“The Ultimate Guide to Auditing with Excel”

101 ways to automate your auditing & save 20 hours a month

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About The Author

Charlie Walker is a self-confessed Excel nerd and has dedicated the last few years of his life to learning the finer details of Excel, with a particular focus on how Excel can make life easier for Auditors and Accountants.

Charlie is a Chartered Accountant and a member of the Institute of Chartered Accountants in England and Wales. He holds a Bachelor of Science degree from the University of Nottingham, and a Post Graduate Diploma in Business Administration from the University of Birmingham.

Charlie's work experience includes several years with one of the Big Four public accounting firms. He is currently the managing director at Reinvent Data Limited, where he developed TopCAATs — an add-in for Excel containing over 130 time-saving tools designed specifically for Auditors.

Author's Acknowledgements

For any book to be published, it requires a team that extends far beyond the Author's name that appears on the cover.

This book is no exception and there are a number of people that I would like to thank for their help, support and encouragement to get this book published:

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Finally, I would like to thank Stefan, for everything that he has contributed to this book, which includes the cover art.

Dedication

I would like to dedicate this book to Anne and Ed — your kindness, generosity and support over the years have been never ending, and without it this book would have never been possible.

Contents

Introduction

Imagine saving 20 hours a month!

Over the last few years I have helped hundreds of companies save thousands of hours and hundreds of thousands of dollars. In this book I'm going to share some of my secrets and show you how to save 20 hours or more a month.

Before I let you into the secret, let me start by explaining how it all started…

I began my career as an Auditor when I joined one of the Big Four in 2004. During my training, I developed a passion for Excel, realizing the substantial benefits that it could bring to my auditing.

Before long I had taught myself enough that I managed to get my average work week down to under 40 hours, which was unheard of, given the department average was closer to 50!

After I qualified as a Chartered Accountant in 2008, I felt the need to do more with my superior Excel skills, and made the decision to leave my Big Four job to help Auditors around the world.

I have since used my Excel skills to help hundreds of companies saving them thousands of hours and hundreds of thousands of dollars, largely through the software I created for Auditors called TopCAATs.

Although computers have become an everyday tool for Auditors, one thing still surprises me:

> The majority of Auditors *still* use manual methods to perform the majority of their audit testing, which is crazy!

Most Auditors use computers for little more than documenting work & emails, and I see this trend all over the world.

Using computers to assist in audit testing has many advantages, including:

- Saving you substantial amounts of time, increasing productivity, recovery and profitability
- Reducing the audit risk (by increasing audit coverage)
- Improving the quality of your audits (by reducing the opportunity for human error, and standardizing testing)
- Adding value to your audits (by facilitating testing not previously possible, and uncovering issues that would have otherwise gone unnoticed)

Despite these advantages, I have known many Auditors to be put off from using Computer Aided Audit Tools (CAATs), largely because of the complexity and the cost of these specialized tools.

But these reasons are myths, and the goal of this book is to dispel them by introducing some simple audit tests that you can perform in Excel, to get you started on the path to automating your audits, and achieving these benefits.

You don't need any specialized software, just Excel, and there are simple step by step instructions for each test.

About This Book

Given the nature of the book, it is not intended to be read cover to cover, and you will probably want to jump around, depending on what you are working on (the procedures are grouped into subject areas, e.g. Inventory, Cash, Payroll, etc.).

However, in the course of covering the 101 audit tests, I share a wide variety of useful Excel tips and tricks that I have picked up over the years.

Therefore, when you get a little spare time, I'd recommend having a quick scan over the whole book, as there may be useful Excel tips that you can apply elsewhere in your auditing!

You may also want to carry a copy of the book around in your laptop bag as a reference guide.

A Word of Caution

It is important to understand that not every test in this book will be appropriate to every audit situation, and Auditor judgement is required to select appropriate and relevant tests.

Some tests may achieve the same objectives, and therefore performing both tests adds no evidence to the audit and is a waste of resources (both tests have been included for completeness; depending on data available you may only be able to perform one or the other).

Auditor judgement is also required to interpret the results of the testing, and to investigate further where required.

This book is by no means a comprehensive guide to auditing, and performing these tests alone does not ensure that you will achieve sufficient and appropriate audit evidence.

And finally

This book is designed to help you and make your audit life a little easier – so remember to put what you learn into action. If you've got any feedback, I'd love to hear it — drop me an email at Charlie.Walker@reinventdata.com

Happy Auditing

1. Conventions

Throughout this book there are a variety of techniques, methods and terminology that I use repeatedly. Rather than repeat these throughout the book, I have detailed them here.

Row references

Where I provide formulas for you to use, I anticipate that these will be entered in row 2, and then copied down, hence why I use notation such as "`=B2*C2`" in the examples.

Where I "lock a reference" with the use of $ symbol, you will need to modify the formula to your specific ranges.

Column References

Because I cannot know which columns your data will be in (every report is different), I let you know which column data is in using [square brackets].

E.g. "*Amount* column [C]" means that I am assuming the amount is in column C – you will need to modify the formula for the correct location of your Amount column.

Use AutoFilter to extract

1) Apply appropriate AutoFilter (often filtering for "1", after an IF formula is used to identify the rows of interest)
2) Copy visible cells (Ctrl+A, Ctrl+C)
3) Go to a new worksheet
4) Paste (Ctrl+V)

IF Formulas

I often use **IF** formulas to return one result if a condition is true, and a different result if the condition is false, like the example below:

```
=IF(A2<B2,1,0)
```

(This example will return "1" if **A2** is less than **B2**, otherwise it returns "0").

This makes it easy to then extract the rows of interest with an AutoFilter.

I use the values "1" and "0", but you can use anything you like e.g.

```
=IF(A2<B2."OK","Error")
```

Use of ABS()

When comparing values from two different sources, it is often wise to allow a tolerance factor, to account for rounding and reduce the number of "false positives".

To do this we use **=IF(ABS(X-Y)>0.05,1,0),** rather than **=IF(X<>Y,1,0)** or **=IF(NOT(X=Y),1,0).**

I.e. 'If the absolute difference between X and Y is more than 0.05 then…', rather than 'if X does not equal Y then….'

You can set the tolerance to whatever is appropriate for your audit/data.

VLOOKUP

I make extensive use of Excel's **VLOOKUP** function in this book, as it is extremely useful for Auditors, so I think it's worth taking a minute to explain this function in a bit more detail.

VLOOKUP is used to match records on different worksheets using a common column, and offers a wide range of uses, as you will discover as you read this book.

The syntax for **VLOOKUP** is:

```
=VLOOKUP(lookup value, table, column, lookup type)
```

The **lookup value** is usually a cell reference containing the value you wish to look up (e.g. a bank account number).

The **table** is the data in the second sheet that you wish to look for the lookup value in. Note that **VLOOKUP** will look in the left most column of this table for the lookup value, so you must start your table with the column containing the lookup value (insert a column and copy the lookup column if necessary).

The **column** is the column number within the table that you wish to return, For example, if the lookup table is **Sheet2!B:F** and you wish to return the value from column E, the column number would be 4 (Column B is 1, C is 2, D is 3, etc.).

The **lookup type** is either **TRUE** or **FALSE** depending on whether you want to look for exact matches or the closest match. The majority of the time you will use exact matches (**FALSE**), but there are times when the closest match (**TRUE**) is used.

In this book it is assumed that you will be using the **FALSE** version of **VLOOKUP**, unless the **TRUE** version is explicitly stated.

Example:

```
=VLOOKUP(D2,Sheet2!B:F,4,FALSE)
```

This will look at the value in column D and then try and find a match in column B on Sheet2. If a match is found, it will return the value from Column E (on the row where the match was found).

If no match is found, VLOOKUP returns a "#N/A" error.

