USER GUIDE –
McKINSEY DCF VALUATION MODEL

Introduction to the McKinsey DCF Valuation Model

- The model contains preformatted financial statements and analytical reports for evaluating performance and valuing projected performance using both the enterprise DCF and economic profit approaches described in the book.

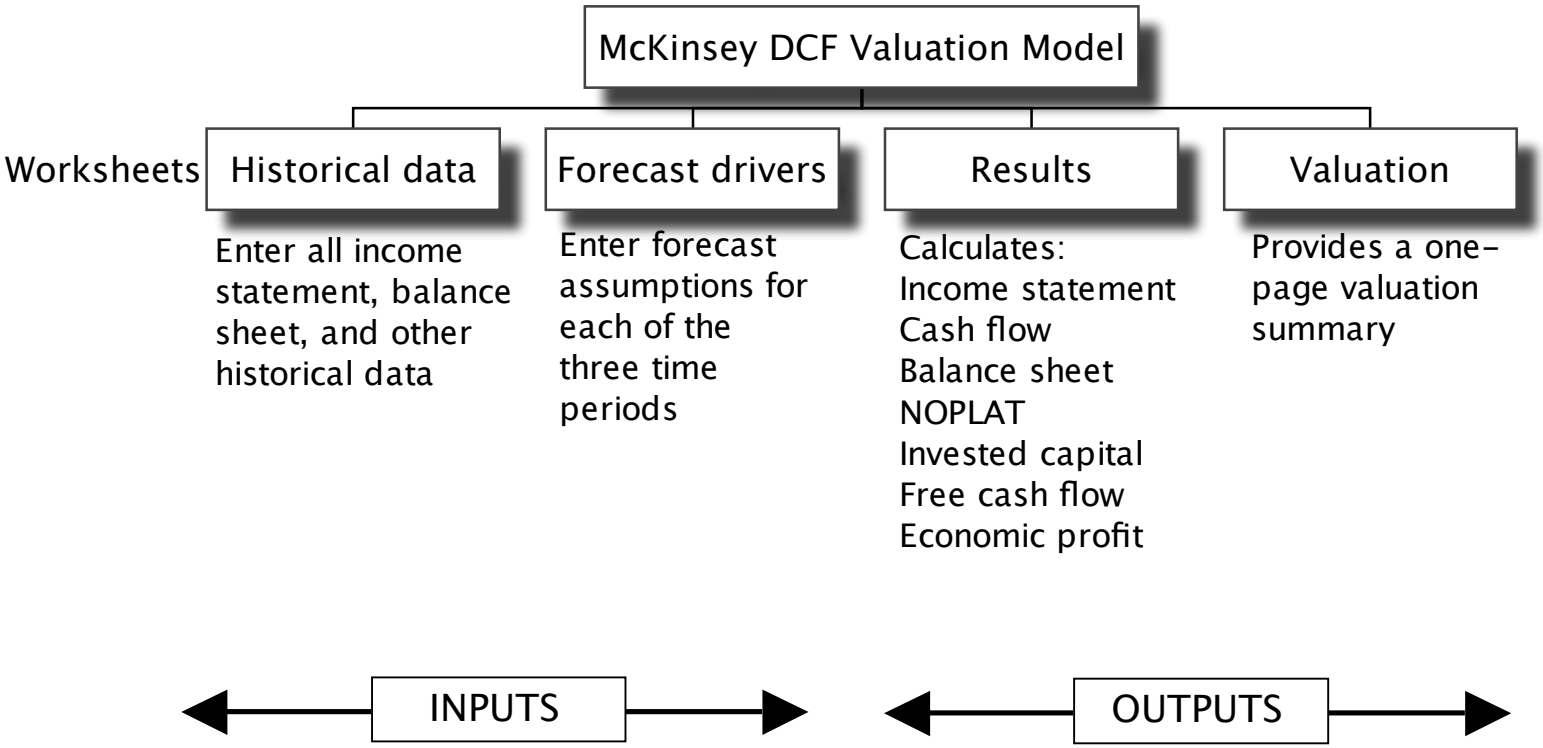
- The model ensures that all important measures, such as return on invested capital and free cash flow, are calculated correctly so that the user can focus on analyzing a company's performance instead of worrying about computational errors.

- The model follows the three-forecast time period methodology described in the book, comprising five years of detailed forecasts, ten years of key driver, or Phase 2 forecasts, and a continuing value period.

- The model has been prepared in Excel 2004 and requires the installation of the Analysis ToolPak for successful operation. The model is in read-only format. Any changes you make must be saved under a different name.

What is the structure of the model ?

