Directory button opens the Select Directory dialog, allowing you to select a directory from which to add files. All files making up a portfolio must reside in the one directory.

### Report

Clicking the Report button in the Current Investment Portfolio dialog generates and displays a cash-flow analysis report on the current investment portfolio.

To print the report, click the Print icon in the toolbar.

To return to the spreadsheet., press the ESC key or click the appropriate spreadsheet icon in the toolbar.

### Why create a portfolio?

PIA allows you to collate the property and finance data from a specified set of property files (portfolio) to calculate the combined cash flows and the rate of return for the portfolio. You may want to create a portfolio for any combination of the following reasons:

- 1) To account for the information (cash flows, asset values and debts, tax deductions, etc) in the portfolio when analysing the tax benefits of yet another investment property (i.e. the one shown in the Investment Analysis spreadsheet).
- 2) To take account of the information when planning the accumulation of further investment properties (in the Wealth Builder spreadsheet)
- 3) To simply generate a cash flow report of the entire property portfolio (with or without the new property under review).



*How it works: PIA extracts the relevant data from the property files, apportioning rents and rental expenses according to whether the property is wholly or partly owned by the investor. The time frame for the portfolio cash flow projections is determined by the settings in the current spreadsheet (as set in the Set Projections dialog, see 3.1) and uses the year of purchase specified in each property file. During portfolio analysis, PIA ignores the data on investor's taxable income stored in the individual property files as the analysis requires current taxable income (taken from the current spreadsheet), excluding income and expenditure on investment properties.*

### Tax Benefits

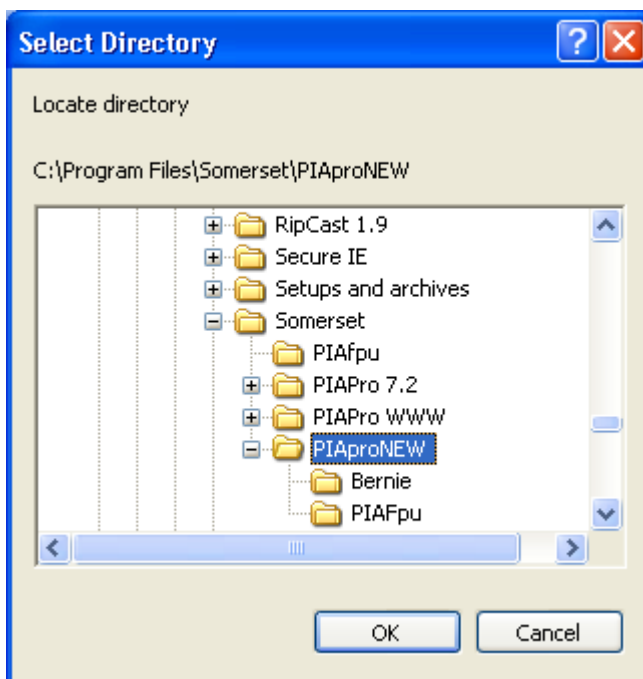
Clicking *Tax Benefits* opens the Tax Benefits dialog (see 6.14).

Clicking the **Report** button generates a Tax Benefits report for the number of properties in the analysis, showing total tax saving for investor, partner, and total. You can examine the impact on tax savings of having the title of the investment property registered in single or joint names as well as assess the total tax savings for multiple investment properties.

This report can also be generated by clicking *Tax Benefits* in the *Report* menu.

### Living Expenses

Clicking *Living Expenses* opens the Annual Living Expense Budget dialog (see 6.13). Clicking the **Report** button in the dialog generates a summary report of annual living expenses. This report can also be generated by clicking *Living Expenses* in the *Report* menu.





### Investment Capacity

Clicking *Investment Capacity* opens the Investment Capacity dialog. This dialog offers a facility for determining a couple's investment capacity as measured by how many investment properties like the one in the current Investment Analysis spreadsheet they can afford.

The dialog shows the cash flows in year 1 of the investment, taking home loan payments, living expenses and tax benefits into account. To determine your investment capacity, increase the number of investment

properties until the Net surplus drops below zero. Then decrease the number of properties by one.

Clicking the **Full Report** or **Brief Report** button generates an investment capacity report based on the number of properties entered under *Investment properties* under *Capacity* in this dialog.



*Using the Investment properties field in the Investment Capacity dialog allows you to analyse the number of identical properties you could afford. For a cash-flow analysis report on a portfolio of different properties, first create a portfolio and then choose the report option as described under Current Investment Portfolio above.*

### Maximise Wealth Builder

➔ This menu item is only available if the *Wealth Builder spreadsheet* is displayed.

Clicking on this menu item opens the Wealth Maximiser dialog so that you can specify constraints for accumulating investment properties in the Wealth Builder spreadsheet. When you click **OK**, PIA calculates the maximum number of properties you will be able to accumulate each year over a 40-year period and displays the results in the Wealth Builder spreadsheet.

Income (1st Year)		Expenses (1st Year)	
Total non-property income:	95,000	New tax (investor):	3,693
Current rental income:	0	New tax (partner):	2,247
Current assessable income:	95,000	Rental expenses:	5,621
Non-taxable income:	0	Inv loan interest:	31,486
less... Current cash expenses:	0	Inv loan principal:	0
Current net income:	95,000	Home loan payments:	35,565
New rental income:	17,836	Living expenses:	30,950
<b>Total income:</b>	<b>112,836</b>	<b>Total expenses:</b>	<b>109,563</b>

Ownership		Proportional Ownership	
<input checked="" type="radio"/> Single name	Investor:	<input type="text" value="100.00%"/>	
<input type="radio"/> Joint names	Partner:	<input type="text" value="0.00%"/>	
<input type="checkbox"/> Quarantine losses			

Capacity	
Investment properties:	<input type="text" value="1"/>
Total income:	112,836
Total expenses:	109,563
<b>Net surplus:</b>	<b>3,273</b>
Total initial outlay:	40,000

? Full Report Brief Report OK Cancel

**Wealth Maximiser**

Cash savings should not go below:

Loan Value Ratio should not exceed:

Debt Service Ratio should not exceed:

? OK Cancel

**Tax Variation report**

Clicking *Tax variation* generates and displays the Tax Variation Application dialog. The dialog helps you (the investor) calculate your adjusted tax liability for the remainder of the financial year if you were to purchase the investment property described in the Investment Analysis spreadsheet. Once you are happy with the figures in the dialog, you can generate a Tax Variation report by clicking the **Report** button.

**Financial Details**

These include the date from which adjustment of tax instalments is to take effect, the investor's annual salary, and the frequency of salary payments. The financial year is determined by the specified date of adjustment, while the starting date of the financial year is country-dependent (1 July in Australia, 1 April in New Zealand). The current tax instalments per pay and the total tax instalments paid up to the date of adjustment are calculated and displayed.

Financial Details			
2004 / 2005	Salary	Tax	
Date for adjustment	Annual 60,000	15,312	
11 / 1 / 2005	Per pay 2,308	589	
To date	30,000	7,656	

Property Details				
Investment Property	Annual	2004 / 2005	Current	Total
<input checked="" type="checkbox"/> Include new property	Rents 15,288	7,162	8,070	15,233
Date purchased 11 / 1 / 2005	Interest 19,983	9,362	12,707	22,069
Ownership 100.00%	Expenses 4,411	2,067	2,411	4,477
Portion 2004 / 2005 46.85%	Non-cash 7,336	3,437	4,022	7,459

Assessable Income		Allowable Deductions		Projected Tax Liabilities	
Salary	60,000	Work-related	0	Annual tax liability	9,159
Rents	15,233	Properties	34,006	Remaining liability	1,503
Other	0	Other	0	Adjusted tax	116
Total income	75,233	Total deductions	34,006	Flat-rate percentage	5.01%
Taxable income	41,227	Tax rebates	0		

**Property Details**

These include the date of purchase, the proportion of the property that you (the investor) own, as well as the rental income and rental deductions (interest, expenses and non-cash deductions). If the date of purchase falls within the current financial year, PIA calculates the fraction of the year remaining and apportions the annual rental income and rental deductions for the new investment property accordingly. The defaults are derived from the current spreadsheet but you may wish to override these. Current rental income and rental deductions refer to an existing investment property portfolio, if one has been specified (see *Current Investment Portfolio*).

**Assessable Income**

This shows the derivation of total assessable income for the financial year.

**Allowable Deductions**

This shows the derivation of total allowable deductions for the financial year.

**Projected Tax Liabilities**

The new annual tax liability – which takes account of the investment property – is displayed here. From this, the remaining tax liability for the year is calculated along with the corresponding adjusted tax instalment per pay period. The flat-rate percentage is used by the Australian Tax Office to calculate adjusted tax instalments where regular payments might vary.

Clicking the **Report** button produces a report entitled Guide to Variation of PAYG Income Tax Withholding.




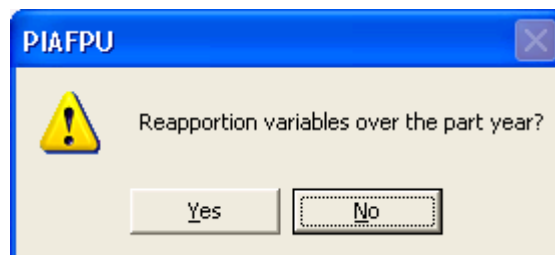
*In Australia, Section 15-15 of Schedule 1 of the Tax Administration Act 1953 provides that the commissioner may – to meet the special circumstances of a particular case or class of cases – vary the amount an entity is required to withhold. In other words, it is possible to vary your regular tax instalments in order to avoid an excessive end-of-year credit. This used to be referred to as a variation of tax instalments for PAYE taxpayers under Section 221D but now is referred to by the ATO as “Income Tax Withholding Variations” for PAYG taxpayers.*

*In New Zealand, people who receive wages or withholding payments may apply to Inland Revenue*

Department (IRD) for an IR 23 certificate. It replaces the tax code declaration part of the IR 12 or IR 13. This certificate authorises the employer to make PAYE deductions using a specified code, or deduct tax at a certain rate. For more details, see the New Zealand Inland Revenue Department's website at <http://www.ird.govt.nz>.

Expenditure associated with negatively-gearred rental property is a legitimate reason for variation of tax instalment deductions, qualifying under the category of Allowable Deductions. This facility calculates the appropriate variation in regular tax instalments for an investor, taking into account the period over which the property is rented and the date on which the adjustment is to be made.

 PIA calculates the apportionment of rent and rental deductions based on the purchase date specified. If these figures are overwritten, the next time you return to the dialog, PIA will ask whether you want the variables re-apportioned according to the dates.



## Assets & Liabilities

Clicking **Assets & Liabilities** opens the **Assets & Liabilities** dialog. The dialog acts as a template for a net worth report that is in a format required by most financial institutions when applying for an investment loan. Lenders use this information to determine whether you have sufficient collateral for the loan. They do this by calculating a Loan Value Ratio (LVR). However, not all assets may be used as collateral and each item in the template has an associated LVR checkbox for specifying whether it should be included in the LVR calculation. For example, cars and boats are assets but are not usually able to be used as collateral for investment loans.

Assets			Liabilities		
LVR*	Items	Value	LVR*	Items	Amount
<input checked="" type="checkbox"/>	Own home	360,000	<input checked="" type="checkbox"/>	Home loan	252,000
<input checked="" type="checkbox"/>	Investment properties	300,000	<input checked="" type="checkbox"/>	Investment property loans	285,469
<input type="checkbox"/>	Shares	0	<input type="checkbox"/>	Margin loans	0
<input type="checkbox"/>	Other investments	0	<input type="checkbox"/>	Other investment loans	0
<input type="checkbox"/>	Superannuation	0	<input type="checkbox"/>	Personal loans	0
<input type="checkbox"/>	Cash	0	<input type="checkbox"/>	Credit card debt	0
<input type="checkbox"/>	Car	0	<input type="checkbox"/>	Car loans	0
<input type="checkbox"/>	Boat	0	<input type="checkbox"/>	Hire purchase	0
<input type="checkbox"/>	Business equipment	0	<input type="checkbox"/>	Business loans	0
<input type="checkbox"/>	Clothes	0	<input type="checkbox"/>	Other loans	0
<input type="checkbox"/>	Jewellery	0	<input type="checkbox"/>	Tax liabilities	0
<input type="checkbox"/>	Furniture	0	<input type="checkbox"/>	Furniture loans	0
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		
<b>Total assets</b>		<b>660,000</b>	<b>Total liabilities</b>		<b>537,469</b>
<b>Property value*</b>		<b>660,000</b>	<b>Secured loans*</b>		<b>537,469</b>

**Net worth: \$122,531**

**Loan value ratio: 81.43%**

\* Items used to calculate loan value ratio

## Income & Expenses

Clicking *Income & Expenses* opens the Income & Expenses dialog. The dialog acts as a template for a net cash flow report that is in a format required by most financial institutions for investment loan applications. Lenders use this information to determine whether you have sufficient capacity to service the loan. They do this by calculating a Debt Service Ratio (DSR). However, not all income & expense items are used in the calculations and those that are may be used in different ways. For example, a lender may consider 30% of wages and 80% of rental income to be used in the calculations, but may not consider welfare payments to be eligible at all. Living expenses may or may not be used in DSR calculations as most lenders have a pre-set formula for estimating living expenses based on your family's size and age. There are associated DSR buttons for each item that enable you to define the appropriate category (e.g. wages, rent, etc) and whether it is used or not in the DSR calculation.