Note: VLOOKUP will return the first match it finds in the table. Therefore, it may be necessary to sort the second sheet before using VLOOKUP.

Note: There are times when it is necessary to perform a look up based on more than one field, e.g. matching both a reference and a date. To do this, create a "concatenated key" or "helper column" by joining the 2 fields together in each of the sheets.

Example:

```
=B2&C2
```

Random Sampling

Often you will be required to pick a sample at random for follow up testing.

To do this, add an additional column of random numbers using the formula "=RAND()".

Convert that column to values (as opposed to formulas) by Copying and Paste Values.

Now sort the worksheet by that column, and extract the top (or bottom) X items.

2. Inventory

Inventory is often a significant area in a company's balance sheet, can be complicated to audit, and often covers several nominal ledger accounts. In addition to accounts containing stock on hand, accounts such as inventory provisions, goods received not invoiced, goods in transit, etc, are also covered when auditing inventory.

The key audit objectives when auditing Inventory are:

- Inventory reflected in the accounts represents a complete listing of items owned by the company, intended for resale. This may include assets that are physically on hand, stored at third-party locations or in transit at the balance sheet date (Existence, Completeness and Ownership)
- Inventory listings are accurately compiled and that the totals are properly reflected in the accounts (Existence and valuation)
- Inventory is valued according to generally accepted accounting principles, i.e. at the lower of cost and net realisable value (Valuation)
- Slow moving, obsolete and damaged/defective inventory is written down to its net realizable value (Valuation)
- Inventory is correctly classified within the balance sheet and adequate disclosures are made in the notes to the accounts. (Presentation)

Because of the relationship between inventory and purchases/sales, there may be "cross-over" in your auditing, and performing certain inventory tests may provide comfort over areas of trade payables and receivables. E.g. reviewing inventory movements around period end may provide comfort over sales cut-off.

2.1. Test accuracy of inventory listing

Purpose

The purpose of this test is to ensure that the client's systems are correctly calculating the inventory totals from the source data.

It addresses the accuracy of client systems, the valuation of inventory and completeness.

Requirements

- Line by line inventory listing with "units in stock" and "price per unit" fields

Carrying out

Multiply the *unit price* [B] by the *quantity on hand* [C]:

```
E2      =B2*C2
```

If the detailed listing has a *value* column [D], ensure that each line agrees to your calculated column:

```
F2      =IF(E2<>D2,1,0)          + AutoFilter Extract
```

To ignore rounding errors (below 0.05 difference) use:

```
F2      =IF(ABS(E2-D2)>0.05,1,0)
```

Total the report **"=SUM(E:E)",** and ensure that the total agrees to the inventory accounts in the trial balance.

Tip: If there are many inventory accounts in the trial balance and a column in the source data identifying which account that line belongs to, you can use Subtotals or a PivotTable to summarize the data to easily agree to the trial balance.

2.2. Large inventory balances

Purpose

The Pareto Principle holds true for many inventory listings, i.e. that 80% of the balance is made up of just 20% of the inventory lines.

By identifying those lines which have a large inventory balance you can focus on these items and gain comfort over a large proportion of the inventory balance by only investigating a few items.

Unusually high value (i.e. by several orders of magnitude) may indicate an error in the system records.

Requirements

- Period end inventory listing

Carrying out

Sort the listing by inventory value and copy the top X items (or all items over a specified amount) to a new sheet.

Perform follow up analysis on these inventory lines:

- Agree unit price to purchase documents
- Check recent sales prices
- Confirm inventory counts
- Check turnover / obsolescence risk

Alternatively, use AutoFilter to extract all inventory lines greater than $X.

2.3. Zero or Negative Unit Cost

Purpose

It is unusual for inventory lines to have a zero or negative unit cost, and these may indicate input or system errors. This could result in the incorrect valuation of inventory.

Requirements

- Period end inventory listing

Carrying out

Sort the list by unit cost, ascending, so that any negative or zero items are at the top of the list.

Review any items with a zero or negative unit cost, and understand whether they are legitimate or not.

Alternatively, apply an AutoFilter to the unit cost column for "Is less than or equal to zero".

(The use of a criteria column really isn't necessary here).

Tip: Companies often include items with no resale value in the inventory system to help track levels (e.g. labels, packaging).

If you have a large number of items like this, you can use VLOOKUP to check against sales records that these items are not being sold.

You may also be able to filter these items out if they have an appropriate flag, so you can focus on items that shouldn't have a zero cost.

2.4. Compare inventory prices to prior year

Purpose

In most industries, the unit price of each stock item is unlikely to change significantly year on year and significant differences may indicate errors.

These errors could potentially be on the supplier side, and they may (for example) be overcharging for certain stock lines.

This test addresses the valuation of inventory.

Requirements

- Current year detailed inventory listing
- Prior year detailed inventory listing

Carrying out

Use **VLOOKUP** to import the "*Unit Price*" from the prior year to the current year listing [Unit Price*: Current year* – B, *Prior Year*, F].

Calculate the *absolute* [G] and *percentage* [H] differences:

```
G2      =B2-F2

H2      =(B2-F2)/F2
```

Sort the data by these new columns to identify the inventory lines with the largest absolute and percentage variances.

Understand the reasons for these large changes and ensure they appear reasonable in the normal course of business.

Tip: Remember to look at both the top and bottom of the sorted report to identify the extremes of both increases (positive variance) and decreases (negative variance) in prices.

2.5. Compare inventory levels to prior year

Purpose

For many products, inventory levels remain fairly consistent year on year and significant unexpected variations indicate a higher risk. Identifying these variations allows you to focus your audit on those higher risk areas.

This test provides comfort over the completeness, existence and accuracy of inventory.

Requirements

- Current year detailed inventory listing
- Prior year detailed inventory listing

Carrying out

Use the same approach as in 2.4 to import and compare the "*Units in stock*".

Where the same inventory line is held in multiple warehouses, either summarize the inventory listing (so there is only one line for each SKU (Stock Keeping Unit)), or use a helper column to join the *part number* [A] with the *warehouse* [D]:

```
E2      =A2&D2
```

You will need to do this in both reports, and then use this as the matching column in the VLOOKUP.

Tip: When analysing large percentage increases, you may want to filter out items with low quantities. E.g. if the quantity in prior year was 1, and it is now 2 this will show as a 100% increase but may not be significant or of interest.

2.6. Test unit price against purchase cost

Purpose

According to local GAAP in most jurisdictions, inventory should be valued at the lower of Cost and Net Realisable Value.

This test identifies any records where the unit cost exceeds the purchase cost, and hence provides comfort over valuation of inventory.

Requirements

- List of inventory purchases including the purchase date, unit price and part number
- Period end inventory listing

Carrying out

Sort the purchase listing by date so that the most recent purchases are listed at the top (descending).

Use **VLOOKUP** to import the most recent purchase price for each stock line to the period end listing.

Add an *additional column* [E] to identify any records where the *unit cost* [B] exceeds the *purchase cost* [D]:

```
E2      =IF(B2>D2,1,0)  + AutoFilter Extract
```

Investigate these inventory lines and understand why the unit cost exceeds the purchase cost (there may be legitimate reasons, for example changes in purchase cost, absorption of overheads, etc.).

Tip: If standard absorption rates are used (e.g. 3% of purchase cost) you can modify the above to:

```
E2      =IF(B2>(1.03*D2),1,0)
```

2.7. Test unit price against sales price/NRV

Purpose

This test compares the unit cost to the most recent sales price to ensure inventory is not valued above its Net Realisable Value.

This test addresses the valuation of inventory.

Requirements

- List of sales by part number (preferably post period end if sufficient sales have been made)
- Period end inventory listing

Carrying out

Sort the sales listing by date so that the most recent sales are listed at the top.