The model comprises four worksheets



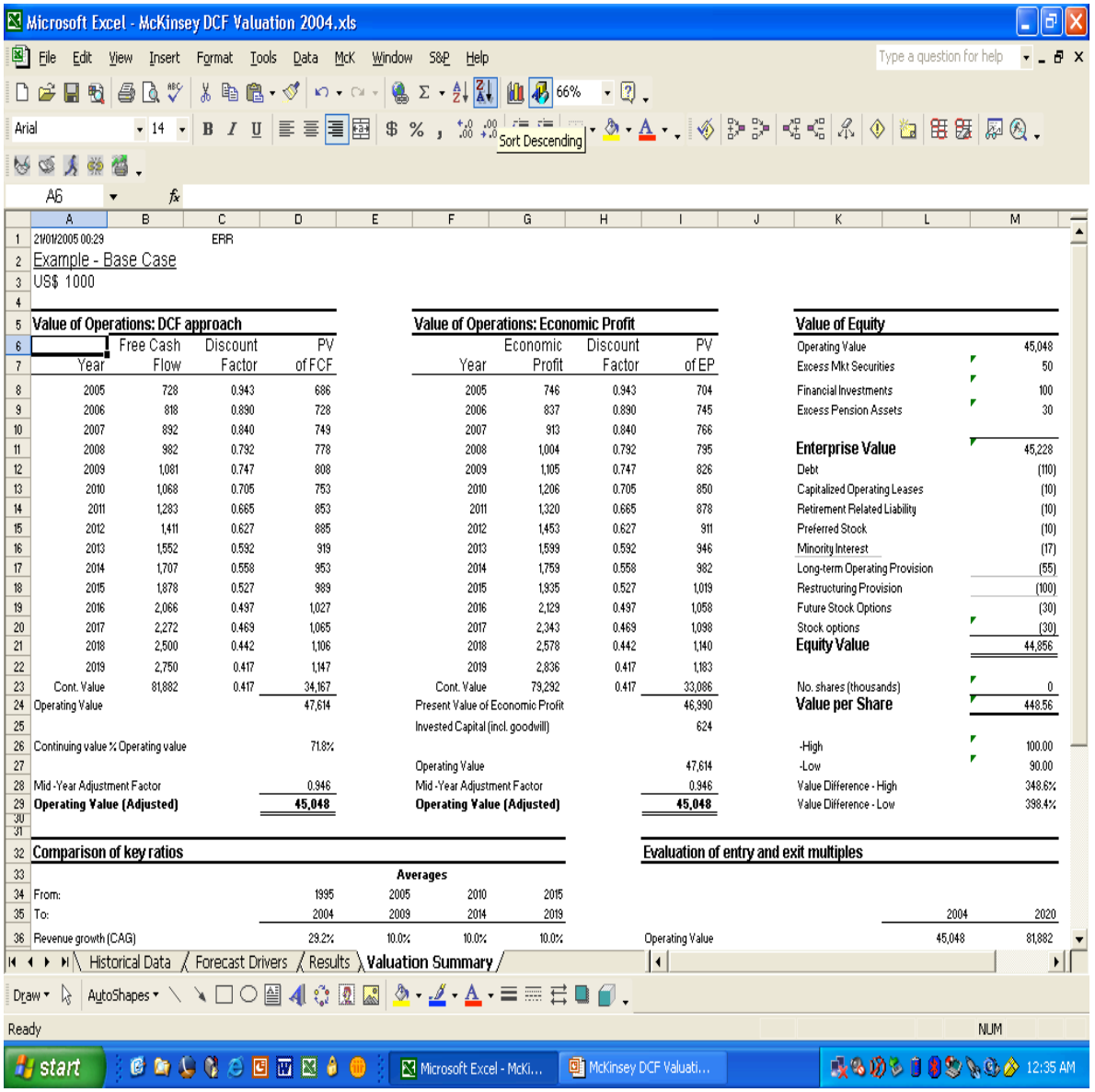
Getting started…

The McKinsey DCF valuation model opens at the Valuation Summary sheet, one of the two output sheets.

Before using the model, check that the Analysis ToolPak "Add-In" is active (see Tools, Add-Ins menu).

Apart from the Valuation Summary sheet, the model follows a standard convention for the use of columns:
A Row titles
B Range names (if used)
C Check calculations
D Non time-dependent inputs/outputs
E:N Historical period (10 years)
0:S Detailed forecasts (5 years)
T: AC Phase 2 forecasts (10 years)
AD Continuing value period
Note: The time periods can be altered (see further instructions).

TIP: Choose Custom views, Show "Normal" before saving – this returns you to the starting view when you next open the model.



Getting started…

Inputs are contained in two sheets: Historical Data and Forecast Drivers.

The model uses the "Group" facility in Excel to divide each sheet into sections. Use 1/2 to expand or collapse the entire sheet. Use +/- to expand or collapse individual sections.

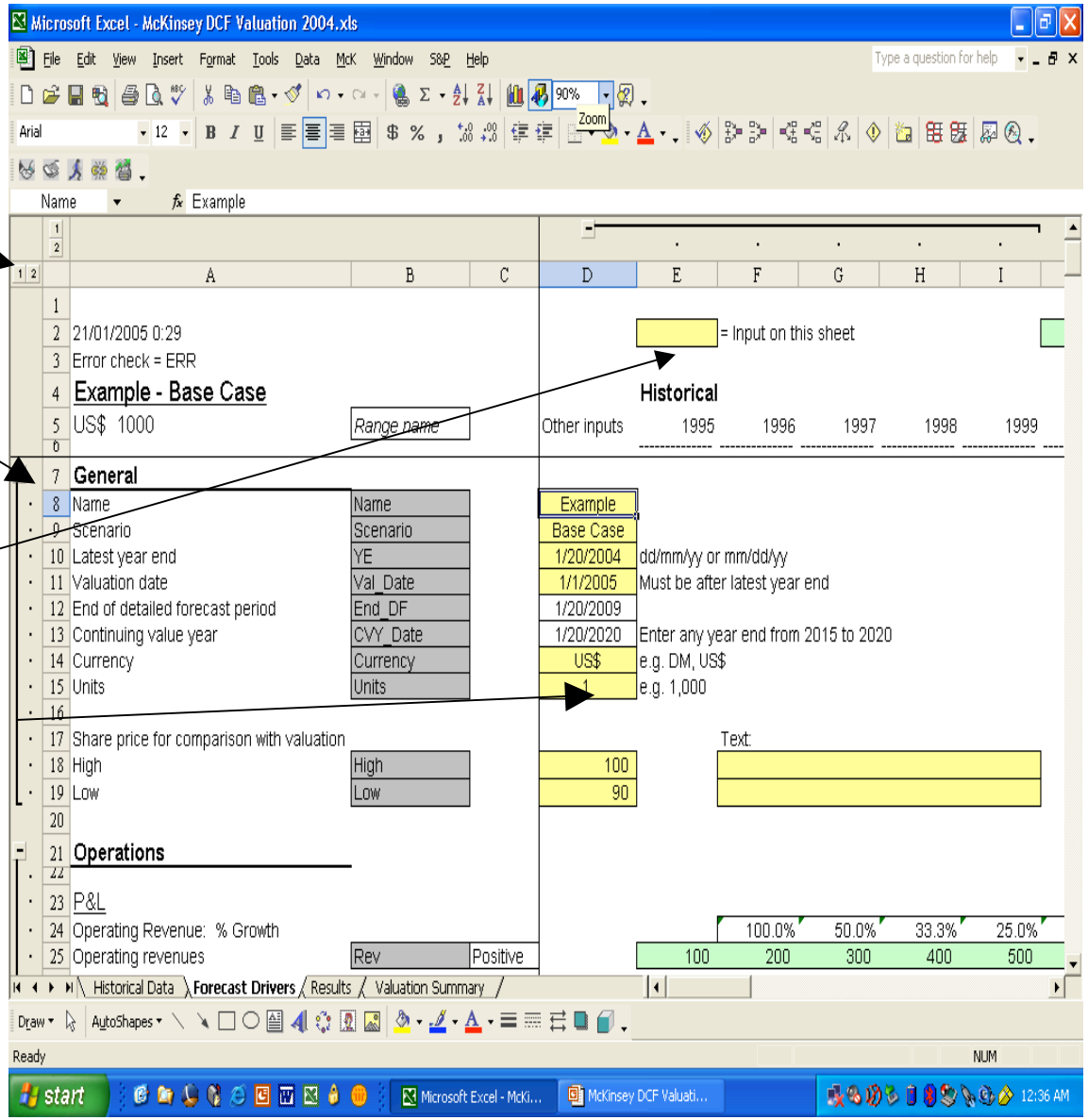
The model uses range names to make the relationships between items more transparent. All names are shown in grey boxes in Column B.

All input cells are highlighted in yellow.

All inputs are in the same units (as defined by the Currency and Units entered) unless otherwise stated.

Enter data in the General section of the Forecast Drivers sheet first. This enters dates and names throughout the model.

Note: Exact formats for dates and numbers may vary depending on default settings in Excel.



Historical inputs

The Historical Data sheet is grouped into four sections.

Up to 10 years of data can be included. If fewer years of data are available, simply leave the earlier columns blank.