Income			Expenses		
DSR*	Items	Amount	DSR*	Items	Amount
<input checked="" type="checkbox"/>	Investor's wage	60,000	<input type="checkbox"/>	Rental expenses	4,411
<input checked="" type="checkbox"/>	Partner's wage	25,000	<input type="checkbox"/>	Home loan payments	24,426
<input checked="" type="checkbox"/>	Rental Income	15,288	<input type="checkbox"/>	Investment loan payments	19,983
<input type="checkbox"/>	Interest term deposits	0	<input type="checkbox"/>	Personal loan payments	0
<input type="checkbox"/>	Welfare income	0	<input type="checkbox"/>	Credit card payments	0
<input type="checkbox"/>	Other guaranteed income	0	<input type="checkbox"/>	Car loan payments	0
<input type="checkbox"/>			<input type="checkbox"/>	Hire purchase payments	0
<input type="checkbox"/>			<input type="checkbox"/>	Other loan payments	0
<input type="checkbox"/>			<input type="checkbox"/>	Investor's tax	9,893
<input type="checkbox"/>			<input type="checkbox"/>	Partner's tax	4,047
<input type="checkbox"/>			<input type="checkbox"/>	Living expenses	28,950
<input type="checkbox"/>			<input type="checkbox"/>	Other expenses	0
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		
<b>Total income</b>		<b>100,288</b>	<b>Total expenses</b>		<b>91,710</b>
<b>Total wages (w)*</b>		<b>85,000</b>	<b>Loan payments (d)*</b>		<b>44,409</b>
<b>Total rent (r)*:</b>		<b>\$15,288</b>			

**Net cash flow:      \$8,578                          Debt service ratio:    117.70%**

\* Items used to calculate debt service ratio (DSR)         (30% wages, 80% rent)

☐ Omit DSR from report

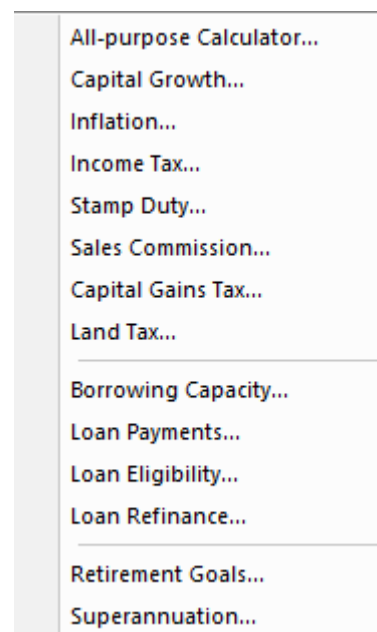
## 7.6 Calculator menu

Clicking *Calculator* in the menu bar opens the *Calculator* menu.

The *Calculator* menu offers a range of options for calculating the projected value of items that can then be entered into the spreadsheets and incorporated into reports.

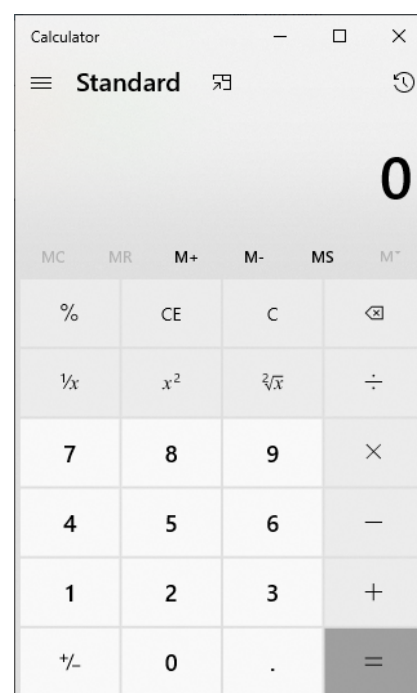
The calculators function semi-independently of the spreadsheets in that they may take default values from the spreadsheets (e.g. property price), but they do not return changes in those variables to the spreadsheets.

When you make a change to any of the variables in a calculator, press the **Enter** key to recalculate the answer(s).



### All-purpose Calculator

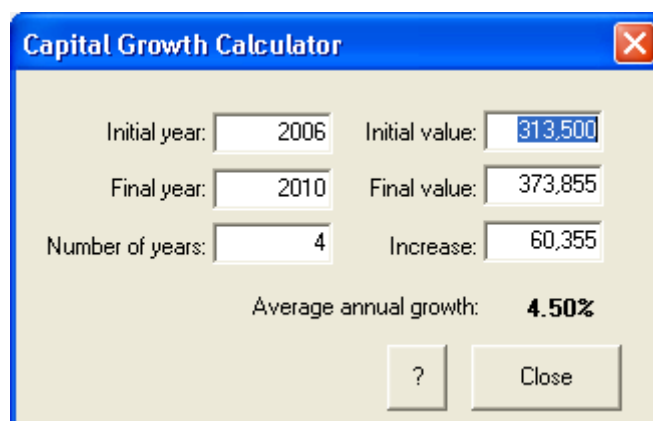
Clicking *All-purpose Calculator* opens the Calculator. As part of the Windows operating system, this calculator is only available in Windows.



### Capital Growth Calculator

Clicking *Capital Growth* opens the Capital Growth Calculator. This enables you to calculate the average annual rate of growth for a property over a number of years, given its value at the beginning and end of the period. This feature is useful in working out capital growth in retrospect for any given property.

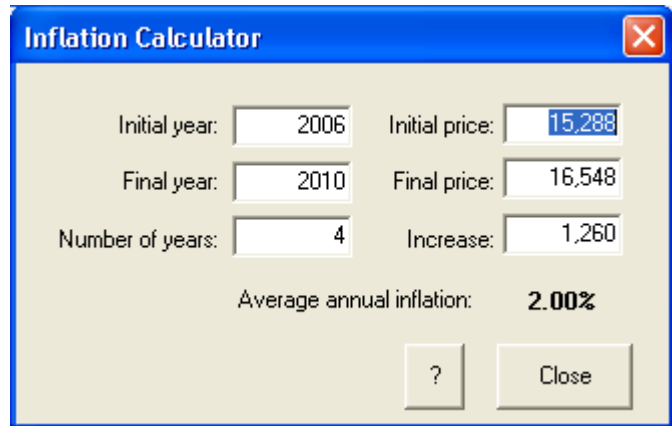
The calculator takes a default value for the initial year from the Investment Analysis spreadsheet and applies a default of number of years of 4. Once you have made a change to one of the variables, press the Enter key to recalculate the average annual growth.



### Inflation Calculator

Clicking *Inflation* opens the Inflation Calculator. This enables you to calculate the average annual rate of inflation for a cost item (such as rates) over a number of years, given its value at the beginning and end of the period.

The calculator takes a default value for the initial year from the Investment Analysis spreadsheet and applies a default of number of years of 4. Once you have made a change to one of the variables, press the Enter key to recalculate the average annual inflation rate.



The Inflation Calculator dialog box has a blue title bar with the text 'Inflation Calculator' and a close button (X). The main area is light beige. It contains the following fields and labels:

- Initial year: 2006
- Initial price: 15,288
- Final year: 2010
- Final price: 16,548
- Number of years: 4
- Increase: 1,260
- Average annual inflation: 2.00%

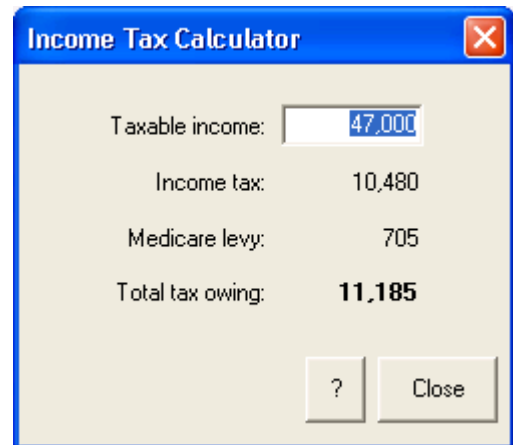
At the bottom right, there are two buttons: a question mark '?' and a 'Close' button.

### Income Tax Calculator

Clicking *Income Tax* opens the Income Tax Calculator. This calculates the income tax liability for a given taxable income using PIA's current tax scale settings.



*The initial value shown is the income entered for the Investor in the Tax Credits dialog (see 3.17).*



The Income Tax Calculator dialog box has a blue title bar with the text 'Income Tax Calculator' and a close button (X). The main area is light beige. It contains the following fields and labels:

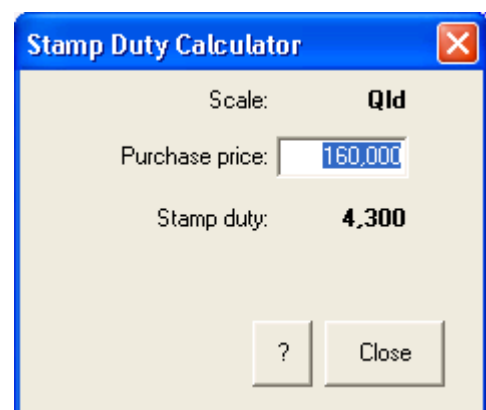
- Taxable income: 47,000
- Income tax: 10,480
- Medicare levy: 705
- Total tax owing: 11,185

At the bottom right, there are two buttons: a question mark '?' and a 'Close' button.

### Stamp Duty calculator

Clicking *Stamp Duty* opens the Stamp Duty Calculator. This calculates the state stamp duty owing on an investment property bought for a specified price according to the currently selected stamp duty scale.

To select a different stamp duty scale or to modify the current scale, click on *Stamp Duties* in the *Settings* menu to display the Stamp Duties dialog (see 3.3).



The Stamp Duty Calculator dialog box has a blue title bar with the text 'Stamp Duty Calculator' and a close button (X). The main area is light beige. It contains the following fields and labels:

- Scale: Qld
- Purchase price: 160,000
- Stamp duty: 4,300

At the bottom right, there are two buttons: a question mark '?' and a 'Close' button.

### Sales Commission Calculator

Clicking *Sales Commission* opens the Sales Commission Calculator. This calculates the “standard” sales commission for the sale of a property for a specified value according to the currently selected sales commission scale. To select a different sales commission scale or to modify the current scale, click on *Sales Commission* in the *Settings* menu to display the Sales Commission dialog (see 7.7). When first opened, the Sales Commission Calculator shows the value of the investment property in the right-most column of the Investment Analysis spreadsheet.



*In many places sales commission scales are deregulated and sales commission is negotiable.*

Sales Commission Calculator	
Scale:	Qld
Selling price:	248,475
Commission:	7,328
<div> <span>?</span> <span>Close</span> </div>	

### Capital Gains Tax Calculator

Clicking *Capital Gains Tax* opens the Capital Gains Tax Calculator. The menu item is disabled if you have previously specified capital gains tax (CGT) to be inapplicable (e.g. as in New Zealand). See the Capital Gains Tax item under the *Settings* menu in 7.7). Otherwise the form of the calculator reflects the CGT option chosen.

#### Capital Gains Tax Calculator (Discount Method)

This calculator shows how the capital gains tax on a property is calculated using the Australian tax rules announced in September 1999, which were based on the recommendations of the Ralph review of the tax system. Under this regime, indexation and averaging of the earlier system are no longer used. Instead, the tax liability is based on a discount rate (usually 50%) of the capital gain.

For capital gains tax purposes, any furniture, fixtures and fittings should be treated separately from the property. They should be subtracted from the purchase price and their written down value should be subtracted from the sale price.

The Australian Government legislated that after May 13 1997, building depreciation claims should be written back and subtracted from the cost base.

Capital Gains Tax Calculator (Discount Method)	
<div> <div> <b>At Purchase</b> </div> <div>           Purchase price: 300,000            + Purchase costs: 10,475            - Fixtures &amp; fittings: 18,000            Acquisition costs: 292,475         </div> </div>	
<div> <div> <b>At Sale</b> </div> <div>           Sale price: 465,891            - Fixtures &amp; fittings: 2,258            - Disposal costs: 15,636            - Renovation costs: 0            - Acquisition costs: 292,475            Capital gain: 155,521         </div> </div>	
<div> <div> <b>Taxable Capital Gain</b> </div> <div>           Capital gain: 155,521            Building depreciation claims: 37,500  <input checked="" type="checkbox"/> (Write back depreciation claims)            Capital Gain (incl. write-back): 193,021            Discount rate: 50%            Taxable capital gain: 96,511         </div> </div>	
<div> <div> <b>Capital Gains Tax</b> </div> <div>           Taxable income: 60,577            Tax on income: 13,682            Taxable capital gain: 96,511            New tax: 52,646            Capital gains tax: 38,964         </div> </div>	
<div> <span>?</span> <span>Close</span> </div>	



### Land Tax

Clicking *Land Tax* opens the Land Tax Calculator.

Land tax is an annual state-imposed tax based on land ownership. The rules and tax rates vary widely from state to state and are subject to change. For this reason it is imperative that you consult the relevant Office of State Revenue for the latest rules applying to the entity that owns the land. You must then ensure that the scales are defined according to those rules (see *Land Tax Scale* below).

In most states, the tax is based on the aggregated value of all land owned in that state and the tax for an individual property must be apportioned accordingly. The principal place of residence is usually exempt.

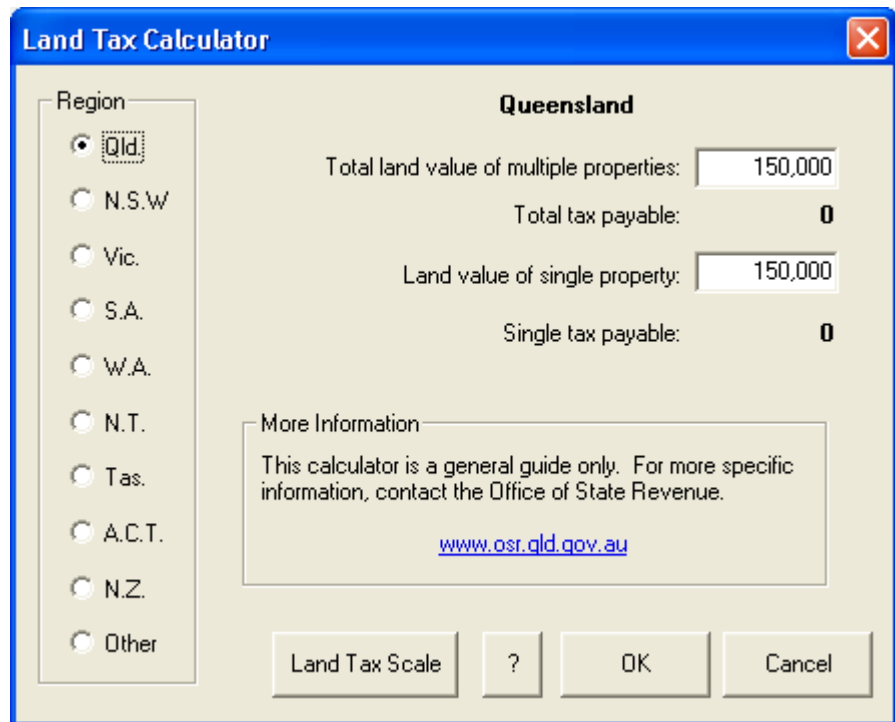
Neither the Northern Territory nor New Zealand impose the tax.