Use **VLOOKUP** to import the most recent sales price for each stock line to the period end listing.

Tip: If there are known selling costs (e.g. credit card handling fees at 2%) then you may need to adjust the sales price column to calculate NRV.

Add an *additional column* [G] to identify any records where the *unit cost* [B] exceeds the *most recent sales price* [F].

G2	=IF(B2>F2,1,0)	+ AutoFilter Extract

Investigate these inventory lines and understand why the unit cost exceeds the sales price.

There may be legitimate reasons, for example one off discounts, provision already in place (to cover the difference), etc.

2.8. Ensure Inventory is valued at lower of cost and NRV

Purpose

This test uses the outputs from 2.6 and 2.7 to ensure the inventory is valued at the lower of cost and NRV.

Requirements

- Period end inventory listing, containing additional columns for *most recent purchase price* (from test 2.6) and *most recent sales price* (from test 2.7)

Carrying out

Add an *additional column* [H] to calculate the lowest of *cost* [D] and *NRV* [F]:

```
H2      =MIN(D2,F2)
```

Use a *comparison column* [I] to compare this with the *unit cost* [B]:

```
I2      =IF(ABS(H2-B2)>0.05,1,0)        +AutoFilter Extract
```

Follow up on any items that are not valued at the lower of cost and NRV.

Tip: As you've now got the data together, it is very easy to conduct a "*Margin Analysis*", calculating the margin for each line.

```
J2      =(F2-D2)/D2
```

You can now review those inventory lines with the highest and lowest margins, and this is often valuable feedback for the client (if they are not already conducting line by line margin analysis).

2.9. Fluctuations in purchases, sales and returns

Purpose

Significant variations in the levels of inventory movement around year-end can highlight suspicious activity (e.g. false sales pushed through before year-end and credited back in the next year).

This test may also be used for sales and purchases cut-off testing.

Requirements

- Inventory Movement Report; or
- Separate reports for each of Goods Received, Goods Out and Inventory Returns

Carrying out

Add a *column* [E] to the report that identifies the *week of the inventory movement* [Date of movement – D]:

```
E2      =YEAR(D2)&"-"&TEXT(WEEKNUM(D2),"00")
```

Create a pivot table:

- Row Field: Week Number column added above
- Data Field: Sum of Value

Filter the report by Goods Received, Goods Out and Inventory Returns (or create separate pivot tables if using separate reports) and analyse the levels of movement for each week.

Investigate any weeks where there is a significant variance, particularly around period-end.

Tip: You may like to use a PivotChart to visualize the results.

2.10. Excessive stock levels/low turnover

Purpose

High inventory levels compared to sales activity may indicate an obsolescence risk, and it may not be possible to achieve the full sales price for these lines.

The NRV of these lines may therefore be impaired and a write-down may be required.

Requirements

- Listing showing unit sales for each inventory line during the period (sales summary by inventory line)
- Period end inventory listing

Carrying out

Use **VLOOKUP** to import the unit sales volume for each part to the period end listing.

Calculate the *years of stock* [E] that are on hand by dividing the *Inventory on Hand* [C] by the *Annual Sales* [D]:

```
E2      =C2/D2
```

Extract and investigate any items with a high "years of stock" value — a value of 1 indicates there is 1 years worth of inventory on hand. A value of 0.5 indicates there are 6 months of inventory on hand, etc.

If high-ticket items typically have a different turnover to low-ticket items you may want to split them down into price bands.

To do this, apply AutoFilters for (say) *Unit cost* < 1000 and *years in stock* [E] > 0.5. Then, apply another AutoFilter for *Unit cost* > 1000 and *years in stock* > 1.

2.11. Identify obsolete inventory

Purpose

Inventory that has been identified as obsolete should be written down to its net realisable value (or written off if it is to be scrapped).

This test extracts items flagged/marked as obsolete so that the value of these items can be investigated.

Requirements

- Period end inventory listing including status column

Carrying out

Use an appropriate **IF** formula to identify items *flagged as obsolete* [Inventory Flag – C]:

```
D2      =IF(OR(C2="Obsolete",C2="Scrap"),1,0)
```

Replace "Obsolete" / "Scrap" with the appropriate tags used in your report and you can add additional criteria using
"OR(…,C2="[criteria3]")…"

Select a random sample and follow up to ensure that they are valued at net realisable value.

Alternatively, use a PivotTable to summarize the data by the Inventory Status:

- Row field: Inventory Status
- Data field: Sum of Value

This will show the total inventory value for each status/flag, and you can use "Show Detail" on the appropriate cells to see the lines that make up the total, for further investigation.

2.12. Identify obsolete inventory (2)

Purpose

Inventory lines that have not been sold for a long time may indicate inventory that is obsolete and should be written down.

Requirements

- Period end inventory listing
- Sales records by part number

Carrying out

Sort the sales records by sales date so the most recent sales are at the top.

Use **VLOOKUP** to import the last sales date to the period end listing.

Review any lines that have not been sold recently (e.g. within the last 180 days/6 months). [*Last sales date* – G]:

H2 =IF(G2<("31/12/09"-180),1,0) +AutoFilter Extract

Tip: If there are new inventory lines that have only just come into stock, there may not have been any sales yet. This can often lead to large numbers of "false positives" being identified.

To reduce these, include a "*Last purchased*" column (import using **VLOOKUP** if necessary) in the AutoFilter to ignore any lines that have been purchased within the last (say) 2 months of the period.

On the assumption that other controls are working and no other red flags are identified, it is unlikely that products the company has just started purchasing are obsolete.

2.13. Automatic reorder levels

Purpose

Where inventory is re-ordered at specific levels, there is a risk of over ordering (and hence risking obsolescent inventory). This test compares the re-order levels to annual turnover to ensure they are appropriate.

In addition to providing audit evidence, this test can often provide significant added value to the client.

Requirements

- List of re-order levels by part number (re-order levels may be included in the period end inventory listing)
- Listing showing unit sales for each inventory line during the period

Carrying out

Use **VLOOKUP** to import the unit sales to the re-order level listing (or use the report from 2.10 if it includes re-order levels).

Calculate the "*months of inventory*" [F] that are re-ordered from the *reorder level* [D] and *annual sales* [E]:

```
F2      =D2 / E2 / 12
```

Extract lines (using AutoFilter) where the re-order level appears high (e.g. >6 months sales), and follow these up.

Note: Reorder levels may be set to take advantage of quantity discounts. However, it is important that the value of these discounts exceed the cost of storage/handling inventory for extended periods.

2.14. Inventory levels greater than maximum

Purpose

If there are maximum allowed inventory levels for each item, and these are exceeded it may indicate a breakdown in controls, or a problem with re-order levels.

This test identifies any items where the current inventory level is greater than the maximum inventory level, and helps address the valuation of inventory (as excess inventory may need writing down).

Requirements

- Inventory master file containing maximum levels for each line
- Period end inventory listing

Carrying out

Use **VLOOKUP** to import the maximum stock level to the period end listing.

Extract any records where the *current stock level* [D] is greater than the *maximum stock level* [E]:

F2 =IF(D2>E2,1,0) +AutoFilter Extract

Follow up on your findings and understand why the stock lines exceed maximum. Some common causes include:

- Supplier clearing out stock at rock bottom prices
- Breakdown in controls / automatic ordering
- Maximum stock levels out of date and no longer appropriate

2.15. Inventory in transit

Purpose

Inventory owned by the company but "in transit", should be received shortly after period end (within the normal transit cycle).

The purpose of this test is to ensure that items marked as in transit are actually received shortly after period end.

Requirements

- Inventory in transit listing
- Goods received listing, after period end

Carrying out

Sort the goods received listing by received date so the oldest items are at the top (if there are receipts pre period end, remove them from the listing).Use **VLOOKUP** to import the *first received date* [D] and the *quantity received* [E] to the inventory in transit listing.