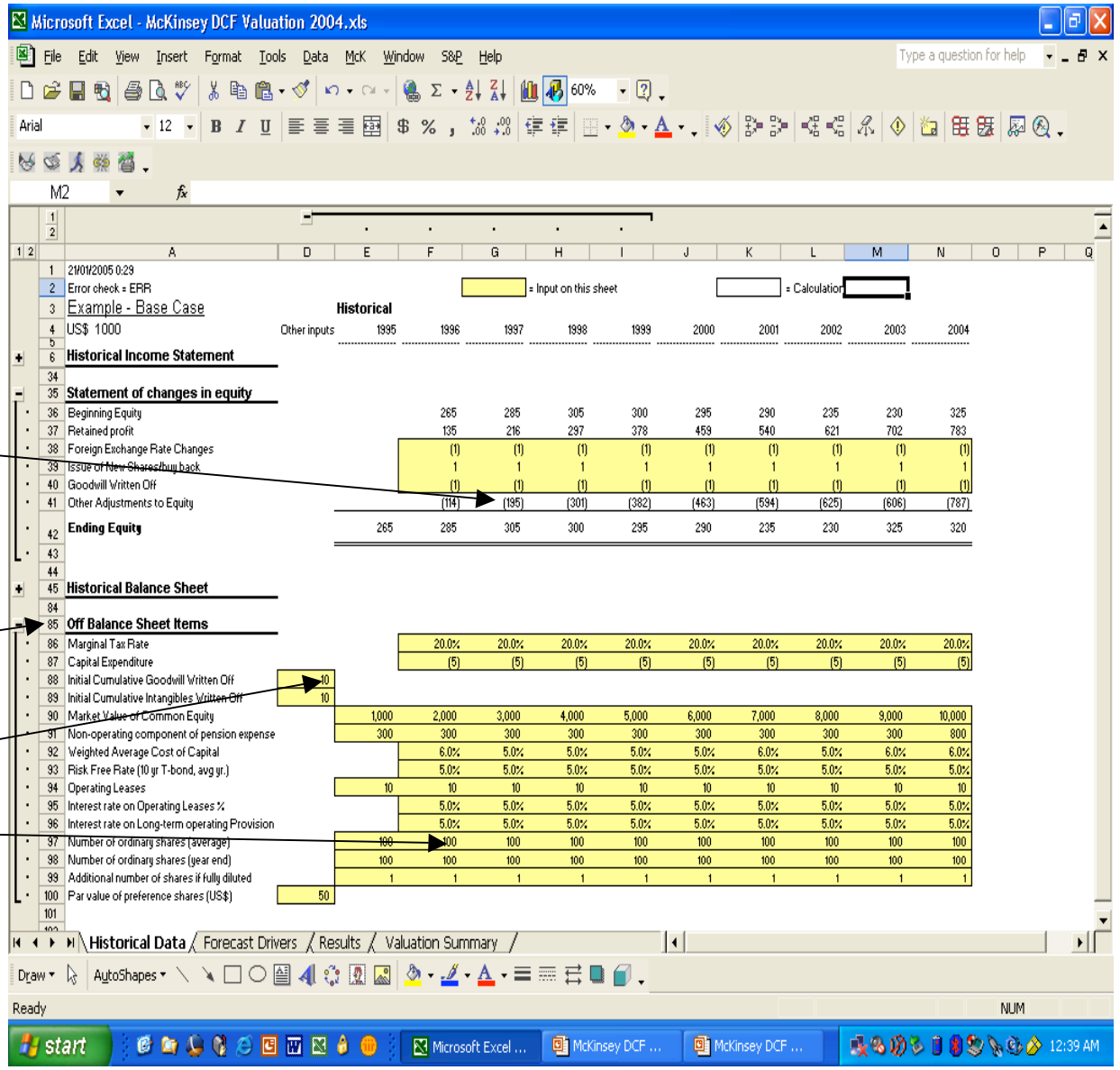
The model calculates cash flows in the Results worksheet, from the income statement and balance sheet input data.

The statement of changes in equity includes a balancing item on row 41 for other non-P&L items.

Other items required to calculate historical economic profit and some valuation adjustments are included in "Off Balance Sheet Items."

Enter the goodwill write-off at the start of the first historical period here.

Enter number of shares in thousands.



Forecast inputs (1 of 8)

The Forecast Drivers sheet contains 10 sections (including the General section referred to earlier).

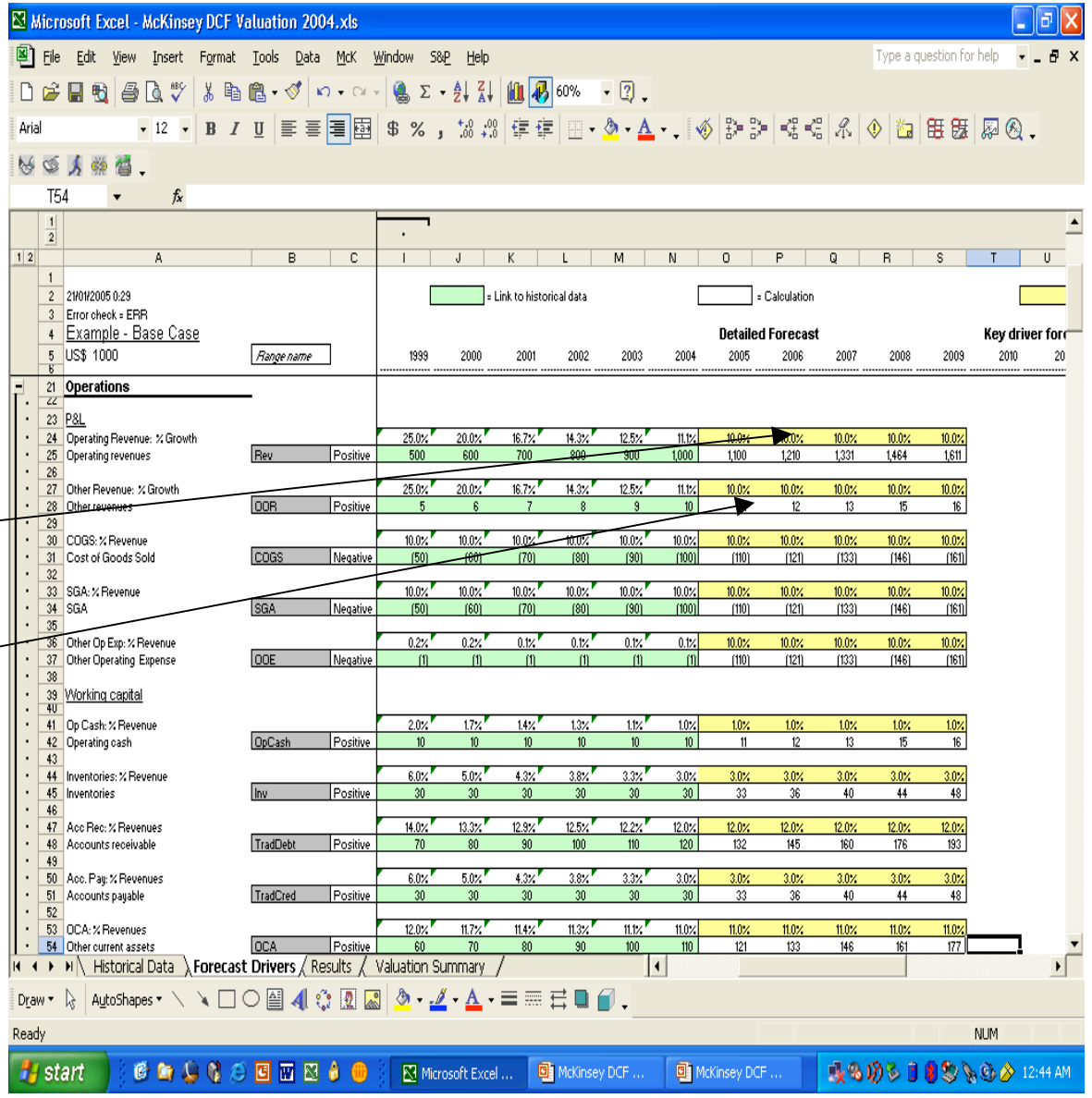
The following pages run through each section, starting here with "Operations." Operations includes operating items from the income statement and working capital.