In PIA, the tax is treated as a rental expense. However, as it can't be automatically calculated from the investment property alone, this calculator provides a tool for calculating it for your specific situation. You can then enter the calculated tax into the Rental Expenses template.

The calculator is not linked directly with the Rental Expenses dialog. The tax payable must be entered manually in one of the fields. (The field titles can be edited.)

### Land Tax Scale

Clicking the **Land Tax Scale** button opens the Land Tax Scale dialog, allowing you to view and edit the scale.



**Land Tax Calculator**

Region: ☒ Qld. ☐ N.S.W. ☐ Vic. ☐ S.A. ☐ W.A. ☐ N.T. ☐ Tas. ☐ A.C.T. ☐ N.Z. ☐ Other

**Queensland**

Total land value of multiple properties: 150,000

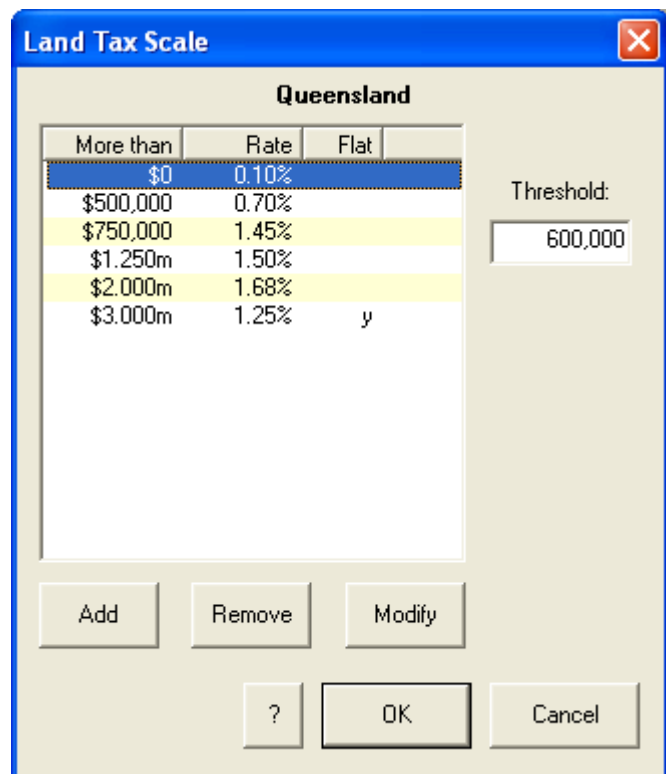
Total tax payable: 0

Land value of single property: 150,000

Single tax payable: 0

More Information  
This calculator is a general guide only. For more specific information, contact the Office of State Revenue.  
[www.osr.qld.gov.au](http://www.osr.qld.gov.au)

Land Tax Scale ? OK Cancel



**Land Tax Scale**

**Queensland**

More than	Rate	Flat
\$0	0.10%	
\$500,000	0.70%	
\$750,000	1.45%	
\$1.250m	1.50%	
\$2.000m	1.68%	
\$3.000m	1.25%	y

Threshold: 600,000

Add Remove Modify

? OK Cancel



### Borrowing Capacity Calculator

Clicking *Borrowing Capacity* opens the Borrowing Capacity Calculator. This calculator enables you to estimate the maximum amount you would be able to borrow to purchase investment property. This amount is assumed to be limited by your Loan value ratio (LVR) and/or your Debt service ratio (DSR). The value of the investment property is also calculated.

The LVR is a measure of the loan security and is calculated as total monies borrowed, including the new loan, divided by the total value of assets being used as security for the loans. As a general guide, the LVR should not exceed 100% and preferably should not exceed 80% (loans with LVRs above 80% are likely to attract mortgage insurance).

The DSR is a measure of your ability to service the loan. It is calculated as a function of total debt repayments compared to total income, including rental income. Only a certain percentage of income is deemed eligible by lending institutions (as a guide it is 30% of salary plus about 80% of gross rents) and sometimes loan payments are deemed to be higher to allow for a potentially higher interest rate during the course of repayments. Loan approval is unlikely for DSRs greater than 100%.

You can set the maximum LVR and DSR to be used for calculation of Borrowing Capacity in the Borrowing Capacity area of the dialog. If either (or both) of these values is limiting the borrowing capacity, it is (they are) shown in red. (In the example below, *Maximum DSR* is the limiting factor, so 100% is shown in red). Clicking the calculated DSR or LVR field displays a window showing how the value is calculated.

Annual Incomings				Annual Outgoings		
Source	Income (\$)	Eligible Income (%)	Eligible Income (\$)		Repayments (\$)	Deemed Payments (%) (\$)
Investor:	60,000	30.0%	18,000	Home loan:	24,426	100.0% 24,426
Partner:	25,000	30.0%	7,500	Other loans:	0	100.0% 0
Other:	0	100.0%	0	Credit card lim:	10,000	60.0% 6,000
Gross rents (no vacancy)				Investment properties		
Property #1:	15,600	80.0%	12,480	Property #1:	19,983	100.0% 19,983
Property #2:	16,141	80.0%	12,913	Property #2:	2,557	100.0% 2,557
Total:	116,741		50,893	Total:	56,966	52,966
Debt service ratio: 104.07%						

Assets & Liabilities				Borrowing Capacity			
Asset	Value	Loan balance	Equity				
Home:	360,000	252,000	108,000	Gross yield (%):	5.00%		0
Other:	0	0	0	Eligible rent (%):	80.00%		0
Property #1:	300,000	285,469	14,531	Loan payments (I/O):	8.00%		0
Property #2:	0	0	0	Additional costs (%):	3.00%		0
Total:	660,000	537,469		Maximum LVR:	80.00%	81.43%	
Loan value ratio: 81.43%				Maximum DSR:	100.00%	104.07%	
Cash savings:	0		122,531	Value of properties:		0	
				Borrowing capacity:		0	

Defaults Report Loan Calculator ? OK Cancel

### Loan Payments Calculator

Clicking *Loan Payments* opens the Loan Payments Calculator. This calculator enables you to select whether the loan type is Principal & Interest or Interest Only. To select either of these options click the appropriate radio button in the *Loan Type* area.

You may also enter details of the loan amount, interest rate, payments per year, term of loan etc.

Changing the periodic payment or payments per year recalculates the term of the loan.

- ① When calculating the term of the loan, switching from monthly payments to fortnightly, it is assumed that the loan payment is halved. Likewise, weekly is 1/4 of the monthly payment, etc.
- ① The term of an Interest Only loan is – by definition – indefinite.

### Loan Eligibility Calculator

Clicking *Loan Eligibility* opens the Loan Eligibility Calculator. This calculator provides a means of working out whether or not you qualify for an investment loan under the criteria set down by a financial institution.

The calculator is divided into three areas. You can enter details of investor and partner income, eligible income, rental income and other income. You can enter details of monthly and annual repayments of Loan "A" and Loan "B" (see 3.10), credit cards and other expenses in the *Outgoings* area. The Debt Service Ratio is then reflected in the *Loan Eligibility* area of the calculator.

- ① It is general practice for the financier to consider a specified percentage of the investor's income (e.g. 30% of salary plus 80% of rent) as eligible income and then compare it with the total loan payment commitment. If the total outgoings are to exceed the eligible incomings (i.e. the ratio of outgoings to incomings is greater than 100%) there is little likelihood of receiving the proposed loan.

### Loan Refinance Calculator

Clicking *Loan Refinance* opens the Loan Refinance Calculator.

The calculator demonstrates the impact on monthly payments of refinancing. Refinancing may also be undertaken in conjunction with the financing of an investment property, in which case the impact on the monthly after-tax cost is also shown.

Clicking the **Current loans** button opens the Loan Consolidation Calculator (see 4.5). This allows you to specify a range of non-deductible loans that are to be consolidated and refinanced.

Clicking the **Refinance costs** button opens the Home Loan Refinance Costs dialog so that the costs of refinancing can also be included (See 4.6).

Loans:	Current loans	Refinance	Investment property	Total loans	Combined loan
Amount owing:	252,000	252,000			
Refinance costs		0			
Loan amount:	288,000	252,000	285,469	537,469	537,469
Asset value:	360,000	360,000	300,000	660,000	660,000
Loan value ratio:	80.0%	70.0%	95.2%	81.4%	81.4%
Loan type:		P&I	I/O		I/O
Loan term:		2030	2045		2045
Loan rate:		7.00%	7.00%		7.00%
Monthly payments:	2,036	1,781	1,665	3,446	3,135
After-tax cost/mth:	2,036	1,781	327	2,108	1,797

### Retirement Goals Calculator

Clicking *Retirement Goals* opens the Retirement Goals Calculator.

When you enter details of your current status with regard to investments and liabilities, PIA calculates the number of years needed to achieve retirement goals (your target retirement income expressed in today's dollars), given investment rates and after-tax rates of return.

The *Retirement Status* area on the Ready Reckoner shows current investment 'nest egg', target retirement income in today's dollars, the total 'nest egg' required and the years needed to achieve the goal.



*The adjustment factor (nest egg divided by income) is used to convert a target retirement income to an equivalent total asset value that will produce that income. For investment property, the factor of 20 assumes an effective net yield of 5% for property whose value is keeping pace with inflation.*

Investments	Assets (\$)	Liabilities (\$)	Investing (today's \$/yr)	After-tax Return
Property:	300,000	285,469	3,927	14%
Cash:				
Shares:				
Superannuation:				
Other:				
Totals:	300,000	285,469	3,927	

Current investment nest egg:	14,531
Target retirement income (today's \$/yr):	30,000
Adjustment factor (nest egg/income):	20
Nest egg required:	600,000
Average annual inflation rate:	2.00%
Years needed to achieve goal:	2029

### Superannuation Calculator

Clicking *Superannuation* opens the Superannuation Calculator.

This enables you to calculate the total amount accumulated in a superannuation fund, based on the parameters you enter into the calculator. PIA then works out the total superannuation (both nominal and adjusted to today's dollars) that accumulates over a specified period for the specified parameter values. All calculations are made monthly.

Your super contributions are measured as a percentage of your current salary. A percentage of these contributions is lost in tax before they are invested. The total amount invested achieves earnings at the rate of return of return specified, less the administration fees, which are expressed as a percentage of the total amount invested. The funds remaining after taxation at the rate specified are reinvested.



*Net contributions (i.e. net of contributions tax) are assumed to be made at the start of each month. Net earnings (i.e. net of earnings tax) on the total balance are added at the end of the month after which administration fees are calculated and subtracted from the balance.*

Superannuation Calculator

Age now: 25

Age at retirement: 65

Current salary: 60,000

Growth in salary: 2.00%

Current balance: 23,000

Super contribution: 9.00%

Tax on contributions: 15.00%

Administration fee: 2.00%

Rate of return: 7.00%

Tax on earnings: 12.00%

Results

Final amount: 759,783

Inflation rate: 2.00%

Final amount (in today's \$): 344,098

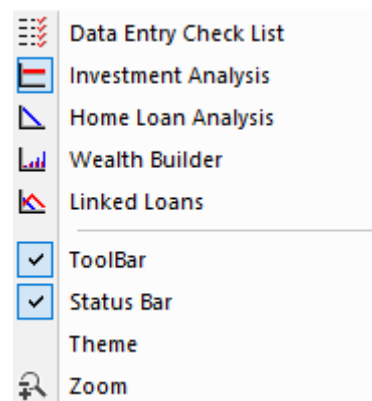
?

Close

## 7.7 View menu

Clicking *View* in the menu bar opens the *View* menu.

Most of the commands in the *View* menu can also be accessed via the toolbar:



### Data Entry Check List

Clicking *Data Entry Check List* on the *View* menu opens the Data Entry Check List dialog.

This can also be opened by clicking the Data Entry Check List icon. (For details of the Data Entry Check List, see Chapter 2).

*By default, PIA opens the Data Entry Check List every time you create a new file. You can change this setting in the Preferences item under the Settings menu (see 7.7).*

### Investment Analysis

Clicking *Investment Analysis* in the *View* menu opens the Investment Analysis spreadsheet.

This can also be opened by clicking the *Investment Analysis* icon. The Investment Analysis spreadsheet is fully described in Chapter 3.

### Home Loan Analysis

Clicking *Home Loan Analysis* line in the *View* menu opens the Home Loan Analysis spreadsheet.

This can also be opened by clicking the Home Loan Analysis icon. The Home Loan Analysis spreadsheet is fully described in Chapter 4.

### Wealth Builder

Clicking *Wealth Builder* line in the *View* menu opens the Wealth Builder spreadsheet.

This can also be opened by clicking the Wealth Builder icon. The Wealth Builder spreadsheet is fully described in Chapter 5.

### Linked Loans

Clicking *Linked Loans* line in the *View* menu opens the Linked Loans spreadsheet.

This can also be opened by clicking the Linked Loans icon. The Linked Loan Analysis spreadsheet is fully described in Chapter 6.

### Toolbar

Clicking *Toolbar* on the *View* menu shows or hides the toolbar.