Ensure that goods have been received in a timely manner (and in sufficient quantities) for all items on the inventory in transit listing.

E.g. Use a *criteria* column [F] to identify cases where the receipt date is greater than 10 days after period end.

```
F2      =IF(D2>"10/1/2011",1,0)
```

Where there is no receipt, the formula will return **"#N/A**" because the **VLOOKUP** will return "**#N/A**", allowing these records to easily be identified.

To also take account of quantity received use [*Qty in transit* – C]:

```
F2      =IF(OR(D2>"10/1/2011",C2<E2),1,0)
```

2.16. Review inventory adjustments

Purpose

Where manual adjustments are made to inventory there is a risk of human error and/or fraud. This test will highlight the stock adjustments that are of higher risk for further investigation.

Requirements

- Stock adjustment report

Carrying out

Extract items that may be of interest for further investigation. E.g.

A. Adjustments posted on weekends

```
=IF(OR(WEEKDAY(B2)=6,WEEKDAY(B2)=7),1,0)
```

B. Adjustments posted on public holidays

Have a list of public holidays stored in a separate worksheet, and use **VLOOKUP** to see if any of the dates match the public holiday list

C. Adjustments posted outside working hours

```
=IF(OR(C2<TIMEVALUE("08:00:00"),
                    C2>TIMEVALUE("18:00:00")),1,0)
```

D. Round adjustments

```
=IF(MOD(D2,1000)=0,1,0)
```

E. Large adjustments to inventory (by value and quantity)

Sort the listing by "Adjustment Value" so the largest items are at the top and review these

F. Adjustments posted by certain individuals

Create a PivotTable with:

- Row Field: User / Posted By
- Data Field: Sum of Value

2.17. GRN sequence numbers

Purpose

Where goods received notes are issued sequentially, missing items may indicate error or fraud. This test identifies gaps in the GRN sequence.

Requirements

- GRN listing

Carrying out

If the GRNs contains letters you need to extract the numeric portion using an appropriate combination of **LEFT**(), **RIGHT**() and **MID**(). For example, if the format is "GRN00123", then use:

=--RIGHT(D2,5) (the 5 characters from the right), or

=--MID(D2,4,99) (everything after the third character)

Note: We have to coerce Excel to treat these as numbers using **"--"**

Sort the listing (ascending) by *GRN number* [D].

Use this formula to identify gaps:

E2 =IF(D2<>D1+1,D2-D1-1,0) +AutoFilter Extract

This will show the number of missing records, each time there is a gap in the sequence (AutoFilter for records "greater than 0").

Alternatively, in a new sheet create a sequential list of number in column A starting from the first item in the sequence, and running to the last item in the sequence (type the first 2 and then use AutoFill).

Now use **VLOOKUP** to import the numbers from the GRN listing, and filter out any **"#N/A"** errors — these are the missing numbers.

2.18. Check shelf-life flags

Purpose

Where stock is perishable and has a shelf life, any stock that is past its shelf life should be marked as obsolete/damaged, and the value should not be included in stock.

Requirements

- Stock listing showing “Use by” or “Display until” date of products

Carrying out

Extract any records where the *shelf life/expiry date* [D] is greater than the period end date:

E2 =IF(D2>”31/12/2010”,1,0) +AutoFilter Extract

Ensure these items are not included in the inventory balance or are valued appropriately.

Note that not all inventory that has passed its shelf life must be written down to zero.

There may still be scrap value in the inventory, or it may be able to be sold at a reduced cost.

An example of this may be sterile medical equipment that can be re-sterilized and sold, but will incur additional cost to return to a saleable state.

Another example is where items are “best before”, and it is still legal to sell them, or produce that can be sold at a discounted rate for animal feed.

3. Trade Payables

Trade payables consist of amounts owed to creditors for goods and/or services that are purchased during the normal course of business.

Trade payables are normally significant / material to the accounts because of either a high volume of transactions, and/or the magnitude of the balance (in terms of the financial statements).

Trade payables are more likely to be understated than overstated, because of the nature of the typical purchasing cycle. Goods / services are usually received before the invoice, and therefore the liability may go unrecorded.

As a result, completeness and cut-off are high-risk audit objectives. Existence is usually of much lower risk as there is less opportunity or incentive to record liabilities that do not exist.

However, accuracy is also a key objective — trade payables often involve significant manual inputs, and there is scope for human error (e.g. adding an extra “0” to an invoice amount).

The valuation objective rarely comes into play in trade payables, because the liabilities are usually fixed and will not change (compared to trade receivables, where there is a risk that the debtor will not pay their debts).

As trade payables directly involve the outflow of cash from a business, this is also a key fraud area, and a significant proportion of corporate frauds occur through trade payables.

3.1. Agree totals

Purpose

To ensure that the trade payables ledger agrees to the trial balance, and hence the financial statements.

This test addresses the existence and completeness of the trade payables balance.

It also provides comfort that the client's systems are working as expected.

Requirements

- Trade payables listing (a list of the transactions/ invoices that make up the trade payables balance at the balance sheet date)
- Trade payables ledger (a list of the supplier accounts that make up the trade payables balance)

Carrying out

For each report, sum up the *Amount* column and agree it to the appropriate accounts in the trial balance.

Where it does not agree directly, understand any significant reconciling items.

This may also be a good time to review the client's month-end control account reconciliations, to ensure they are agreeing/reconciling the ledger on a monthly basis.

Note: There may be several ledgers, and several accounts on the trial balance.

3.2. Significant balances

Purpose

It is common for a significant proportion of the trade payables balance to be owed to a small number of suppliers (Pareto's Principal).

Therefore, comfort can often be gained over a large proportion of the balance by confirming just a few of the larger accounts.

Requirements

- List of trade payables accounts

Carrying out

Sort the list by amount so that the larger accounts are at the top or bottom of the report and easily identifiable.

Perform supplier statement reconciliations (or review the clients reconciliations if available) for the largest balances.

Where supplier statements are unavailable, confirm the balances to after-date payments to the suppliers, or find an alternative method to confirm the balances (e.g. contact the supplier directly).

Even where supplier statement reconciliations are available, you may wish to agree to after-date payments, depending on your risk assessment (supplier statements can be falsified!).

Alternatively, if you have determined that any accounts over a certain level (e.g. 50,000) are significant, then apply an AutoFilter to the amount column for "greater than 50,000", and follow up on these accounts.

3.3. Comparison to last year activity

Purpose

It is common for trade with certain suppliers to remain consistent year on year, and significant increases or decreases in trade with suppliers may indicate suspicious activity.

This is a useful test for unrecorded liabilities as it can identify suppliers that are missing from the listing.

Requirements

- Summary of purchases by supplier for current and prior year

Carrying out

Use **VLOOKUP** to import the comparative balance from the prior year, and calculate the *absolute* [E] and *percentage* [F] difference [*Total Purchases*: *Current year* [C], *Prior year* [D]]:

```
E2      =C2-D2

F2      =(C2-D2)/D2
```

Investigate any significant changes in trade levels with key suppliers.

Investigate significant new suppliers (i.e. where no match was found against last year, the **VLOOKUP** will return **"#N/A"**).

To identify missing suppliers (suppliers who were on the listing last year), reverse the test and import the current balance into the prior year listing — any **"#N/A"** error are missing accounts.

3.4. Re-age the ledger

Purpose

Most accounting systems include the ability to produce an aged summary of the trade payables balances. Re-aging the ledger using an independent system provides comfort that the clients system is functioning correctly, and is appropriately allocating transactions to the correct aging band.

It also identifies aged debts, which may indicate disputes with suppliers, or the client's inability to pay their suppliers.