Each line used in further calculations has a range name (e.g., Rev.). The forecasts can be driven by:

- Using the simple growth or % formula given.
- Typing in manual entries.
- Linking to other calculations (either on inserted rows or other worksheets).

TIP: If you change any formulas to inputs or links, change formatting to maintain the same color convention: yellow for inputs, blue for links, and white for calculations.

Note: All default percentages link to Operating Revenue, not Total Revenue.



Forecast inputs (2 of 8)

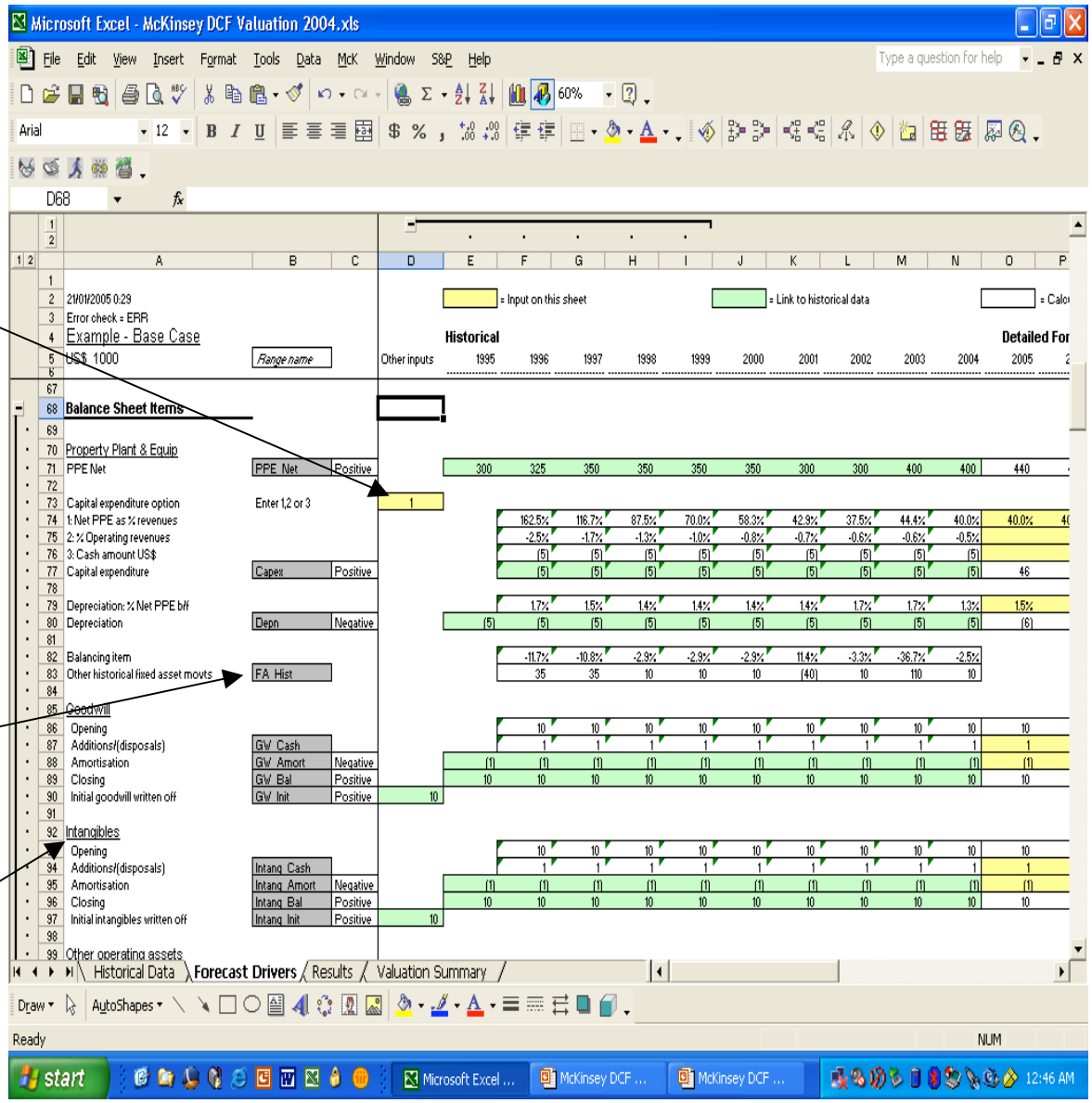
The third section "Balance Sheet Items" contains all assets and operating liabilities (except for working capital items included above in Trading).

The model includes three standard options for capital expenditure:
1. Net PPE as percent of revenue,
2. Capex as percent of revenue,
or
3. Manual input.

Property, plant, and equipment is a single line item shown on a net basis.
If further detail is required, such as separate categories of assets or gross values and cumulative depreciation, then add a separate schedule and link to Option 3: Manual input.

In the forecast period, it is assumed that there are no asset revaluations. Any historical events are calculated as a balancing item in FA Hist.

Intangibles are treated in the same way as goodwill.



Forecast inputs (3 of 8)

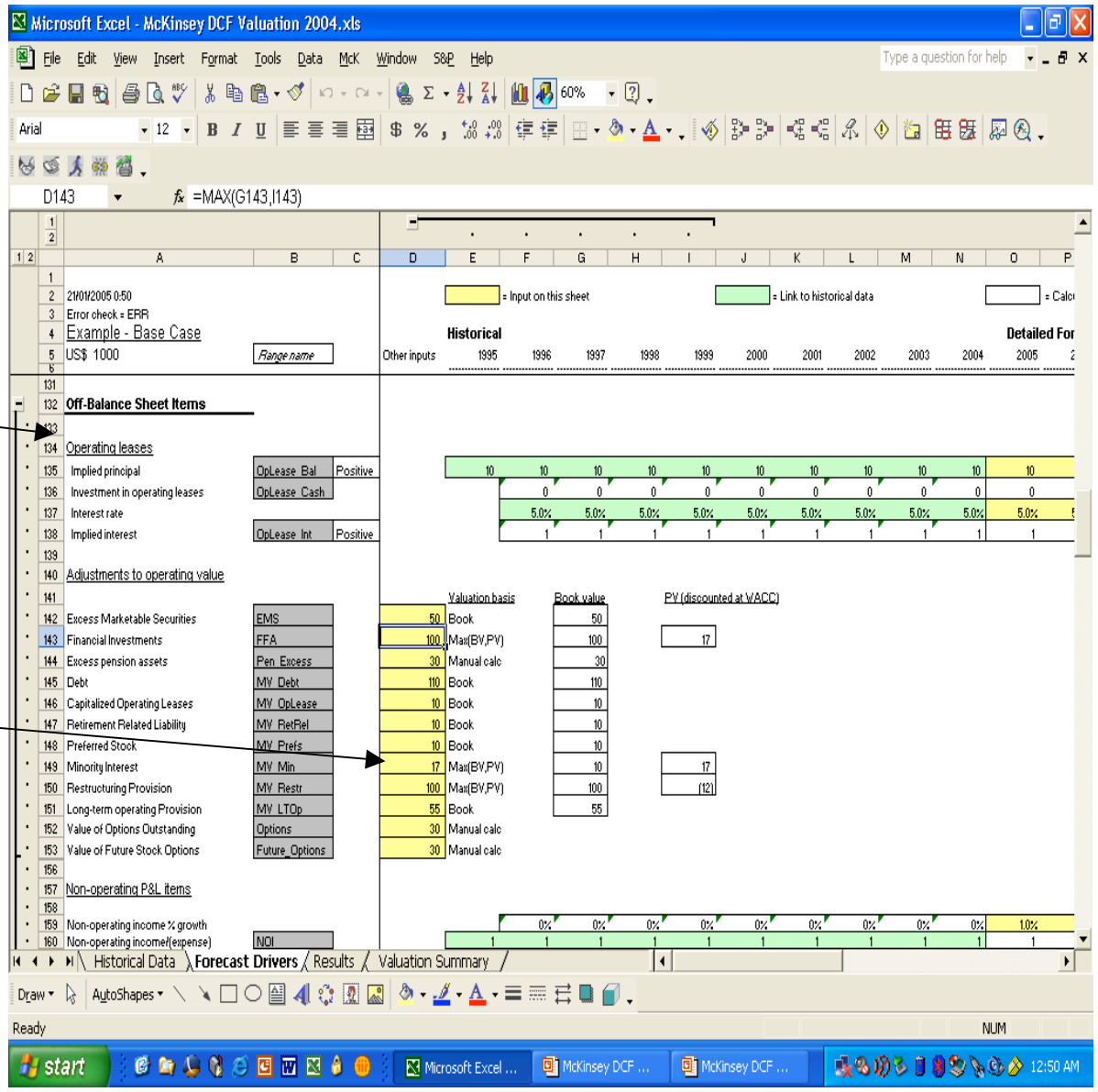
The fourth section "Off-Balance Sheet Items" comprises two separate areas: operating leases and adjustments to operating value.