### Status Bar

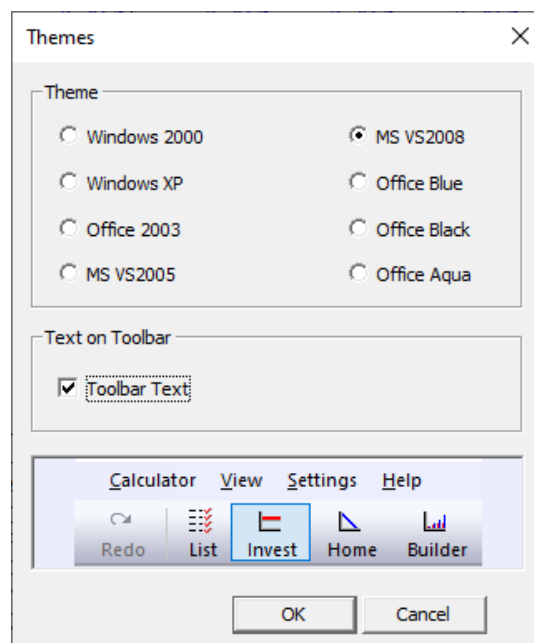
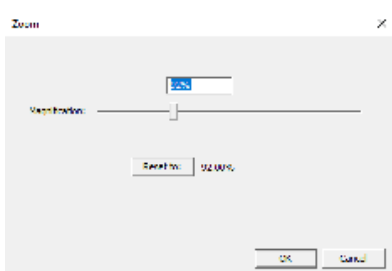
Clicking *Status Bar* on the *View* menu shows or hides the status bar.

### Theme

Clicking *Theme* on the *View* menu displays the Themes dialog which allows you to choose different colours/styles for the Title, Menu and Tool bars. There is also an option for having text below each icon in the Toolbar.

### Zoom

Clicking *Zoom* on the *View* menu displays the Zoom dialog which enables you to set the magnification for the display of the spreadsheet and reports on the screen. Magnification of the display does not change the printing of documents.



## 7.8 Settings menu


Clicking *Settings* in the menu bar opens the *Settings* menu. This menu contains commands that allow you to set various options that will be used by PIA

### Credit Line

Clicking *Credit Line* in the *Settings* menu instructs PIA to set the loan model in the current spreadsheet to that of a *credit line* (i.e. one in which repayments are maximised in accordance with the investor's available disposable income). To do this, PIA calculates the total income of both the investor and partner and their total committed expenditure (living expenses, other mortgage payments and tax liabilities). Any surplus funds are used as additional repayments of the principal. The Credit Line option can be selected independently in each spreadsheet. In those spreadsheets where there is both a home loan and an investment loan (Linked Loans and Wealth Builder), repayments on the investment loan are restricted to "interest only" until the home loan is completely repaid.

This option can also be selected by clicking the *Credit Line* icon on the toolbar (see 5.10).

### Link Home & Investment Loans

Clicking *Link Home and Investment* in the *Settings* menu opens the Linked Loans spreadsheet (if it is not already opened) and then  links your investment loan and your home loan. When the loans are linked, any cash flow surplus from the investment property is used to repay any debt on the home loan. This is fully described in Chapter 6.

This option can also be selected by clicking the Investment & Home Loans icon in the toolbar.

### Link Options

Clicking *Link Options* in the *Settings* menu opens the Link Options dialog box. This is only enabled when the Linked Loan Spreadsheet is displayed. The dialog provides options for specifying various forms that the linked Loan model can take (e.g. by using all available cash to repay the home loan and then switching to use all available cash to repay the investment loan). There are options for capitalising the investment loan and investment expenses while repaying the home loan debt.

### Capitalise Interest

Clicking *Capitalise Interest* in the *Settings* menu instructs PIA to change the nature of the investment loan so that interest accruing is simply added to the loan amount rather than being met from the cash flows. This is reflected in the *Interest* row in the spreadsheet: The row title changes to *Interest (c)*. By default, PIA assumes that the interest on the capitalised interest component is **not** tax deductible. See also Capitalize expenses below.

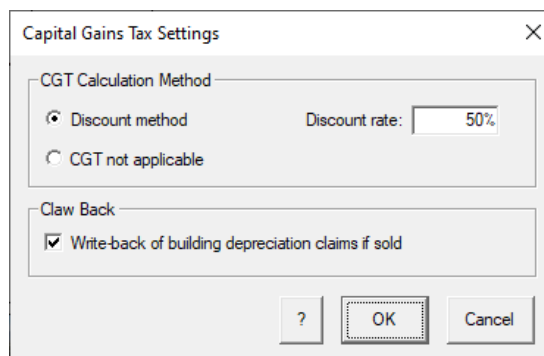
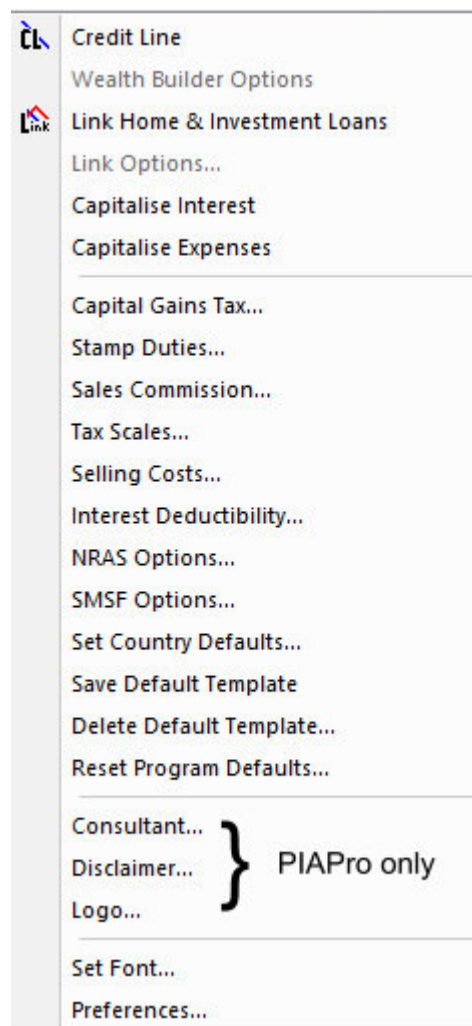
### Capitalise Expenses

Clicking *Capitalise Expenses* in the *Settings* menu instructs PIA that – rather than being met from the cash flows – rental expenses are simply added to the loan. This is reflected in the *Rental expenses* row in the spreadsheet: The row title changes to *Rental expenses (c)*. By default, PIA assumes that any interest over and above the interest on the original balance is not tax deductible (see Capitalise interest above).

### Capital Gains Tax

Clicking Capital Gains Tax in the *Settings* menu opens the Capital Gains Tax Settings dialog, allowing you to select the method used to calculate capital gains tax (CGT).

Australian capital gains tax (CGT) rules have changed in recent years as a result of the Ralph Review of Taxation: tax is now based on a discount method. The discount rate for





most people is 50%, but this may vary for companies.

Since May 13, 1997, the CGT rules have meant that any building depreciation (capital allowance) claims must be written back (subtracted from the cost base) when calculating the CGT.

Where CGT is not applicable (for example, in New Zealand), select the *CGT not applicable* radio button.

### Stamp Duties

Clicking *Stamp Duties* in the *Settings* menu opens the Specify Stamp Duty Scale dialog (see 3.3).

### Sales Commission

Clicking Sales Commission in the *Settings* menu opens the Specify Sales Commission Scale dialog, allowing you to specify the sales commission scales used by PIA.

The default setting is the state (or country) you chose for Stamp Duty scales in the Stamp Duty Scale dialog (see 3.3).

If you make a change to the sales commission scales, these are saved to the PIA settings file.

The 'Specify Sales Commission Scale' dialog box features a table for defining commission rates based on sales volume. The table has columns for 'From', 'To', 'Rate', and '(Flat)'. The first row is pre-filled with '1', '18,000', '5.00%', and an unchecked checkbox. Subsequent rows start with '18,001' and have empty fields for 'To', 'Rate', and '(Flat)'. To the right of the table is a 'Region' section with radio buttons for Qld., N.S.W., Vic., S.A., W.A., N.T., Tas., A.C.T., N.Z., Other, and a checked 'Default' option. At the bottom, there are input fields for 'plus flat fee:' and 'plus GST:' (set to 10.00%), along with buttons for '?', 'OK', and 'Cancel'.

### Tax Scales

Clicking Tax Scales in the *Settings* menu opens the Specify Tax Scale dialog. This dialog allows you to reset the tax scales used in PIA.

The default setting is the country you chose in the Set Country Defaults dialog.

If you make a change to the tax scales, these are saved to the PIA settings file.

There is an option for quarantining any tax losses to the investment. i.e. they cannot be offset against other income such as salary.

The Low Income Tax Offset (Australia only) is a tax offset given to low income earners. The maximum tax offset is given to all those with taxable income below the threshold specified. The offset reduces at a specified rate for taxable incomes above this threshold. From 1 July 2018 until 30 June 2022 (for only 4 years), the Australian Government has introduced a Low and Middle Income Tax Offset (LAMITO) for Australians with a taxable income under a certain amount. The Low Income Tax Offset (LITO) will continue to apply, alongside the LAMITO.

The 'Specify Tax Scale' dialog box contains a table for tax rates with columns for 'From', 'To', and 'Rate'. The first row shows '1', '18,200', and '0.00%'. The second row shows '18,201', '45,000', and '19.00%'. The third row shows '45,001', '120,000', and '32.50%'. The fourth row shows '120,001', '180,000', and '37.00%'. The fifth row shows '180,001' and '45.00%', with empty fields for 'To' and 'Rate'. To the right is an 'Options' section with radio buttons for Australia (selected), New Zealand, Other scale, Superannuation, Company, and Corporation. There are also checkboxes for 'Set as default' (checked) and 'Quarantine losses'. At the bottom, there are two sections: 'Low Income Tax Offset' which includes 'Includes LITO and LAMITO' and a 'Scales' button; and 'Medicare Levy' with input fields for 'Threshold:' (22,801) and 'Rate:' (2.00%). Buttons for '?', 'OK', and 'Cancel' are at the bottom right.

### Selling Costs

Clicking on Selling Costs opens the Selling Costs dialog. This dialog allows you to enter values for PIA to use when calculating the cost of selling a property. These include sales commission, solicitor's fees and - in Australia – Capital Gains Tax.

The sale of properties in New South Wales also attracts stamp duty on sale.

Estimated costs based on a selling price of: <b>465,891</b>		
Cost Component	% of Sale Price	Cost (\$)
Sales Commission		13,307
Solicitor's fees	0.50%	2,329
Stamp duty on sale	0.00%	0
Other selling costs	0.00%	0
Capital Gains Tax		38,964
<b>Total selling costs</b>		<b>54,600</b>

? OK Cancel

### Interest Deductibility

Clicking on Interest Deductibility will display the Interest Deductibility dialog. This was introduced in 2021 in response to New Zealand introducing legislation to remove the tax deductibility of interest costs for investment properties to help first-home owners become more competitive in the market for properties.

The proposal was to be phased in over four years for properties already held (before 27<sup>th</sup> March 2021). In Australia, for loans with interest capitalising (added to the loan), the capitalised component of the interest was deemed non-deductible in most circumstances.

Interest Tax Deductibility					
Year:	1yr	2yr	3yr	4yr	5yr
Interest:	23,847	23,471	23,077	22,664	22,231
Capitalised component:	0	0	0	0	0
Percentage deductible:	100.00%	100.00%	100.00%	100.00%	100.00%
Deductible interest:	23,847	23,471	23,077	22,664	22,231

☐ Any capitalised component is tax deductible

? << < > >> OK Cancel



### NRAS Options

Clicking *NRAS Options* opens the NRAS Options dialog. The dialog provides access to variables that define the subsidies and rental discounts associated with the Australian Governments National Rental Affordability Scheme (NRAS).

See <http://www.fahcsia.gov.au> for details.

Clicking the NRAS Tax Incentive button opens the NRAS Tax Incentive dialog (see below). For easy comparison with an equivalent non-NRAS property, the rental income and expense parameters are set out side by side in two columns. The NRAS parameters do not come into effect until the Apply NRAS checkbox has been clicked.

Clicking the Cash Flow Comparison button will generate a simple first-year cash flow analysis report for the same property under NRAS and non-NRAS parameters,

**NRAS Options**

First Year

	Non-NRAS	NRAS
NRAS Tax Incentive		9,981
Rental discount rate		20.00%
Vacancy rate	2.00%	2.00%
Rental income	17,836	14,269
Additional purchase costs	0	0
Recurring rental expenses		
Agent's commission	1,471	1,471
Letting fees	350	280
Rates	2,000	2,000
Insurance	1,000	1,000
Maintenance	800	800
Body corporate	0	0
Cleaning	0	0
Pest control	0	0
Mowing	0	0
Other expenses	0	0
One-off rental expenses		
Special expenses	0	0
Total rental expenses (1st yr)	5,621	5,551

☐ Apply NRAS for 10 years

Cash Flow Comparison

? OK Cancel

### NRAS Tax Incentive dialog

The dialog allows the specification of the first-year NRAS tax incentive. This incentive is assumed to be indexed each year in line with changes in the market rents.

It is also possible to specify whether or not total rental deductions are to be adjusted for the proportion of income that is deemed non-assessable non-exempt (NANE). The State component of the tax incentive (25% of total tax incentive) is deemed NANE income.

**NRAS Tax Incentive**

NRAS tax incentive:	9,981
Federal component:	7,486
State component (NANE):	2,495
Rental income:	14,269
Rental + NANE income:	16,764
Rental/(Rental + NANE) income:	85.12%
Total rental deductions:	45,806
<input checked="" type="checkbox"/> Apportion deductions to be claimed	
<b>Deductions to be claimed:</b>	<b>38,988</b>

? OK Cancel

### SMSF Options

Clicking SMSF Options brings up the Self-Managed Super Fund Options dialog. Purchasing property in the name of a self-managed super fund (SMSF) is similar in principle to purchasing in the name of a single investor where the investor is the SMSF.