Requirements

- Trade payables listing

Carrying out

Calculate the number of days old each transaction is with respect to the period end date, [*Date* – C]:

```
D2      ="31/12/10"-C2
```

Create a PivotTable:

- Row field: Account Name/Number
- Column field: "Days Old"
- Date field: Sum of Amount

Use the summary function within the PivotTable to group the "Days Old" into appropriate bands, and agree the re-aged analysis to the clients aging to gain comfort over their systems.

Follow up any aged items and understand why they have not been paid.

An alternative way to re-age a ledger is to use the **TRUE** version of **VLOOKUP** with a separate table containing the bands and their start dates

D2 =VLOOKUP(C2,Sheet2!$A$2:$B$6,2,TRUE)

With the following table in **Sheet2:**

	A	B
1	Start Date	Age Band
2	01/01/1900	90 days +
3	03/10/2010	61-90 Days
4	02/11/2010	31-60 days
5	02/12/2010	0-30 days
6	01/01/2011	Future

Now you can use this *Aging Band* column as the column field in the Pivot Table.

The oldest (i.e. first) date should be older than the oldest record – it's easiest to just use "1" (1/1/1900) as the date. This will be your "X days +" band.

Note: For the **TRUE** version of **VLOOKUP** to work, the table must be sorted ascending like this (i.e., the oldest date first).

With the **TRUE** version of **VLOOKUP**, rather than return "#N/A" where no match is found (as the **FALSE** version), Excel will return the closest lowest match.

This approach works because Excel sees dates as numbers, so if the date isn't in the list, Excel will find the band start date.

3.5. Rounded / 999 Balances

Purpose

Rounded balances/transactions rarely occur naturally, and therefore accounts with a round balance may warrant further investigation.

The use of "999" is common for "place holders" when a user doesn't know the real value, or is performing a "test" transaction, and may indicate incorrect amounts, or items that should not be included.

Requirements

- List of trade payables accounts
- List of items making up trade payable balance

Carrying out

Use an **IF** formula to identify accounts with a rounded balance [*Amount column* – B]:

```
=IF(MOD(B2,1000)=0,1,0)          +AutoFilter Extract
```

Change "1000" to "1000000" to test for accounts rounded to the nearest million.

Use an **IF** formula to identify accounts containing "999":

```
=IF(ISERROR(SEARCH(999,B2)),0,1)
```

Follow up on any items found to ensure that the amounts are accurate and the transactions are legitimate.

Tip: you may also want to check for other common numbers, such as 123 or 456, etc.).

3.6. Benford's Testing

Purpose

Benford's Law is used to detect lists of numbers that have not occurred "naturally". If the report does not closely agree to Benford's Law, then it may be an indication of fraud or manipulation in the data.

In the vast majority of cases you would expect the trade payables transaction listing to conform to Benford's law.

Requirements

- List of transactions (invoices) that make up the trade payables balance

Carrying out

Extract the first digit from the *amount* field [B]:

```
=LEFT(B2,1)
```

Summarize these using a Pivot Table:

- Row field: First Digit
- Data field: Count of First Digit

Calculate the % of total for each digit and compare this to the expected % predicted by Benford's Law.

If there appears to be significant deviations, investigate further.

Similar testing can be performed on the 2nd, 3rd and first two digits:

```
=MID(B2,2,1)        =MID(B2,3,1)        =LEFT(B2,2)
```

You can also chart the results to visually assess conformity.

Frequencies predicted by Benford's Law for 1st, 2nd and 3rd digits:

	Expected Frequencies (%)		
	1st	2nd	3rd
0	—	11.97	10.18
1	30.10	11.39	10.14
2	17.61	10.88	10.10
3	12.49	10.43	10.06
4	9.691	10.03	10.02
5	7.918	9.668	9.979
6	6.695	9.337	9.940
7	5.799	9.035	9.902
8	5.115	8.757	9.864
9	4.576	8.500	9.827

Frequencies predicted by Benford's Law for first two digits:

	F (%)		F (%)		F (%)		F (%)		F (%)		F (%)
10	4.14	25	1.70	40	1.07	55	0.78	70	0.62	85	0.51
11	3.78	26	1.64	41	1.05	56	0.77	71	0.61	86	0.50
12	3.48	27	1.58	42	1.02	57	0.76	72	0.60	87	0.50
13	3.22	28	1.52	43	1.00	58	0.74	73	0.59	88	0.49
14	3.00	29	1.47	44	0.98	59	0.73	74	0.58	89	0.49
15	2.80	30	1.42	45	0.95	60	0.72	75	0.58	90	0.48
16	2.63	31	1.38	46	0.93	61	0.71	76	0.57	91	0.47
17	2.48	32	1.34	47	0.91	62	0.69	77	0.56	92	0.47
18	2.35	33	1.30	48	0.90	63	0.68	78	0.55	93	0.46
19	2.23	34	1.26	49	0.88	64	0.67	79	0.55	94	0.46
20	2.12	35	1.22	50	0.86	65	0.66	80	0.54	95	0.45
21	2.02	36	1.19	51	0.84	66	0.65	81	0.53	96	0.45
22	1.93	37	1.16	52	0.83	67	0.64	82	0.53	97	0.45
23	1.85	38	1.13	53	0.81	68	0.63	83	0.52	98	0.44
24	1.77	39	1.10	54	0.80	69	0.62	84	0.51	99	0.44

3.7. Duplicate invoice references

Purpose

Where there are duplicate invoices on the ledger this may indicate an error and/or fraud.

For example, a supplier invoice may have been entered into the system twice (a reminder notice could have been entered as an invoice), or the same invoice being allocated to two different suppliers.

Requirements

- Trade payables listing

Carrying out

Use a **COUNTIF** formula to determine any records where the *invoice reference number* [B] appears more than once.

```
=COUNTIF(B:B,B2)
```

AutoFilter for any rows where the count is greater than 1.

Note: This is only looking at invoices that are currently on the ledger. You may wish to obtain a listing of all invoices that have been posted throughout the period (i.e. including those marked PAID), and search this for duplicates.

Note: Often the invoice references are supplier generated, and therefore it is possible for two different suppliers to be using the same invoice numbers, leading to false positives.

To combat this, use a helper column by joining the invoice reference to the amount, and search this column for duplicates. Don't join with the supplier code as this will miss cases where the same invoice has been posted to 2 different suppliers.

3.8. Large invoices

Purpose

Large invoices (and credit notes) are inherently higher risk as they are more material, and therefore warrant closer inspection.

Furthermore, a large proportion of the trade payables balance can often be ascertained by reviewing just a few transactions.

Requirements

- Trade payables listing

Carrying out

Sort the listing so that large debit balances (e.g. credit notes from suppliers) appear at the top and large invoices (and other credits) at the bottom (or vice versa).

Investigate these larger invoices/credit notes and ensure they are valid transactions.

You may want to verify large invoices to after date cash payments and/or supplier statements.

Alternatively, you can extract all items above (and below) a given value using AutoFilters.

3.9. Debit transactions

Purpose

A large number of debit transactions on the trade payables ledger can indicate a number of issues. For example, it could indicate a high level of returns, which could indicate faulty goods.

If some of these have been sold on it could have significant implications elsewhere in the client's business (e.g. having to refund their customers for faulty goods or damage to customer goodwill).

It could also indicate poor controls over matching of payments/credit notes to invoices.

In addition to individual transactions, supplier accounts with a debit balance total often warrant further investigation.

Requirements

- Trade payables listing
- List of accounts making up trade payables ledger

Carrying out

Apply an AutoFilter to the amount column for "Is less than 0".

Review this listing and follow up any significant or material items.

Note: debit items on the trade payables ledger represents money that is owed to the client by their suppliers.

It may be appropriate to include these balances within receivables rather than payables (i.e. gross up both payables and receivables).