Adjustments for operating leases are needed if the amounts involved are material to the overall business. They may also be required if you are benchmarking companies with different financing policies.

Adjustments to operating value are the market values of all items that must be taken into account to allow the Equity Value to be calculated.

Some of the categories already contain a formula linked to book value or the NPV of forecast cash flows (e.g., Minority interest).

While book value may be a reasonable estimate of market value (e.g., for debt), always consider whether an alternative valuation method is more appropriate.



Forecast inputs (4 of 8)

The next section contains non-operating P&L items, provisions, and minority interests.

There are three non-operating P&L items: Non-operating income (recurring), Special (pretax) items (non-recurring), and Extraordinary (posttax) items.

There are also four categories of provisions:

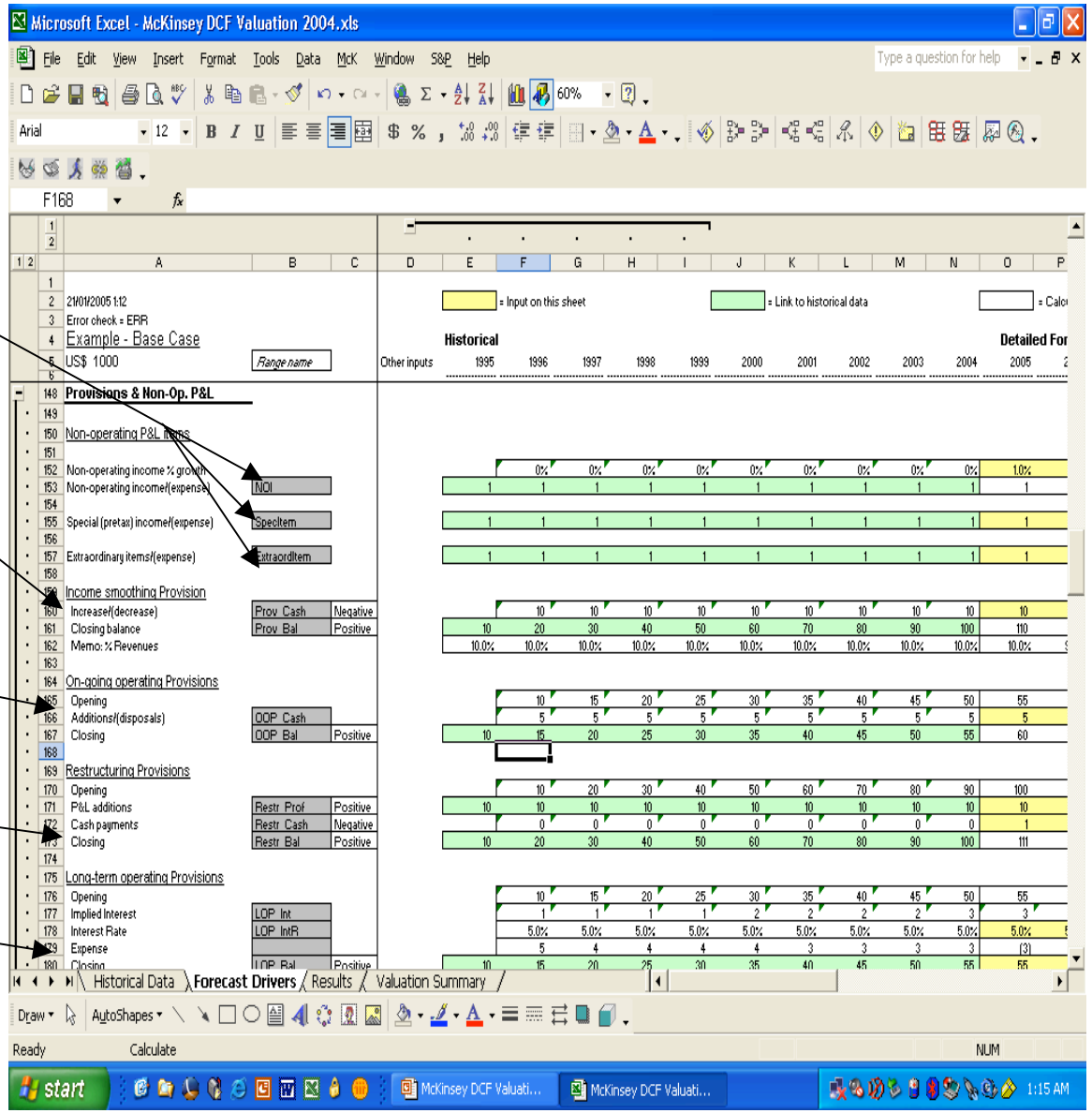
1. Income smoothing (NOPLAT adjusted for changes in these provisions).

2. On-going operating (treated like working capital).

3. Restructuring provisions (no adjustments to NOPLAT, balance treated as debt).

4. Long-term operating provisions (deduct operating portion from NOPLAT, balance treated as debt equivalent).

For further details of the treatment of provisions, refer to "Valuation."



Forecast inputs (5 of 8)

The next section contains assumptions for debt and WACC.