Naturally, many of the parameter values will be different. The SMSF becomes the investing entity and

tax scales and tax rules must be those pertaining to superannuation funds. The income for the entity will be the regular superannuation contributions being made by one or more investors.

If you choose to apply the SMSF settings, then the following changes to the model take place:

1. Ownership is in a single name (i.e. the SMSF)
2. The annual income (one entity only) and expenses will be as specified in the dialog
3. The tax scale will be that pertaining to superannuation funds (see Settings menu/Tax Scales).
4. The CGT discount will be changed to that as specified in the dialog
5. Living expenses, home value, loan and repayments are not applicable and are set to zero.

If you also choose to apply a Pension Phase for the SMSF, then from the year you specify, there will be no tax on the fund's earnings and no capital gains tax on sale. There may well be changes to the SMSF tax laws and you would be well advised to check with the Tax Office. A proposed change at the time of publication was to introduce a tax (15%) on earnings over \$100,000.

When dealing with superannuation funds, it is often useful to monitor the total cash flow into and out of the fund, including that of the investor contributions. This Annual Cash Surplus can be displayed at the bottom of the Investment Analysis spreadsheet by clicking the corresponding checkbox in this dialog.

These settings will not be invoked until you click the Apply SMSF Settings checkbox and OK.

### Set Country Defaults

Clicking *Set Country Defaults* allows you to switch between defaults for Australia, New Zealand and other.

### Save Default Template

Clicking *Save Default Template* saves the current spreadsheet as the default template. To revert to PIA's default settings, click *Delete Default Template* (see below).

PIA always opens a new property file with a set of default values. You can modify these values at any time to create your own personalised start-up template so that you do not have to modify all of the variables every time you create a new file.

This is especially useful for values that are specific to you and do not change very much, such as your home loan details and your own living expense budget, as well as your estimates for inflation, growth and interest rates.

You can set new default values at any time by simply making the changes and selecting the *Set Default Template* menu item again.

### Delete Default Template

Clicking *Delete Default Template* deletes the current template and startup settings so that PIA will re-start with original program default values.

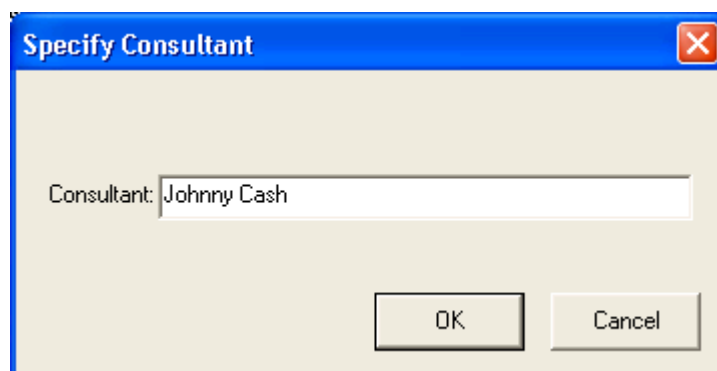
### Reset Program Defaults

Clicking Reset Program Defaults will not only delete any Default Template and Settings file (tax scales, stamp duty scales etc), but also reset the programs display settings to their original defaults.

### Consultant **PIAPro**

Clicking Consultant in the *Settings* menu opens the Specify Consultant dialog. This allows you to customise the consultant field in any generated reports.

**i** If you are the only consultant using this copy of the PIA software, you might save the default template once you have completed the field.



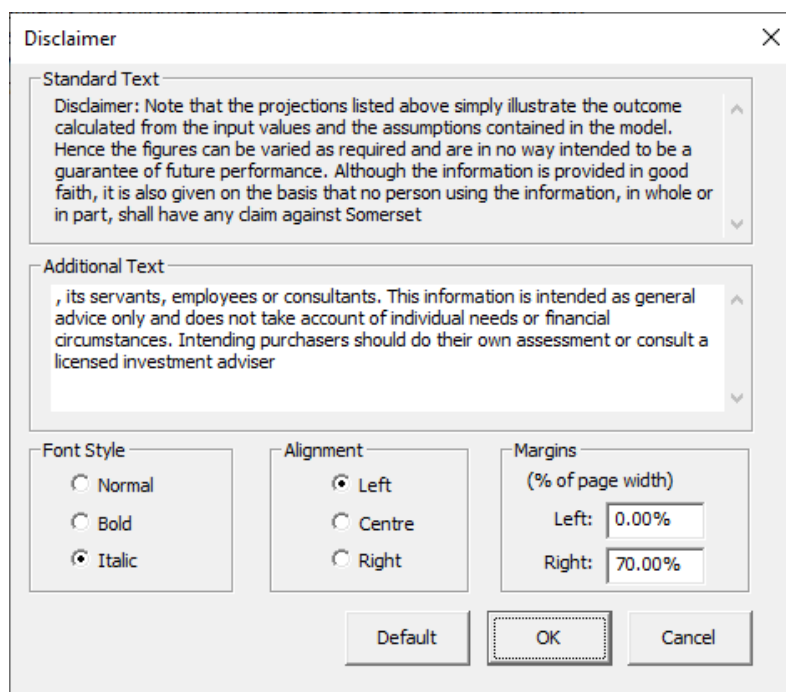
### Disclaimer **PIAPro**

PIAPro has a standard disclaimer which cannot be edited. You can, however, append text to the standard disclaimer.

Clicking Disclaimer in the *Settings* menu opens the Disclaimer dialog. This allows you to make additions to the standard disclaimer used in reports generated by the Professional version of PIA. You can add additional phrases, and change the style and format of the disclaimer. (Changes to the format affect the entire disclaimer, that is, the standard disclaimer and any additions you make.)

#### Font Style, Alignment and Margins

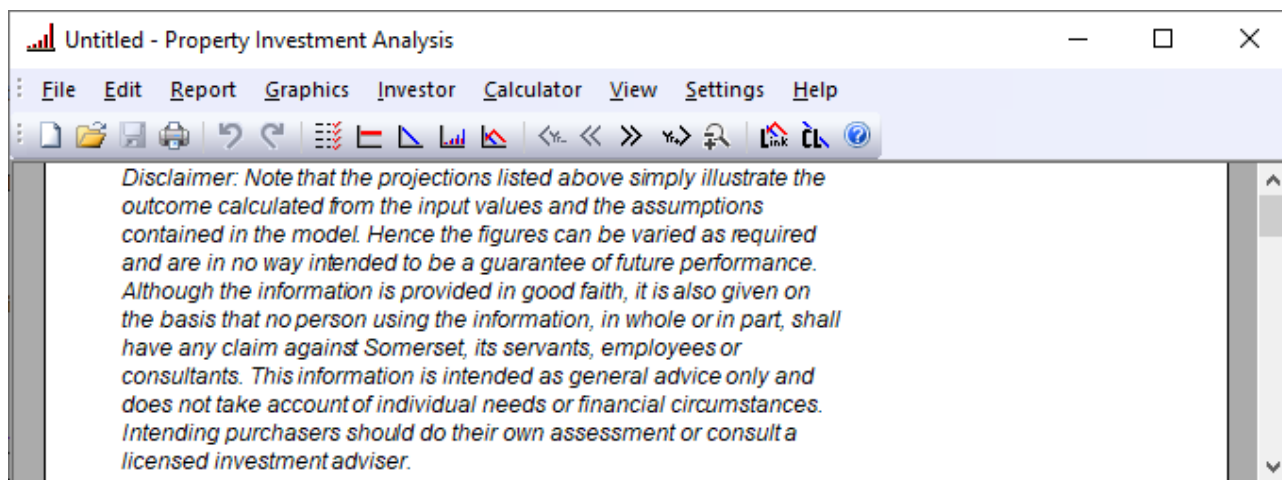
You can set the font style, alignment of text, and the width of the left and right margins to allow space for a company logo. The entries in the *Left* and *Right* boxes determine how far from the left of the page the margins will start.



When you click on **OK**, a window is displayed showing the disclaimer as it will be printed. The edited disclaimer is stored in the settings file and appears on all subsequent documents printed.

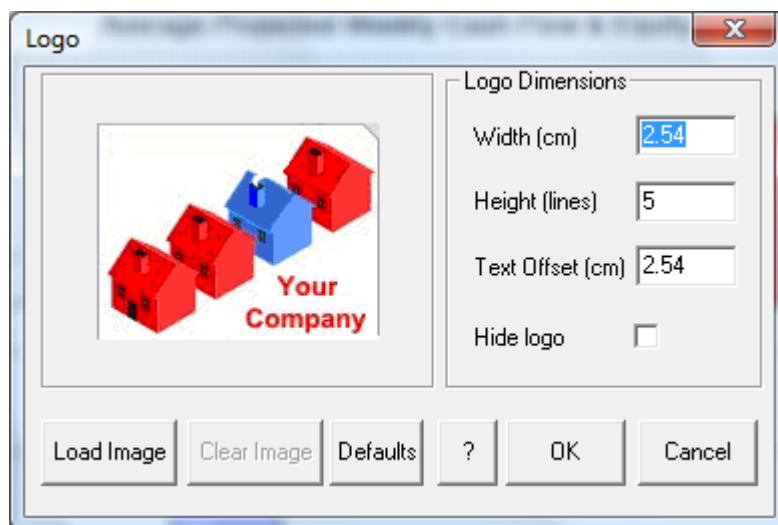
➔ Press the **ESC** key to return to the spreadsheet.

(This example shows the format set to italic, left-justified text, set across 70% of the page width.)



### Logo **PIAPro**

Clicking Logo in the Settings menu opens the Logo dialog. This allows you to load a jpeg image of your company logo to be displayed in any generated reports. The exact size and position of the logo can be fine-tuned in the Logo Dimensions area.



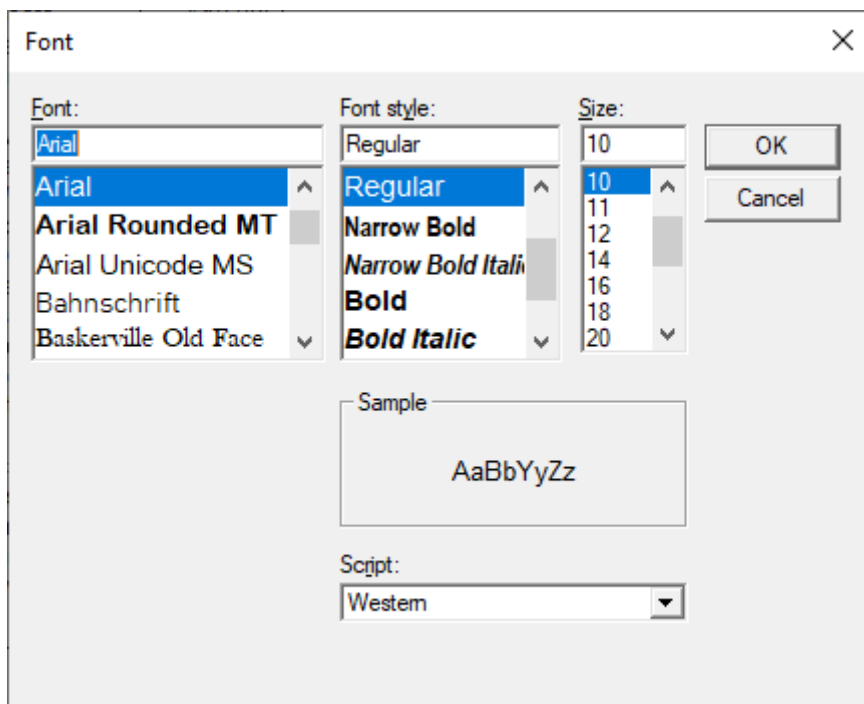
### Set Font

Clicking *Set Font* in the *Settings* menu opens the Font dialog. This allows you to customise fonts used in spreadsheets and reports.

The default font is Arial Regular, 10 point. The spreadsheets and reports are optimised to display with a font size of Arial Regular 10 point.

If you exceed this size, some fields may overlap and pagination may not be optimal.

If you wish to enlarge text to make it easier to read on screen, it is better to use the Magnify command described later in this section.



## Preferences

Clicking *Preferences* in the *Settings* menu opens the Preferences dialog.

Consisting of four pages called "tabs", this dialog enables you to enter your preferences regarding the Investment Analysis spreadsheet "Bottom Line", directories in which you wish to store files, as well as your choice of magnification and colours. The options are described below.