3.10. Transactions posted at unusual times

Purpose

When fraudsters perpetrate their crimes, they often like to do so when there is no one else around to catch them in the act. Therefore, they will often come in on non working days, come in early or stay late to post transactions.

Requirements

- List of transactions posted to the trade payable*s ledger during the year (with Posted Date [B], Posted Time* [C] and *Posted By* [D] fields)

Carrying out

Review the listing for the following:

A. Adjustments posted on weekends

```
=IF(OR(WEEKDAY(B2)=6,WEEKDAY(B2)=7),1,0)
```

B. Adjustments posted on public holidays

Have a list of public holidays stores in a separate worksheet, and use **VLOOKUP** to see if any of the posted dates match any of these

```
=IF(ISERROR(VLOOKUP(B2,Dates!$A$1:$A$20,1,0)),0,1)
```

C. Adjustments posted out of hours

```
=IF(OR(C2<TIMEVALUE("08:00:00"),
                    C2>TIMEVALUE("18:00:00")),1,0)
```

Use AutoFilter to extract items of interest or use a Pivot Table, which allows you to cross reference the findings with the user who posted the transactions, and look for a patterns where a specific individual is regularly posting transactions at unusual times.

3.11. Summarize transactions by user

Purpose

In most companies, only a few people post transactions to the purchase ledger, and in an ideal world, system controls would prevent unauthorized access. By performing a summary by user, you can check that only authorized persons are posting to the purchase ledger.

Requirements

- Trade payables listing
- List of transactions posted to the trade payables ledger during the year

Carrying out

Create a pivot table:

- Row field: Posted by/User
- Data field: Count and/or Sum of Amount

Ensure that all persons posting to the purchase ledger are authorized to do so.

You can also use "*Maximum of amount*" as the data field, which would show the largest transaction posted by each individual. This is useful if different staff are authorized to process different levels of transactions.

Using "*Minimum of amount*" will show the largest Debit item (e.g. payments or supplier credit notes) posted by each user, assuming your debits are negative, and credits are positive.

You can also cross reference (e.g. with Period, Ledger, transaction type) by adding a column field.

3.12. Search for related parties/unusual account names

Purpose

Transactions with related parties may require additional disclosure in the financial statements. They may also be subject to different accounting treatment, for example Transfer Pricing regulations.

Unusual account names, such as “miscellaneous”, “Suspense”, etc. may warrant further investigation.

Requirements

- List of trade payables accounts

Carrying out

If you only have a small number to search for, use Excel’s “Find” function to look for any known related parties, (e.g. employees or directors, related parties disclosed in previous years, etc.) and unusual account names such as “Suspense” or “Miscellaneous”.

If you are searching for many words/phrases that are stored in a list in another worksheet, use the following formula:

```
=IF(SUM(ISERROR(SEARCH(Words!$A$1:$A$10,B2))*1)>0,0,1)
```

In this example, the list of words to search for is in a sheet named “Words” in cells **A1:A10** [*Account names* – B].

As an Array Formula, you must enter this with **Ctrl+Shift+Enter**.

Note that the **SEARCH** command is not Case Sensitive. To perform a Case Sensitive search, use **FIND** in place of **SEARCH**.

3.13. After date credit notes

Purpose

Although unusual, there may be motive to overstate trade payables, for example increasing both inventory and liabilities could improve (or degrade) the current ratio.

The risk of this is therefore increased if there are tight bank (or other) covenants in place that are close to being breached.

One way to overstate trade payables is by creating false purchases prior to period end, then falsifying supplier credit notes after period end.

Requirements

- Listing of credit notes issued post period end
- Period end Payables listing

Carrying out

Use **VLOOKUP** to identify any records that were listed on the period end trade payables ledger, and have been credited back post period end (use the invoice reference as the matching column).

Extract any large credit notes from the listing for further evaluation.

There may be patterns evident within your findings, for example the same suppliers appearing time and again.

You may also like to summarize both listings by supplier (using a PivotTable or Sub Totals), and calculate the total credit notes issued as a percentage of the period end balance, and investigate any suppliers with a high proportion of the balance credited back in the new period.

3.14. GRNI Accruals

Purpose

Because goods are usually received before the invoice, ledgers are frequently left open for a period after period end to capture as many invoices as possible. However, it is still common for some invoices to be outstanding when the books are closed.

Goods that have been received and not invoiced at period end are usually included in a Goods Received Not Invoiced accrual.

This test compares invoices received after period end that relate to the period under review (i.e. the invoice date is prior to the period end) to the GRNI listing to ensure they are properly accrued for.

Requirements

- Period end GRNI listing
- Listing of invoices processed since period end

Carrying out

Use AutoFilter to extract the invoices that are dated prior to period end (e.g. Invoice Date is less than "31/12/2010").

Use **VLOOKUP** to compare this to the GRNI listing to ensure that an appropriate accrual was in place at period end (lookup based on Purchase Order reference, or other unique identifier as appropriate).

You can now AutoFilter for **"#N/A**", which will identify any items that are not listed on the GRNI, and assess whether a liability existed at the period end and whether an accrual is required.

3.15. Invoices without Purchase Orders

Purpose

A commonly used control is the requirement to have purchase orders for all invoices (or all invoices over a certain limit).

However, this control is often poorly implemented and not enforced. This test helps you identify cases where an invoice does not have an associated purchase order.

Requirements

- Invoice listing with purchase order reference (either as at the period end, or preferably all invoices processed throughout the period).

Carrying out

If your invoice listing does not have the PO reference field, you may need to import this (using **VLOOKUP**) from another source.

Apply an AutoFilter to the PO Reference field for *"(blanks)"* (or other as appropriate, depending on how your system reports blanks/missing references).

If purchase orders are only required for invoices above a specific limit you may also need to apply an additional AutoFilter to the amount column remove invoices below this limit.

Also, if there are non invoices on the ledger (e.g. payments or credit notes), you may want to apply an additional AutoFilter to the *Transaction Type* column to only show invoices, as you would reasonably not expect purchase orders for other transaction types.

3.16. Match employee master file to supplier master file

Purpose

It is unusual for employees to also be suppliers to the company, and this has often been used as a fraud mechanism in the past (where an employee sets themselves up as a fictitious vendor).

Requirements

- Supplier master file
- Employee master file

Carrying out

Use **VLOOKUP** to identify matches that may indicate an employee who is also a supplier.

You can match on each of:

- Name
- Address
- Social Security Number
- Phone Number
- Bank Account Number

Investigate any matches (i.e. cases where **VLOOKUP** doesn't return **"#N/A")** and ascertain whether there are legitimate reasons.

Alternatively, use this formula to identify matches:

```
=IF(ISERROR(VLOOKUP(C2,Employees!C:C,1,0)),0,1)
```

3.17. Review adjustments to standing data

Purpose

As accounts payable directly involves the outflow of cash from a business this will always be a key fraud risk. If unauthorized employees are able to make changes to the standing data they could direct cash towards accounts under their control.

Requirements

- List of adjustments made to vendor standing data
- List of employees authorized to make changes or authorize changes

Carrying out

Use filtering methods to extract any adjustments that may merit further investigation. For example:

- Any adjustments made by unauthorized personnel:
  Use **VLOOKUP** between the employee posting the adjustment and a list of authorized users. Any records returning **"#N/A"** are made by unauthorized users.
- Reversed adjustments (e.g. where the bank account number is temporarily changed):
  Use a PivotTable to summarize the adjustments by "Adjusted Vendor". Review vendors with multiple adjustments, and ensure they are all legitimate and not reversed.
- Adjustments made at unusual times or non-working days - see 3.10.

4. Accounts Receivable

Accounts receivable consists of monies owed to the company by its customers for good or services provided. Other than the trade receivables account, there is also usually a provision against bad and doubtful debts.