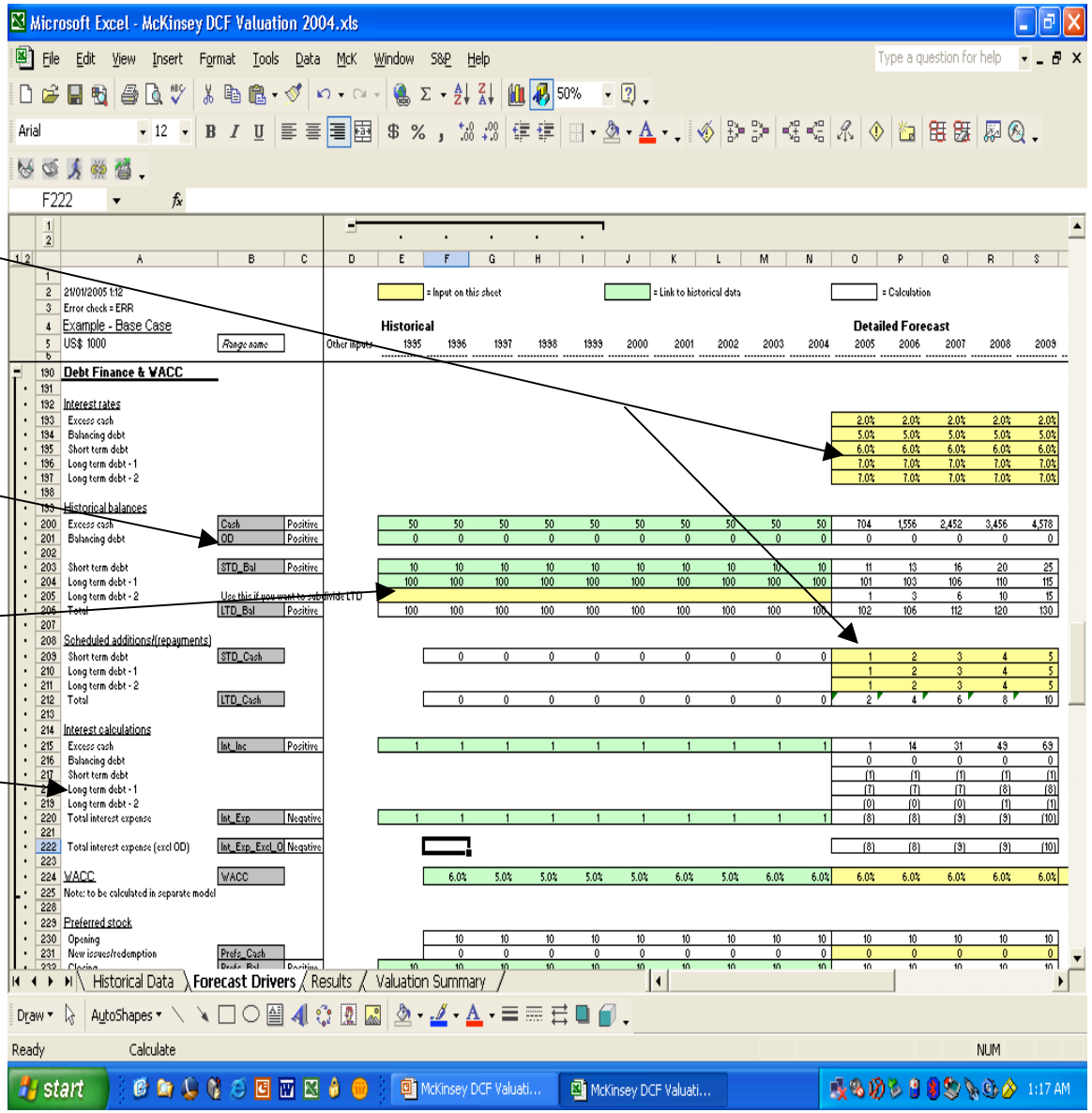
Main inputs for debt are interest rates and drawdowns/repayments.

In the forecast period, the net cash balance is included in the balance sheet as excess marketable securities (when positive) and balancing debt (when negative).

Scheduled debt is divided into Short term and Long term. The long-term debt can be further subdivided if necessary.

Interest is calculated on the average balance for scheduled debt, and on the brought-forward balance for cash and balancing debt.

WACC values for each year are required. It is assumed that WACC calculations are performed in a separate model.



Forecast inputs (6 of 8)

The "Equity Finance" section contains details of preferred and common (or ordinary) share capital, in terms of:

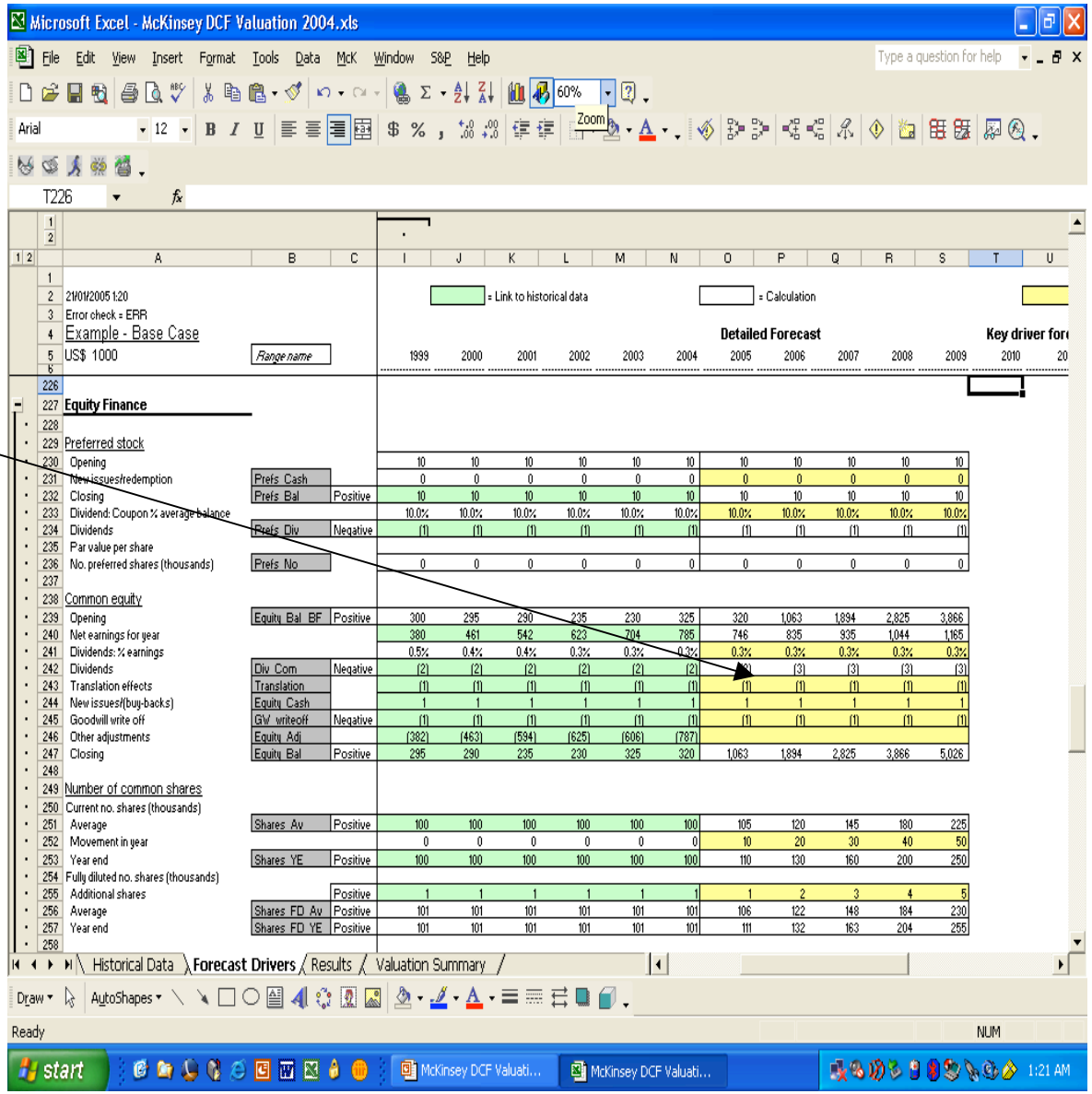
- Book value
- Number of shares
- Dividends declared
- Dividend creditors

For common equity, in addition to retained earnings, it is possible to include:

- Share issues/redemptions
- Goodwill write-offs
- FX translation effects
- Other adjustments

FX translation effects are treated as non-operating cash flows.