### Display tab

The top part of the Display tab contains the Investment Spreadsheet "Bottom Line" preferences area. This area contains eight radio buttons that allow you to select how you would like the "bottom line" of the Investment Analysis spreadsheet to be presented:

#### Click

Pre-tax equivalent  
Net present value  
Real rate of return  
Cash on cash return  
Rate of return (if sold)  
"Your cost/(income) per week"  
"Your income/ (cost) per week"  
"Weekly after-tax cash flow"  
"Monthly after-tax cash flow"  
"Annual cash surplus"

#### To display

Internal Rate of Return (IRR) and Pre-tax Equivalent of IRR  
IRR and Net Present Value  
IRR and Real IRR (i.e. IRR adjusted for inflation)  
IRR and Cash on cash return  
IRR and IRR which takes account of selling costs  
Weekly costs with income in brackets  
Weekly income with costs in brackets  
After-tax cash flow per week.  
After-tax cash flow per month.  
Annual cash surplus



*In a typical negatively geared investment, the after-tax cash flow is usually negative in the early years and in this situation, you would normally specify the convention to be showing the "Cost/(Income) per Week" with a negative cash flow shown as a positive cost. On the other hand, if the properties you analyse are more likely to be cash-flow positive, you might prefer to show income to be positive and any negative cash flows in brackets i.e. "Income/(Cost) per Week". For an entity such as an SMSF, it is often useful to display the Annual cash surplus to monitor whether there is sufficient fund contributions being made by the investor(s) to cover any negative gearing losses on the investment property.*

### Years

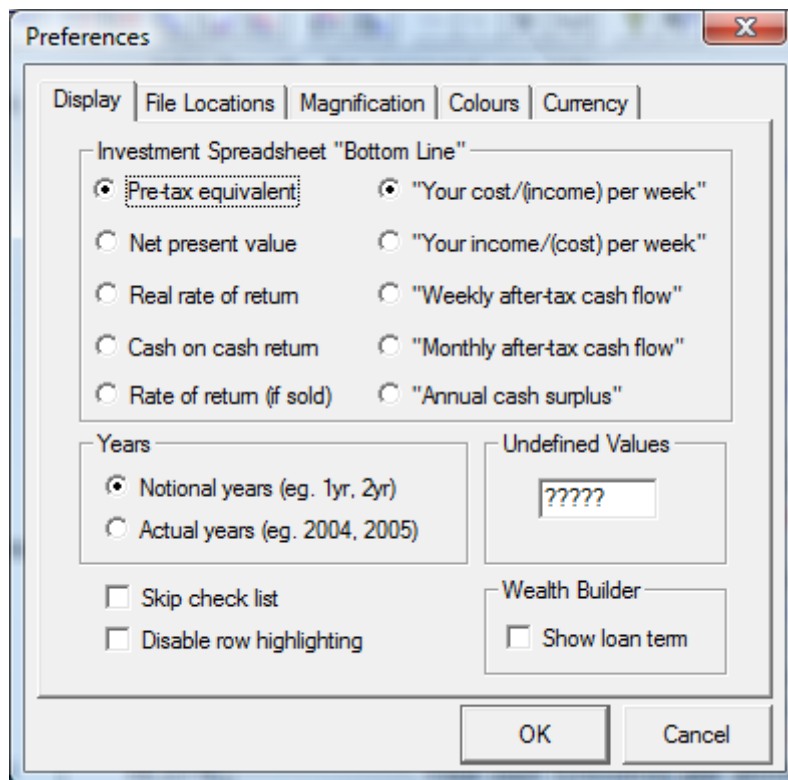
The Notional years and Actual years radio buttons allow you to select how PIA displays years in spreadsheets and reports.

### Undefined-value string

Sometimes entries into PIA will result in values that cannot be represented in numbers. For example, if the cash flows on an investment property are positive from the start, it is not possible to calculate a return on investment as there is no investment (the return is infinite). In such situations, PIA represents the value as "?????" by default. You can change this string if you wish.

### Skip check list

By default, the Data Entry Check List (see 2.4) is displayed when you create a new property file – the structured format ensures ease of entry of key parameters for new users.





However, experienced users may wish to bypass the Data Entry Check List and go straight to the investment analysis spreadsheet when creating a new file. Here, values are automatically updated whenever changes are made. If you check the *Skip check list* check box, PIA does not display a Data Entry Check List when you create a new PIA file.



You can still display the Data Entry Check List by clicking Data Entry Check List in the *View* menu or clicking the icon in the toolbar.

### Disable row highlighting

If the *Disable row highlighting* check box is checked, spreadsheet row titles (on the left) no longer change colour and the mouse cursor does not change shape when the mouse pointer passes over them. This option has been made available because of possible conflicts in some operating systems.

### Wealth Builder display option

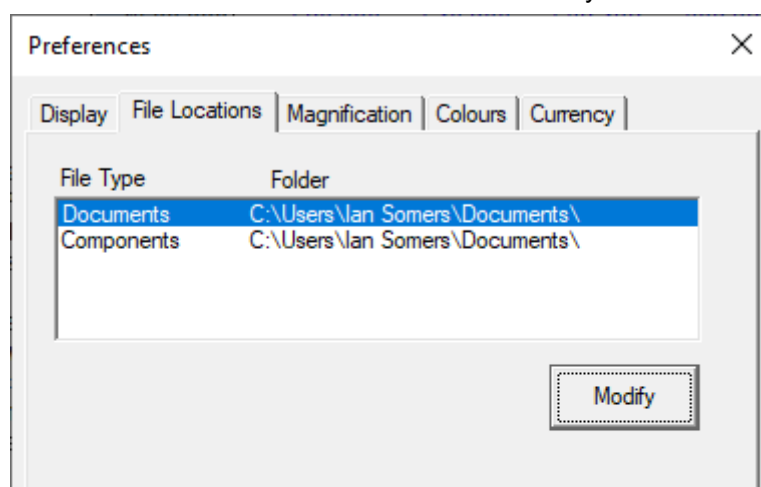
If the Show loan term checkbox is ticked, the Wealth Builder spreadsheet will calculate the years until all loans are repaid and display it in the input column of the *Total all loans* row. If the number of years exceeds 40, the figure will display as undefined ("?????").

### File Locations tab

Clicking the *File Locations* tab displays the currently specified folders for storage of files. Clicking the **Modify** button displays the Select Directory dialog, allowing you to select the directory where files will be stored. (See also 7.1).



*If you use the Save As command or Open command to save or open a file in a directory other than the default directory, PIA stores this as the default directory. This information is updated whenever you open or save a file, but can also be specified directly using this dialog.*



### Magnification tab

Clicking the *Magnification* tab in the Preferences dialog opens the Magnification page.

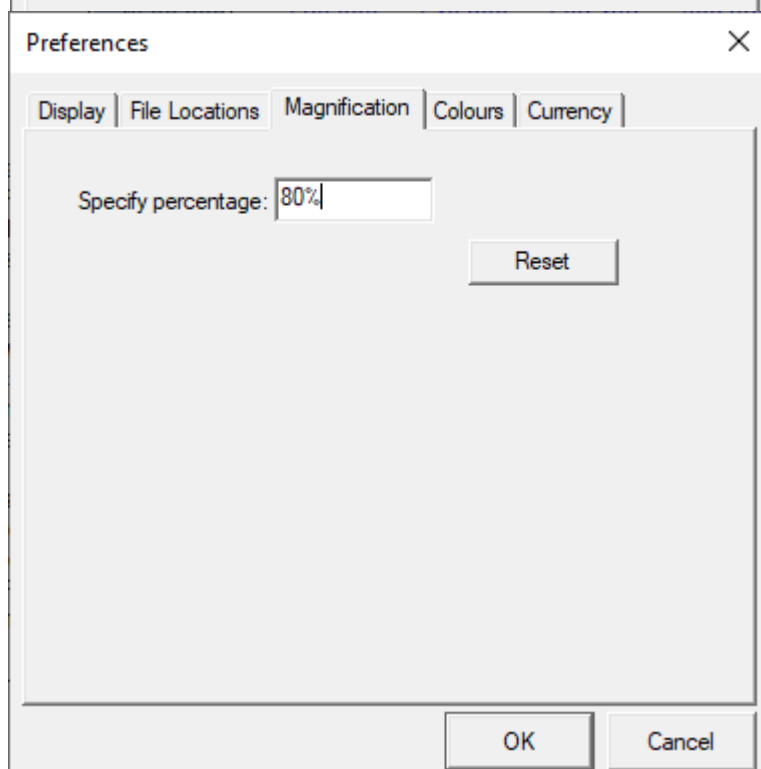
You may enter the required magnification directly in to the *Specify percentage* line.

Clicking the **Reset** button resets the magnification to the default calculated by PIA based on the resolution of your graphics card. This default setting ensures that the screen is always readable when the software is first installed.

This can now also be done through the **Zoom** icon on the Toolbar and in the *View* menu.



*You can magnify the view of the spreadsheets and reports without affecting printed output. The standard view is 100% magnification. A magnification of 150% results in a view that is 50% larger than the standard while a view of 50% results in a view 50% smaller than the standard.*



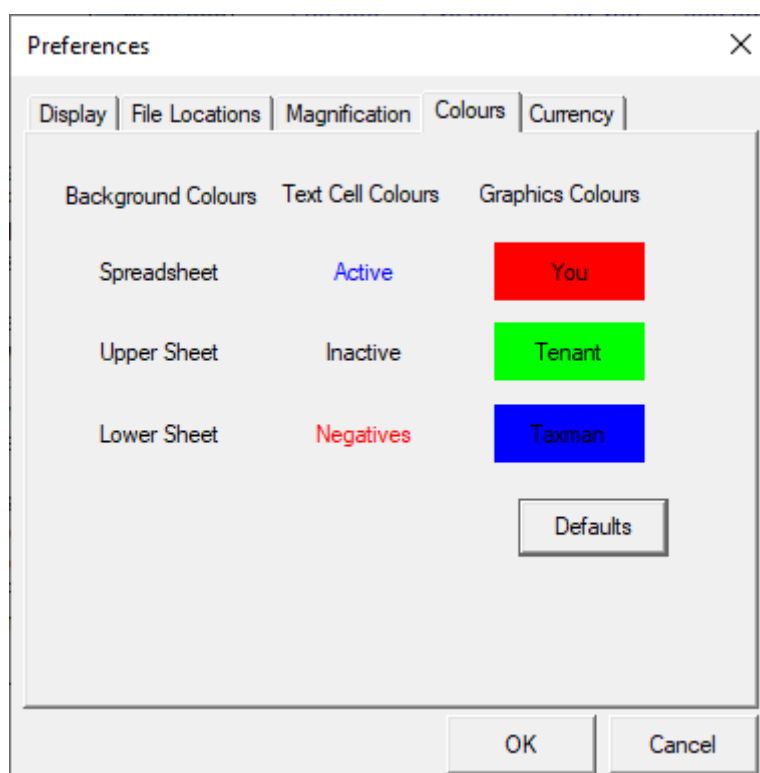
### Colours tab

Clicking the Colours tab opens the Colours page in which you can specify custom colours for various parts of the user interface. Clicking on the various buttons in the page opens the operating system's Colour selection dialog (see below). After selecting a colour, the colour of the button is updated accordingly. Clicking the **Defaults** button returns the colours to the PIA default settings.

**Background Colours** refer to those of the spreadsheets. Two of the spreadsheets (Linked Loans and Wealth Builder) can be divided logically into an upper and lower part for which different colours can be chosen to make interpretation easier.

**Text Cell Colours** refer to the foreground colour of text in the various spreadsheet cells. **Active** cells are those that can be selected and overwritten. **Inactive** cells are those that can't be overwritten directly. **Negative** cells contain negative values and may be either active or inactive. By default, spreadsheet cells that can be selected and changed (active cells) are coloured blue. Other cells (inactive cells) are coloured black, except where their value is negative in which case they are red.

**Graphics colours** refer to the different components in graphics reports (see 7.3). These are denoted by the **You**, **Tenant** and **Taxman** buttons, the components for which appear in the Who Pays? graphic report.



### Currency Tab

This tab provides options for using currency symbols other than the "\$". It has been provided mainly for British or European users of the software.

## 7.9 Help menu

Clicking *Help* in the menu bar displays the *Help* menu.

The *Help* menu gives you access to a variety of help options. It also includes registration, feedback and on-line support options.

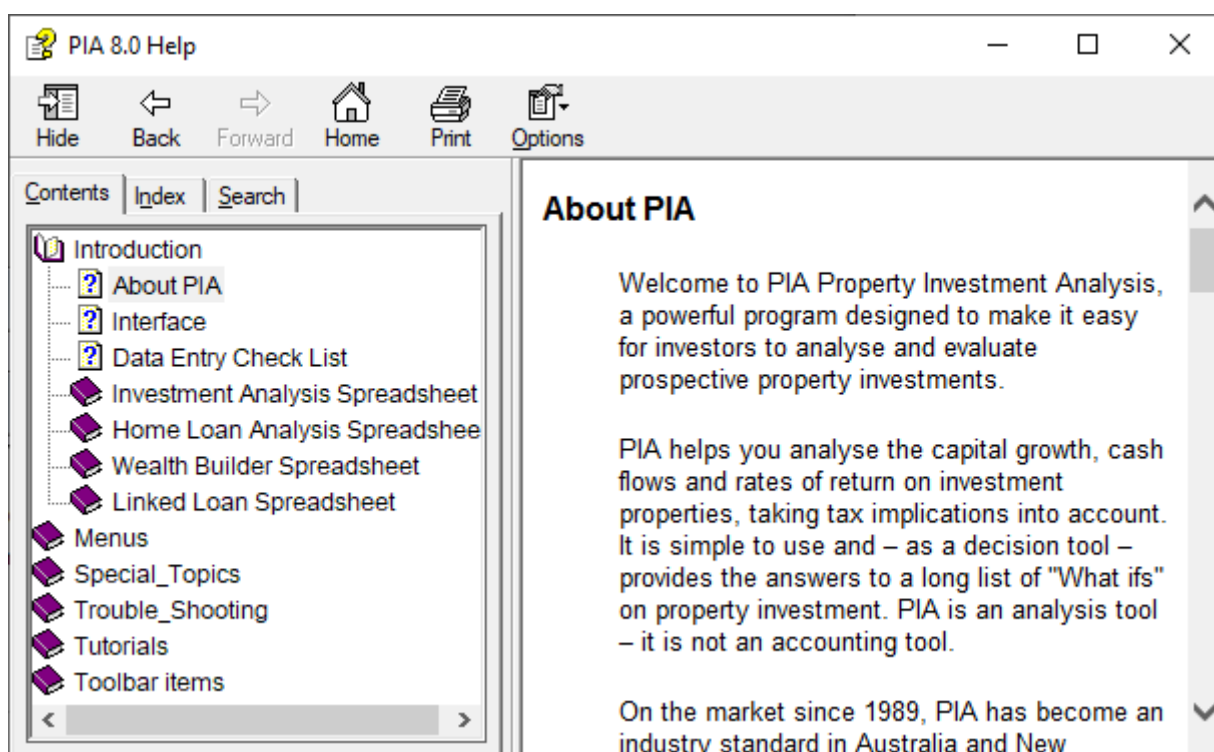
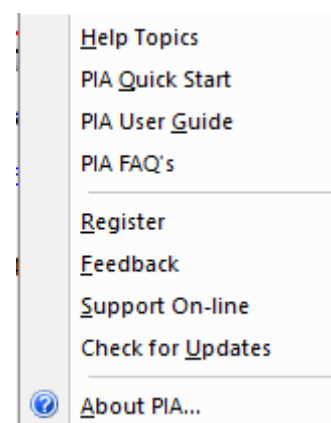
### Help Topics

Clicking *Help Topics* opens the PIA Help Topics facility. Help can be obtained by using either the *Contents*, *Index* and *Search* tabs.