When auditing accounts receivable, the key audit objectives are:

- Accounts receivable represent amounts owed to the company by their customers at the balance sheet date, and the company has a legal right to these monies (i.e. the debt has not been sold or factored) (ownership/existence)
- All claims on customers are included within accounts receivable (completeness)
- Accounts receivable are stated at net realisable value, and provisions are in place for bad debts (valuation)
- Sales are posted to the correct period (accuracy)

There may be substantial incentive for management to overstate accounts receivable.

For example, to hit performance targets revenue may be overstated by creating false sales and crediting them back post year end, which leads to overstated accounts receivable.

Overstating accounts receivable will also improve the current ratio and other liquidity ratios, which may affect bank covenants.

There may also be incentive to post legitimate sales to the wrong period, and this can occur both ways. For example, if it has been a bad year and performance targets have been missed, pushing sales into the next period makes it easier to hit targets next year.

Many of the accounts receivable tests are almost identical in nature to the trade payables tests, the differences of course being that suppliers become customers, debits become credits, purchase ledger becomes sales ledger, etc.

Therefore, rather than simply repeat the descriptions, for the following tests, please see the appropriate trade payables test and adapt it for accounts receivable:

4.1. Agree Totals – see 3.1

4.2. Comparison to last year activity – see 3.3

4.3. Re-age the ledger – see 3.4

4.4. Rounded/999 Balances – see 3.5

4.5. Benford's Testing – see 3.6

4.6. Duplicate invoices – see 3.7

4.7. Large invoices – see 3.8

4.8. Credit Transactions – see 3.9

4.9. Transactions at unusual times – see 3.10

4.10. Summarize transactions by user – see 3.11

4.11. Related Parties – see 3.12

4.12. Significant balances

Purpose

As with many accounts, it is usual for a significant proportion of the trade receivables balance to be held by a small number of customers.

Therefore, comfort can be gained over a large proportion of the balance by confirming these larger accounts.

Requirements

- List of trade receivables accounts

Carrying out

Sort the list by amount so that the larger accounts are at the top or bottom of the report, and copy these to a new sheet.

Alternatively, if you have determined that all accounts over a given amount are significant, use AutoFilter to isolate all accounts greater than this limit.

Confirm the largest balances:

- Debtors circularization (confirm directly with customers)
- Agree to after date cash receipts
- Trading history with the customer (is this balance typical for this customer?)
- Correspondence between your client and their customer (use professional scepticism as to the authenticity!)
- Any another suitable method of confirmation

4.13. Cut off testing

Purpose

As trade receivables are directly linked to sales, this is an appropriate place to perform sales cut off testing.

It is vital that transactions are posted into the correct period to ensure the financial statements show a true and fair view. Transactions around the period end are at risk of being posted to the wrong period, either through error, fraud or systems set up incorrectly.

Requirements

- Trade receivables listing (covering transactions both sides of period end)

Carrying out

Use AutoFilters to isolate transactions occurring within X days of period end.

Extract a random sample of these and agree to supporting documentation (e.g. dispatch notes, stock movements, etc.) to ensure that they have been recorded in the correct period.

Pay particular attention to distance sales where the goods have not yet been dispatched.

For example, where a customer purchases online late on Friday 31/12/10 and the goods are not dispatched until Monday 3/1/11 the sale should not be recognized until financial year 2011.

Likewise, if you have dispatched goods that have not been invoiced these should be included in the current period.

This can occur where the client has inventory held at (and used by) a 3rd party site who self bill.

4.14. Uncollected amounts after period end

Purpose

If the audit is being performed some time after the period end, then it would be expected that many of the items owed by customers at period end should have been paid/cleared from the ledger at the time of the audit.

Aged balances where the cash has not been received may indicate unrecoverable amounts that need to be provided for.

Requirements

- Trade receivables listing at the audit date

Carrying out

Use an AutoFilter to extract any records where the date field is less than the period end date. I.e. transactions that were on the ledger at the audit date that are dated prior to period end.

For any significant or material items, investigate why the funds have not been received.

When conducting your analysis, take the customers payment history into and terms of business into considering (e.g. if you're conducting the audit 10 days after period end, and the customer usually pays on 45 day terms the balance is unlikely to have cleared).

You can also perform a lookup between the period end listing and the current listing (using the reference column as the matching column) to identify items that have not cleared.

4.15. After-date credit notes

Purpose

Where a large number of credit notes have been issued immediately following the period end, it may indicate false sales posted at the end of the year to inflate revenue.

Requirements

- Period end trade receivables listing
- Listing of credit notes issued post period end

Carrying out

Perform a lookup (using the invoice reference) between the trade receivables listing and the credit notes listing to identify any invoices that have been credited off. Determine whether the level of credit notes being issued is consistent with historic levels, and investigate any large/unusual items.

Alternatively, create a *Week Number* column in the listing of credit notes (covering as wide a date range as possible) [*Date* – B]:

```
=YEAR(B2)&"-"&TEXT(WEEKNUM(B2),"00")
```

Create a pivot table:

- Row Field: Week Number Column
- Data Field: Sum of Amount

This will show the value of credit notes issued in each week, and you can review for unusual activity around period end.

Alternatively, use *Count* as the data field, for the number of credit notes issued each week. You may find a pivot chart useful for visualizing the results.

4.16. Invalid invoice/credit note numbers

Purpose

Invoices and credit notes are normally issued in a uniform manner, and the reference number will follow a pre-defined pattern. When items do not match this pattern there is a risk that the system is not functioning correctly, or that someone is not following procedures correctly.

Requirements

- List of invoices/credit notes issued during the year

Carrying out

Pattern matching without the use of specialized software is extremely difficult. Therefore, whilst these tests will help identify cases where the pattern doesn't match, they cannot confirm that all records comply with the pattern.

Sort the data by the *Invoice Reference* [B], which will show any entries such as 000000, 999999, ZZZZZZ, XXXXX, etc at the top or bottom of the sheet.

Use **=IF(LEN(B2)<>X,1,0)** to check the length of the reference if this should be a fixed length.

If there are numeric portions (e.g. characters 3,4 and 5 are always numeric) then you can use **ISNUMBER** with **MID**, e.g.

```
=ISNUMBER(--MID(B2,3,3))
```

Note: Because Excel will see the numbers extracted by **MID** as text-numbers, we have to coerce Excel to read it as a number. We do this with the double negative operator **"--"**.

4.17. Missing invoice/credit notes

Purpose

Invoices and credit notes are usually issued sequentially, and details of any voided transactions maintained. Therefore, gaps in these sequences may indicate a breakdown in controls and/or fraud.

Requirements

- List of invoices issued during the year
- List of credit notes issued during the period

Carrying out

Sort the listing by invoice/credit note reference, and extract the numerical portion of the mask using an appropriate combination of **LEFT/RIGHT/MID** (if there are letters present).

Use this formula to identify gaps [*Reference number* (or numerical portion of) – B]:

C2 **=B2-B1**

Now apply an AutoFilter to show everything except 1 (i.e. 2,3,4 etc.). This will show you the first item missing in each block and the number of missing items that make up that block.

Alternatively, in a separate sheet create a sequential list from the start to end of the sequence and use **VLOOKUP** to identify the missing items (missing items will return a **"#N/A"** error).

This approach will identify all missing items, rather than just the first of each block and the number missing.

Use **VLOOKUP** to check the list of missing items against the voided items log.

4.18. Accounts exceeding credit limit

Purpose

Where a credit limit is set for customers and this is exceeded it may indicate a breakdown in controls (if the systems should prevent new orders if the account is over its credit limit).

Where customers have exceeded their credit limits there is an increased risk of them being unable to pay their debts, and hence this test addresses the valuation of trade receivables.