Numbers of shares are given on both an average basis (for calculating EPS) and on a year-end basis (for calculating value per share).



Forecast inputs (7 of 8)

The "Tax" section includes all the key inputs to the valuation.

It may be necessary to add additional coding to reflect national taxation rules or specific circumstances (e.g., calculation of tax-loss carry forwards).

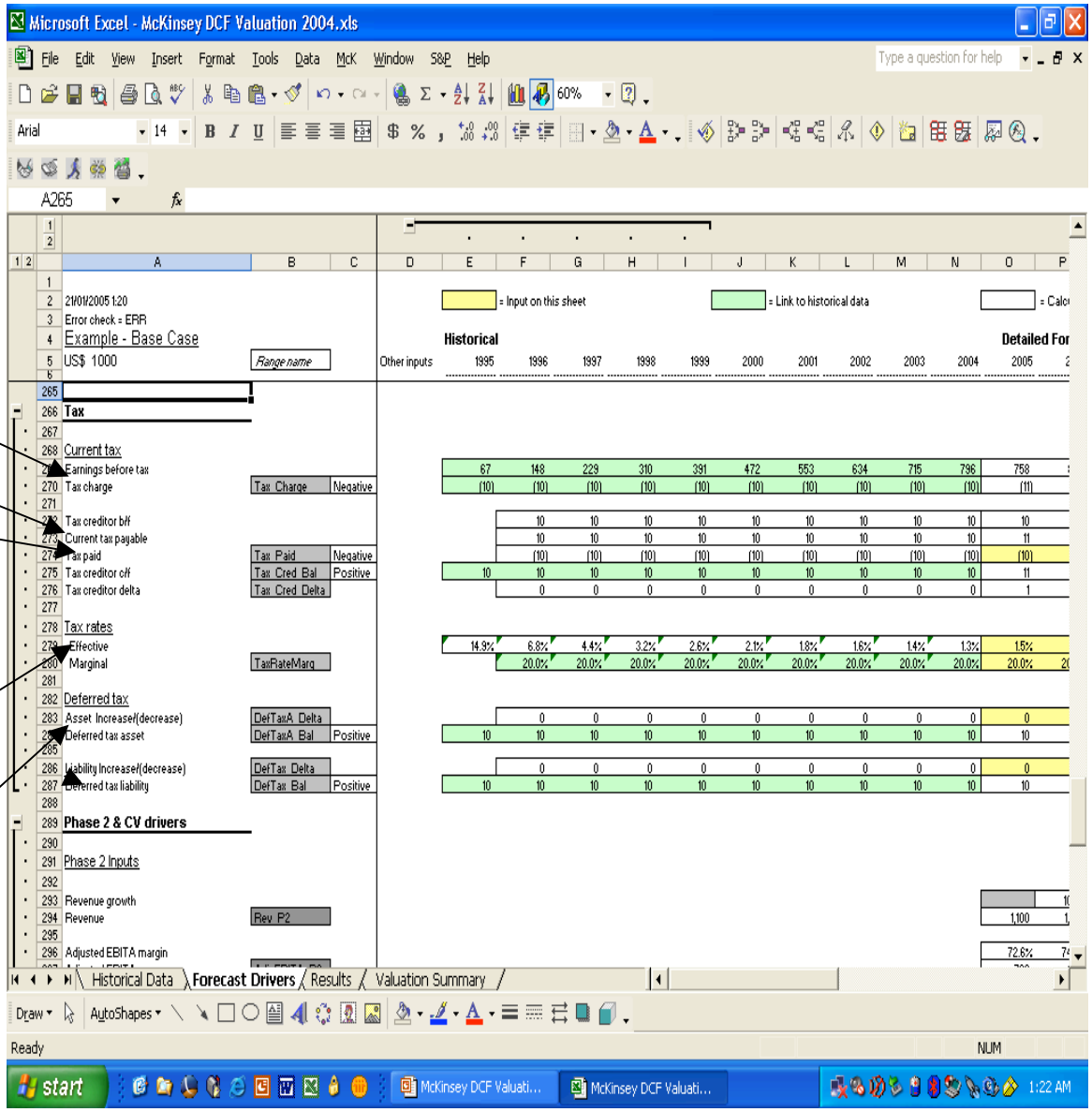
The Tax charge is the total P&L charge (including deferred taxes).

Tax payable is the tax falling due in the period (excluding deferred taxes).

Tax paid is the amount paid during the period. The default assumption is that this equals Tax payable.

The effective tax rate is applied to Earnings before tax to calculate the Tax charge. It may be necessary to adjust for nondeductible items such as goodwill amortization.

The model includes rows for both deferred tax assets (e.g., tax losses) and liabilities (e.g., differences between tax and accounting depreciation).