The *Contents* tab displays the contents of PIA Help.

The *Index* tab displays an index of PIA Help.

The *Search* tab presents a search window, allowing you to search on keywords to find the help you are looking for. Instructions on how to use the Help Topics are clearly given under each of the options.



### PIA Quick Start

Clicking *PIA Quick Start* opens the PIA Quick Start Guide that installs with the PIA software. It is in PDF format and will open in your default PDF reader.

### PIA User Guide

Clicking *PIA User Guide* opens the PIA User Guide (this document) that installs with the PIA software. It is in PDF format and will open in your default PDF reader.

### PIA FAQ's

Clicking *PIA FAQ's* your default browser and if you are connected to the internet, opens a page on the Somersoft website ([https://www.somersoft.com.au/pia\\_faqs.htm](https://www.somersoft.com.au/pia_faqs.htm)) containing a lot of support material with regard to the PIA software.

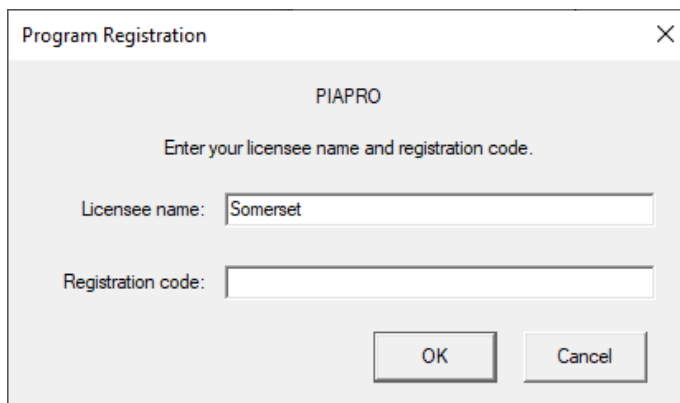


## Register

Clicking *Register* opens a Program Registration dialog. PIA must be registered if it is to run in normal mode.

**i** *If PIA is not registered, it runs in demonstration mode in which many of the key variables are locked.*

The Program Registration dialog appears when you run the software the first time. However, this item also makes it possible to register a copy of the software you have been running in demonstration mode or to register with a different name and corresponding registration number.



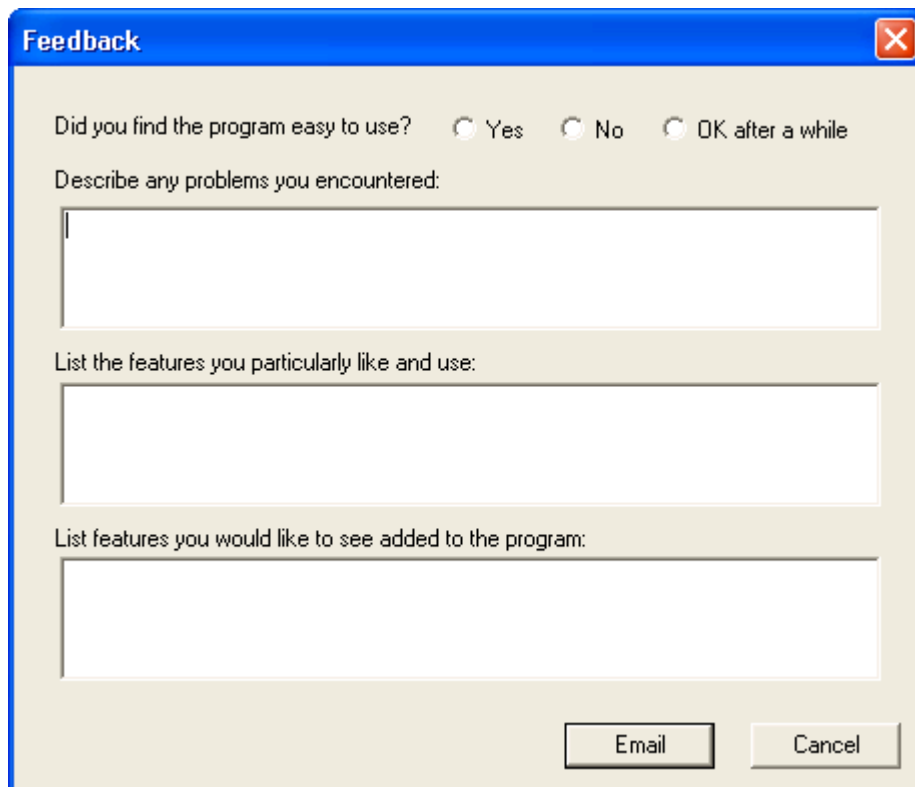
The 'Program Registration' dialog box has a title bar with a close button. The main area is titled 'PIAPRO' and contains the instruction 'Enter your licensee name and registration code.' Below this are two text input fields: 'Licensee name:' with the text 'Somerset' entered, and 'Registration code:' which is empty. At the bottom right are 'OK' and 'Cancel' buttons.

## Feedback

Clicking *Feedback* opens the Feedback dialog. This facility allows you to email valuable feedback on the software to technical support.

Please use the Feedback option – it helps us tailor PIA to your needs.

➔ *Because of operating system restrictions, the Feedback feature is only available in Windows where MAPI support is available.*



The 'Feedback' dialog box has a blue title bar with a close button. It contains three radio buttons for 'Did you find the program easy to use?' with options 'Yes', 'No', and 'OK after a while'. Below this is a text area for 'Describe any problems you encountered:'. Then another text area for 'List the features you particularly like and use:'. Finally, a third text area for 'List features you would like to see added to the program:'. At the bottom right are 'Email' and 'Cancel' buttons.

## Support Online

Clicking *Support Online* sends a message to your *MAPI*-compliant email program to generate an email to [support@somersoft.com.au](mailto:support@somersoft.com.au) with the current document as a file attachment. Please specify the nature of your support request in the body of the email before sending the email.

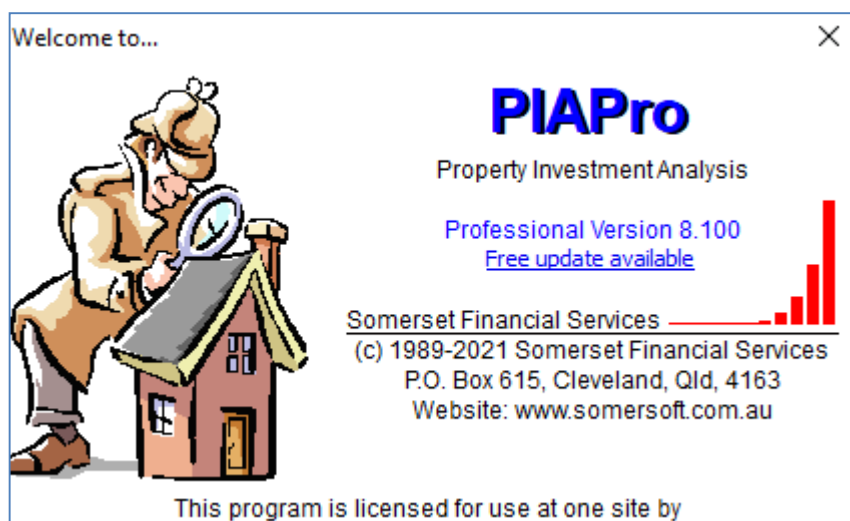
➔ *Because of operating system restrictions, the Support Online feature is only available in Windows where *MAPI* support is available.*

## Check for Updates

If you are connected to the internet, PIA will check to see if there are any updates available for this current version of the software. Updating the software is neither compulsory nor automatic. If there is an update available, you will be told whether it is free or what the cost would be if you do wish to update. More details of updates are given on the Somersoft website at [https://www.somersoft.com.au/pia\\_updates.htm](https://www.somersoft.com.au/pia_updates.htm).

At start up, PIA automatically does an update check and indicates in the Opening dialog if there is an update available.

If “Update available” or “Free update available” appears below the current version details, clicking on it will open your browser at the web page specified above.

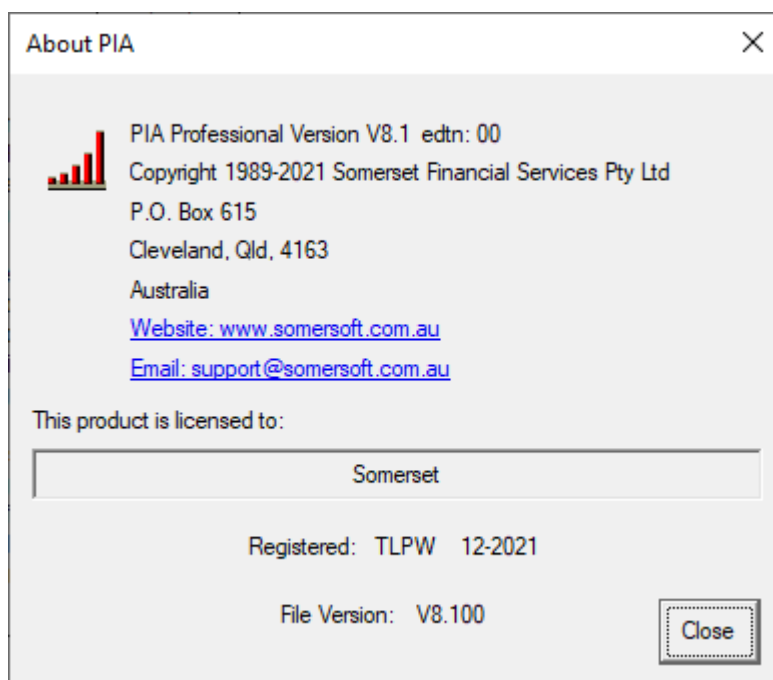


## About PIA

Clicking *About PIA* opens the About PIA dialog. It shows copyright information, the address of Somerset Financial Services, the website URL and the email address for support.

The Registration field (Reg:) at the bottom of the window shows the first 4 characters of the registration code and the corresponding month-year when it was first registered.

You can also open this box by clicking the About PIA icon on the toolbar.



## Appendix A – Glossary

### **After-tax cash flow** (Investment Analysis spreadsheet)

These are all of the monies that flow into or out of your pocket after tax is taken into account.

### **Allowable deductions** (Current Taxable Income dialog)

Allowable deductions consist of those expenses that relate to your work-related income and those expenses and depreciation claims that relate to your rental income from your investment properties.

### **Amount owing** (Home Loan Analysis spreadsheet)

The amount still owing on your home loan or a consolidation of non-investment loans.

### **Assessable income** (Current Taxable Income dialog)

Assessable income includes salary/wages, rental income from any existing investment properties and any other income.

### **Book value** (Property Value dialog)

The book value represents price paid for a property plus the cost of any initial renovations. In contrast, the market value is what you might expect to get for it if you were to sell it.

### **Capital allowance** (Depreciation of Building dialog)

This is another term used for the depreciation claim on the building.

### **Capital cost**

Investment in the asset rather than expenditure on operating (or revenue) costs.

### **Capital Gains Tax**

A tax on the net profit between purchase and sale.

### **Capital growth rate** (Investment Analysis spreadsheet)

The average annual compound rate of growth in the property value.

### **Cash flow**

The monies that flow in and out of your pocket.

### **Cash-neutral investment**

The initial deposit required to make the after-tax cash flow in the first year equal to zero. In the Property Details area of the Investment Analysis spreadsheet, this variable is shown as \$0 if the investment is already cash positive when there is no deposit.

### **Cash savings** (Wealth Builder spreadsheet)

Cash savings represent the accumulated monies available after all income and expenditure is taken into account.

### **Component** (PIAPro File menu)

A component is a subset of a PIA file that describes one of the three major sets of attributes required for investment analysis: (a) those that describe the property, (b) those that describe the finance and (c) those that describe the investor(s).

### **Consumer Price Index (CPI)** (Investment Analysis spreadsheet)

An index of prices used as to measure of the rate of change in the cost of basic goods and services (i.e. the inflation rate).

### **Cost base** (Capital Gains Tax Calculator and reports)

Used in calculations for capital gains tax, cost base is the total purchase price of a property (including the costs of acquisition, stamp duty, renovations, etc).

### **Credit line** (various spreadsheets)

A type of loan account into which all income is paid and from which all expenses are redrawn. Used to accelerate mortgage reduction.

### **Current net income** (Current Taxable Income dialog)

Your current net income is simply the total of all your income (salary/wages, rental income from any investment properties that you currently own and income from any other source, including any tax rebates) less your total cash expenses.

### **Current taxable income** (Current Taxable Income dialog)

Your current taxable income is simply the total of all your income (salary/wages, rental income from any

investment properties that you currently own and income from any other source) less your total allowable tax deductions (cash expenses and depreciation claims).

**Debt service ratio (DSR)** (Wealth Builder spreadsheet)

The debt service ratio provides a guide as to the level of affordability of a loan. As it is defined within PIA, the value should be below 100%. The methods that lending institutions use to calculate this index vary considerably. Most lending institutions are conservative in calculating an investor's affordability, such as ratio of the total loan payments to the sum of 30% of income and 80% of rent. DSRs greater than 100% are unlikely to gain loan approval.

**Deemed payments** (Debt Service Ratio dialog)

Deemed payments are the financial institution's conservative estimate of future loan commitments, allowing, for example, for an increase in interest rates.