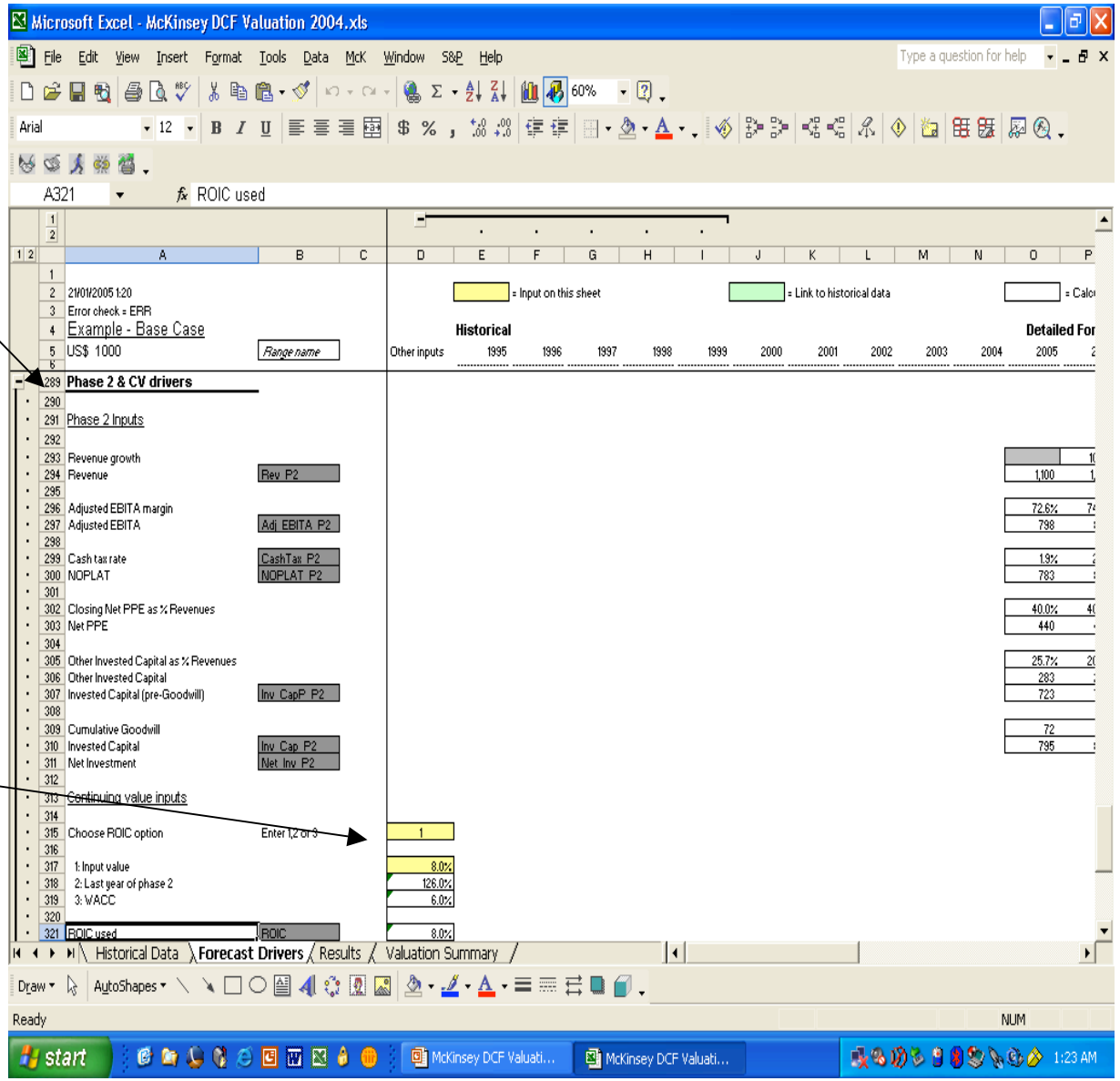
Forecast inputs (8 of 8)

The final input section contains inputs for the "Phase 2," or Key value driver, period and the Continuing value period.

In Phase 2, only 6 inputs are required:
- Revenue growth
- EBITA margin
- Cash tax rate
- Net PPE as % of revenue
- Other invested capital as % of revenue
- Cumulative goodwill

Continuing value is calculated as a perpetuity using the value driver formula. There are two inputs required:
- ROIC (on new investments)
- Growth (of NOPLAT)

The model includes three options for ROIC:
- WACC
- ROIC in last forecast period
- Manual input



Results sheet

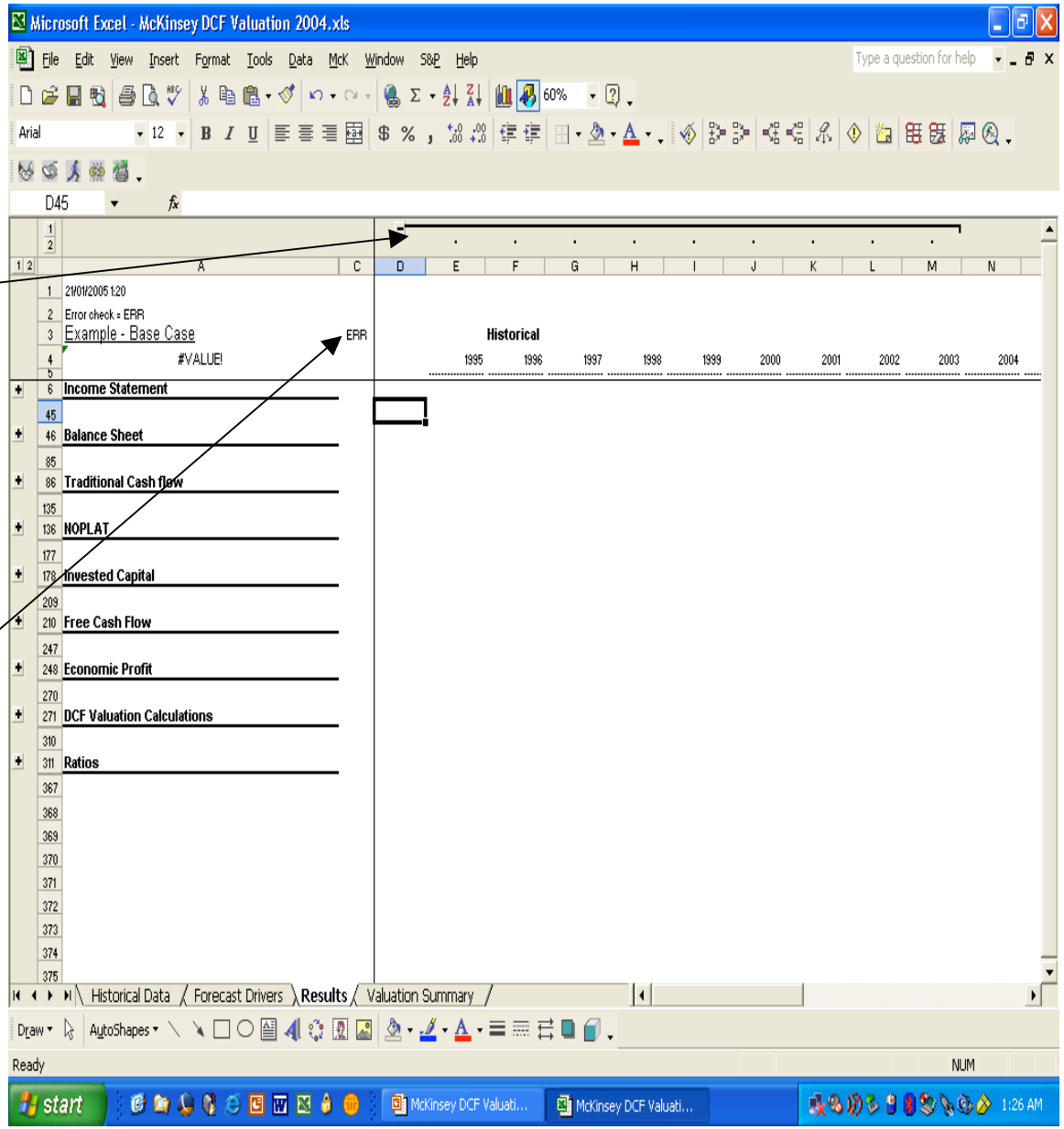
The Results sheet does not contain any inputs.

Items that come from the input sheets are named and clearly identified.

Grouping is used to show/hide the historical and Phase 2 time periods.

The sheet is in eight sections:
- Income Statement
- Balance Sheet
- Traditional Cash Flow
- NOPLAT
- Invested Capital
- Free Cash Flow
- Economic Profit
- Valuation Calculations

The sheet contains several checks that are confirmed in cell C3:
- Balance sheet balances
- Cash flow reconciles to cash balances
- NOPLAT reconciliation
- Invested capital reconciliation
- EP & FCF valuations are equal



Printing

By choosing the Print option from the File menu, the user can print the entire model by selecting the Print Entire Workbook option.

Printing the entire workbook is a 16-page report comprising:

- Historical inputs 1–2
- Forecast inputs 3–6
- Financial statements 7–9
- Results (NOPLAT, etc.) 10–14
- Ratios 15
- Valuation summary 16