**Default folder**

The default folder in PIA is the folder in which you save or retrieve PIA files. If you choose to save or retrieve files in a different folder, that folder will then become the default folder.

**Default template**

PIA loads a template of default values into any new spreadsheet. You can specify your own template of default values by using the *Save Default Template* menu item in the *Settings* menu or by checking the *Use these values as defaults* check box in the Data Entry Check List (see 2.4). You can reset the "factory" settings with the Delete Default Template command in the *Settings* menu (see 7.6.)

**Defined term**

This entry is for illustration only: The hyperlinked term is shown on page 7 and links to this definition.

**Demonstration version**

An unlicensed version of the software for evaluation purposes, the demo version is of limited practical use as a number of key variables (such as property value, purchase costs and rental expenses) are locked and cannot be changed by the user. A demonstration version can be converted into a licensed version by entering the licensee name and registration code.

**Depreciation of Fittings (Chattels)** (Investment Analysis spreadsheet)

These are the amounts by which the value of fittings decreases over time. For tax purposes, this can be either a constant amount (straight line or prime cost method) or a constant percentage of the written down value (diminishing value method).

**Depreciation on Building** (Investment Analysis spreadsheet)

These are the amounts by which the value of the building decreases over time. See Capital allowance.

**Eligible income** (Debt Service Ratio dialog)

Eligible income is that part of gross income that a financial institution will accept as disposable. This could be 30% of wages or salary (the remainder being required for paying tax and living expenses) and 80% of rental income.

**Equity** (Investment Analysis spreadsheet)

The equity in each year is the difference between the property value and the loan.

**Ex-home loan payments** (Linked Loan spreadsheet)

Under the linked loan model used in PIA, the regular home loan payments (ex-home payments) may be diverted to repaying the investment loan once the home loan is repaid.

**Exit stamp duty**

Stamp duty payable on the sale of a property by the vendor.

**Fittings**

Items which are attached to a property but which can be removed without damaging the property. See also Depreciation of fittings (chattels).

**Fixtures**

Items which are attached to a property and which cannot be removed without damaging the property.

**Furniture package** (Property Value dialog)

A furniture package is often purchased as an optional addition for a resort or holiday unit so that it can be rented fully furnished. Furniture is a depreciable item and the cost is taken into account when calculating the total loan required. However, for the purposes of the investment analysis, furniture is not considered as part of the property value subject to capital growth.

**General fittings** (Depreciation of Fittings dialog)

When the property price is specified, PIA estimates the total value of fittings to a percentage of that property price. Individual items are lumped 50:50 into the General fittings and Low value pool categories. If you choose to revise these values, they will not change automatically when you change the property price.

**Gross yield** (Rental Income dialog)

The actual annual rent expressed as percentage of the property value (before deduction of rental expenses).

**Home equity** (Home loan analysis spreadsheet)

Home equity is the difference between the value of the home (principal residence) and the outstanding loan amount at any point in time.

**Home loan** (Home loan analysis spreadsheet)

In PIA, home loan refers to the loan on the investor's home or, more broadly, as a consolidation of all non-deductible loans.

**Indexed variables** (Inflation Rate dialog)

By default, PIA uses the inflation rate to project rental income, rental expenses, taxable income and living expenses. These are referred to as indexed variables, as their annual values are indexed to the rate of inflation.

**Inflation rate** (Investment Analysis spreadsheet)

The expected long-term average annual rate of inflation which determines the rate of increase in rent, rental expenses (rates, insurance, etc) and any other taxable income.

**Interest-only (I/O) loan**

A loan type that allows the borrower to pay the interest only, without paying off the principal. Contrast Principal & interest loan.

**Interest rate**

The percentage of the loan paid as a charge for the loan, normally expressed as annual interest.

**Internal Rate of Return (IRR)** (Investment Analysis spreadsheet)

The Internal Rate of Return (IRR) is a measure of the return on a series of cash flows where the time factor is taken into account. Here it is calculated on the after-tax cash flow (your investment) and subsequent equity. (See 3.19.)

**Investment capacity** (Investment Capacity dialog)

This refers to the amount of investment property that an investor (or a couple) can afford after setting aside sufficient monies to cover their normal living expenses.

**Investment equity** (Wealth Builder spreadsheet)

The investment equity is the difference between the total value of investment properties and the debt remaining on them. If a property is sold, selling costs (sales commission and solicitor's fees) and capital gains tax must be deducted.

**Investment surplus** (Linked Loan spreadsheet)

Any positive cash flows from an investment property (usually because the net rent exceeds the loan repayments) can be used to help repay non-deductible loans such as the home loan.

**Licensee**

The person (or company in the case of the Professional version) to whom a copy of the PIA software is licensed. The nominated licensee is provided with a registration code. When these are entered into the Registration dialog, the software switches from demonstration mode to full mode.

**Linked loan** (Linked Loan spreadsheet)

The term "linked loan" describes the situation whereby the repayment schedule for one loan (home loan) is dependent of the repayment schedule of another loan (investment loan). A cash flow surplus from an investment property could be used to make extra repayments on a home loan.

**Living expenses** (Living Expenses dialog)

Annual living expenses required by the investor (and partner) to cover cost of living (ranging from home loan repayments to groceries, holidays, medical and school bills).

**Loan amount** (Loan Amount dialog)

The total of all costs (property price, purchase costs, loan costs etc.) less any initial outlays. If renovations were carried out immediately, the loan would account for these costs as well. Additional loans may also be sought for items such as furniture or to help supplement initial cash flows.

**Loan cost write-off period** (Loan Costs dialog)

The number of years over which loan cost can be written off for tax purposes. In Australia, the Loan cost write-off period is 5 years or the term of the loan, whichever is lesser.

**Loan costs** (Loan Costs dialog)

Loan costs are made up of several components, some of which will be a function of the size of the loan while others may be a flat fee. These will vary between institutions but as a general guide expect loan costs to be between 1 to 2% of the total loan (including costs).

### **Loan eligibility**

Criteria for establishing whether you would qualify for an investment loan under the criteria set down by any financial institution.

### **Loan term**

The number of years it will take to pay out the loan completely.

### **Loan type**

The loan type can be interest only (I/O), principal and interest (P&I), interest capitalised (c) or a combination of the above (split loan).

### **Loan value ratio (LVR)**

The ratio of the total loan to the total value of the properties used as security for the loan.

### **Low-value pool** (Depreciation of Fittings dialog)

These items are under \$1000 and are to be written off using the diminishing value method at a rate of 37.5%, but at only half this rate (18.75%) in the year of acquisition.

### **MAPI**

Messaging Application Programming Interface – a Microsoft interface specification that enables various mail applications and workgroup applications (including E-mail and fax) to run through a single client. MAPI is required for some of PIA's email-related functions.

### **Marginal rate, Marginal tax rate** (Tax Credit dialog)

The rate of tax paid on the next dollar earned. Using this method for calculating tax credits makes the assumption that all tax savings are made at this rate.

### **Market value** (Property Value dialog)

The estimated current value of the property if sold.

### **Negative gearing**

Purchasing an investment with borrowed funds where the interest on the loan exceeds the net rent from the investment.

### **Net cost per year** (Home Loan and Linked Loan spreadsheets)

In relation to the Home Loan, the net cost is simply the cost of home loan payments less any redraws. In the case of the Linked Loans, the total net cost is the combined cost of home loan payments (less any redraws) plus the net cost of the investment property.

### **Net Present Value (NPV)** (Internal Rate of return dialog)

This represents the increase in the investment (equity) in today's dollars. In other words, it represents the difference between the market value of the investment (in today's dollars) and its total cost (also in today's dollars).

### **Net rent** (Rental Income dialog)

Gross annual rent (that is, excluding vacancies) less rental (property) expenses.

### **Net worth** (Wealth Builder spreadsheet)

The investor's net worth is the total value of all property assets, including the family home, less the total of all outstanding loans.

### **Net yield** (Rental Income dialog)

The annual rent less rental expenses expressed as a percentage of the property value. (See Rental expenses.)

### **Non-deductible expenses**

Expenses that are not tax deductible. In PIA, these are household living expenses plus home loan repayments.

### **Investments** (Investment Analysis spreadsheet)

Investments is a collective term covering the investor's entire contribution to the rental return and equity accumulation process (i.e. it is needed to calculate the precise return on investment). Generally, *Investments* simply represents the cash invested at the time of purchase. These cash investments can contribute to the purchase price (for example, a property "deposit"), renovation costs, associated purchase costs and even loan costs (if there is a loan). *Investments* can also represent cash invested after purchase (e.g. regular or lump sum loan repayments). Where you wish to simulate the cash flows, starting now, on an existing investment property in which you already have substantial equity, *Investments* would also include that existing equity.

### **PIA settings file**

PIA has default settings for such things as stamp duty, sales commission and tax. These can be set via commands in the *Settings* menu (see 7.6). The settings are stored a file in the program directory.

### **Portfolio analysis**

During portfolio analysis, PIA collates all the property and financial data on each of a selection of properties to calculate the projected cash flows and rate of return for a specified time frame.

### **Pre-tax cash flow**

These are all of the monies that flow in or out of your pocket before tax is taken into account. In most cases they represent the gross rent less interest, expenses and any payments toward the principal. Interest and expenses are not included in the cash flows if they are capitalised in the loan. Likewise, rents will not be included if they are used to directly reduce the loan.

### **Pre-tax equivalent of IRR**

The Pre-Tax Equivalent of the Internal Rate of Return provides a useful comparison with cash investments, as this is the interest rate that you would need to achieve from a bank to get the same after-tax return. Any such interest would be taxed at your top marginal rate. This is not to be confused with the *Pre-Tax Internal Rate of Return*, which is the return calculated on your pre-tax cash flows.

### **Pre-tax Internal Rate of Return**

The IRR calculated on your pre-tax cash flows.

### **Principal**

The amount that you borrow from the lender. It is the 'capital' amount upon which interest is payable.

### **Principal & Interest (P&I) loan**

A loan type where payments include both interest and principal components, reducing the balance of the loan to zero at the end of the term. Contrast *interest-only loan*.

### **Principal residence**

This is the investor's own home, also known as Principal Place of Residence (PPOR).

### **Program directory**

This is the directory (folder) containing the PIA program files. It is recommended that you create your own directory (folder) for storage of your property files (see 7.1).

### **Property file**

PIA saves all data relevant to the analysis of an individual property in a separate property file. This has the file extension PIA. Note that settings – which are not property-specific, but cover items in the Settings menu such as Stamp Duty, Tax Scales and Preferences – are stored in the Settings file, not the property file.

### **Property value (Investment Analysis spreadsheet)**

The property (or market) value is the price you would reasonably expect to get for the property if it were to be sold.

### **Purchase costs (Investment Analysis spreadsheet)**

Purchase costs are those extra costs associated with the acquisition of an investment property. These include solicitor's fees (conveyancing costs) and stamp duty.

### **Real IRR, real return**

The after-tax, after-inflation rate of return. See *Internal Rate of Return*.

### **Redraws (Home Loan Analysis spreadsheet)**

When using a credit line, all income is paid into the loan account, reducing the principal. Redraws are funds withdrawn from that account, for example to pay living expenses.

### **Refinance costs**

Costs associated with refinancing or consolidating a loan, including establishment fees and registration of mortgage.

### **Registration code**

When entered with the licensee's name, the registration code "unlocks" the software, turning a *demonstration version* into a full version.

### **Rental expenses**

Expenses associated with a property that is rented (often referred to as rental expenses).

### **Rental income**

Income derived from rent. Projected annual rents, which can be inflation-indexed or specified directly, represent the potential rent less any vacancy factor.

### **Sales commission**

Commission payable to the agent on sale of a property. Rates vary depending on location.

### **Settings file**

Settings – which are not property-specific, but cover items in the *Settings* menu such as Stamp Duty, Tax

Scales and Preferences – are stored in the Settings file. The settings file has the filename extension SET and is stored in the default folder.

**Stamp duty**

A tax payable on the transfer of title of a property. Stamp duty is an Australian State-based tax and is based on the sale price of the property. See also Exit stamp duty.

**Taxable income**

Total income liable to income tax (such as salary, interest) less total allowable tax deductions.

**Tax credits** (Investment Analysis spreadsheet)

Tax credits can be thought of as tax refunds which, in PIA, are credited in the same year they occur. For a property in a single name, tax credits can be calculated from the marginal tax rate or more precisely using taxable income. For a property in joint names, the tax credits must be calculated using the taxable incomes of both partners ('joint'). For a property purchased in joint names, you can specify the proportional ownership.

**Tax liabilities**

Tax payable to local, state or federal governments.

**Tax savings** (Tax Benefits dialog)

A reduction in tax liability resulting from a deductible expense (see Tax credits).

**Tax scales**

Scales used to calculate personal income tax liability. Scales vary from country to country (see 7.7).

**Tax withholding variations**

Adjustment of tax withheld. See Tax Variation Application in 7.2

**Today's dollars**

Because of inflation, the purchasing power of a dollar in the future will be less than today. PIA uses discounted cash flow methods (converting everything into today's dollars) in order to make correct investment comparisons. See IRR and NPV.



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## **Appendix C – Abbreviations**

(c)	Indicates that amounts in this row have been “capitalised” (i.e. borrowed)
(d)	Indicates that the amounts in this row have been used to repay debt.
CL	Credit Line
CGT	Capital Gains Tax
CPI	Consumer Price Index
DSR	Debt Service Ratio
FIN	Finance component file extension
INV	Investor component file extension
I/O	Interest-only (loan)
IRR	Internal Rate of Return
LVR	Loan Value Ratio
(np)	Indicates non-property.
NPV	Net Present Value
(pf)	Existing portfolio included in Total inv. properties
P&I	Principal & interest (loan)
PIA	PIA property file extension
PIA	Property Investment Analysis
PIAFpu	PIA Investor version (for personal use)
PIAPro	PIA Professional version (for professional use)
PRP	Property component file extension
SET	Settings file extension