It may also indicate that credit limits are not being reviewed in an appropriate manner. If this is the case, and limits are frequently ignored it renders the control useless.

Requirements

- List of trade receivables accounts with their balances and credit limits

Carrying out

Use an **IF** formula to identify any records where the *account balance* [B] exceeds its *credit limit* [F]:

G2	=IF(B2>F2,1,0)	+AutoFilter Extract

If there are accounts that exceed the credit limits, understand whether system controls are operating as expected.

Investigate the reasons as to why these accounts are in excess of their credit limits, and if appropriate, that suitable authorization was obtained.

5. Payroll

In many companies, payroll expense is one of the largest accounts in the income statement/profit and loss, and is therefore material to the financial statements.

In addition, payroll involves the deduction and collection of various taxes, social security and other state deductions. Hence, this area is often put under closer scrutiny by the authorities.

As well as covering the payroll & related expense accounts, the payroll audit section usually also covers any period end payroll related balance sheet accounts (e.g. social security/taxes due).

The key objectives when auditing payroll are:

- That the payroll expense in the financial statements is stated correctly
- That payroll expenses are classified correctly (there are usually additional disclosure requirements)
- That deductions and taxes have been calculated correctly
- That payroll liabilities at the balance sheet date are stated correctly

Because payroll involves the direct outflow of cash from a company, it is also a key fraud area. Billions of dollars are lost annually to expenses fraud, overtime fraud, false employees, etc!

Although specifically looking for fraud is outside the scope of many audits, many stakeholders have a different perception. If a large payroll fraud is discovered, the Auditors are always asked why they didn't pick it up.

Therefore, it is wise to perform some basic fraud detection work, and should you detect fraud this adds significant value for your clients.

5.1. Agree payroll reports to general ledger postings

Purpose

To ensure the financial statements represent a true and fair view of the transactions, the payroll reports should be tied through to the expense postings in the general ledger.

Requirements

- Monthly/annual payroll reports

Carrying out

Summarize your data so that you have monthly totals, and agree these back to the general ledger postings.

In addition to the wages expense accounts, you may also be able to agree employer related deductions from these reports.

Note: Employee related deductions do not usually have their own expense account in the trial balance, as the balances are included within wages and salaries.

It may also be possible to agree any period end payroll liabilities (e.g. tax/social security) to the payroll report for the last month of the period.

Review the general ledger detail for the key payroll expense accounts and ensure expenses are present for all payroll periods, and are broadly consistent throughout the year (or fluctuate as expected if a seasonal business).

5.2. Compare salaries to prior year

Purpose

Companies tend to apply pay rises fairly uniformly across a company/department. Where an individual has received a pay rise that is substantially different from their peers it may warrant further investigation.

Requirements

- Total pay by employee for current year
- Total pay by employee for prior year

Carrying out

Use **VLOOKUP** to import the prior year salary for each employee, and calculate the *absolute* [G] and *percentage* [H] differences [*Salary*: *Current year* [F], *Prior year* [E]]:

```
G2    =F2-E2

H2    =(F2-E2)/E2
```

Investigate the reasons behind any pay rises (or cuts) that are significantly different to normal or that appear unusual.

You can also calculate the average pay for each year, and hence the average pay rise, and consider individual rises with respect to the average.

Tip: If bonuses or other one off pay items are included in total pay, it may be beneficial to strip these out before calculating the pay rises.

5.3. Find duplicate payments

Purpose

Duplicate payments result in staff being over paid, and may indicate an error in system controls or standing data, or potential fraud.

Requirements

- Payroll payments file

Carrying out

Identify any records where the same *employee* [B] was paid more than once in a *payment period* [C], particularly where the *payment amount* [D] is the same.

To do this, create a "helper" column combining the employee and pay period, e.g.

```
D2      =B2&C2
```

The easiest way to detect duplicates is to use **COUNTIF:**

```
=IF(COUNTIF(D:D,D2)>1,1,0)          + AutoFilter Extract
```

Another option is to sort the data by the field and use an **IF** formula to identify duplicate records:

```
=IF(OR(D2=D1, D2=D3),1,0)           + AutoFilter Extract
```

Follow up these duplicates and investigate whether they are legitimate transactions or true duplicates.

5.4. Excessive payments to employees

Purpose

Payments within a group (that group could be department, pay code, or monthly payments to an individual employee) tend to remain fairly consistent. Payments at the extremes may indicate fraud or error and often warrant further investigation.

Requirements

- List of payroll payments

Carrying out

Identify the *group* [B] that you are investigating, and calculate the *average* [D – calculated] for that group, [*Amount* –C].

If you use Excel 2007 or later, you can use:

D2 =AVERAGEIF(B:B,B2,C:C)

If you're using an earlier version of Excel, the easiest way to get the average for a group is to use a PivotTable:

- Row Field: Group
- Data field: Average of Amount

A **VLOOKUP** can then be performed to import the average for the group back into the original listing for each record.

Extract any records which deviate significantly from this average and follow up. E.g. if you determine 150% (one and a half times) average to be significant, then use:

=IF(C2>1.5*D2,1,0) + AutoFilter Extract

5.5. Examine a sample of new starters and leavers

Purpose

It is important to understand and test the controls around new starters and leavers.

Requirements

- List of starters/leavers, or
- Payroll master file with start/termination dates

Carrying out

If a list of starters/leavers is not available, extract listings of these from the Payroll Master File.

Starters can be identified by comparing their start date to the period start (i.e. filter for records where the start date is greater than the period start)

Leavers may be harder to identify, as they may not be listed in the Master File. If this is the case, then obtain a list of payments made during the period, and identify any payees who are no longer on the Master File, using **VLOOKUP** (any employees not in the master file will show as **#N/A**).

If leavers are noted in the report, filter for records where the leaving date is greater than the period start and less than the period end.

Select a sample at random from the new starters and leavers, and follow the process through, ensuring that all appropriate controls operated as expected.

5.6. Check employees not paid after termination

Purpose

Payments to an employee should cease shortly after they have left the company. If they are still being paid weeks or months later this may indicate a break down in controls, or possibly fraud.

Requirements

- List of terminated employees with termination dates
- Payroll reports showing payments made to individual employees throughout the period (and after period end if available). You may need to combine multiple reports for this (copy and paste the data into one).

Carrying out

Sort the payroll report descending by payment date, so the most recent payments are at the top.

Use **VLOOKUP** using the employee reference number to find the last date that each terminated employee was paid.

Extract any items where employees are paid more than one payment cycle after they were terminated. For example, if employees are paid monthly, you might use [*Termination date* [B], *Most recent payment date* [D]]:

```
=IF(D2>(B2+30),1,0)      + AutoFilter Extract
```

Follow these cases up and understand why they were being paid so long after they left.

5.7. Review adjustments to standing data

Purpose

As payroll directly involves the outflow of cash from a business this will always be a key fraud risk. If unauthorized employees can make changes to the standing data they could fraudulently extract cash from the business. For example, they could change their own salary, or change the bank details of a co-worker to their own.

Requirements

- List of adjustments made to payroll standing data
- List of employees authorized to make/authorize changes

Carrying out

- Adjustments made by unauthorized personnel - Use **VLOOKUP** between the employee posting the adjustment and a list of authorized users. Any records returning **"#N/A"** are made by unauthorized users
- Adjustments to terminated employees - Use AutoFilter to extract any records with a termination date, or are otherwise flagged as terminated (use **VLOOKUP** to import this data from another source if necessary)
- Reversed adjustments (e.g. where the bank account number is temporarily changed) - Use a PivotTable to summarize the adjustments by "*Adjusted Employee*". Review those employees with multiple adjustments, and ensure they are all legitimate and not reversed
- Adjustments where the adjusted employee is the person making the adjustment:**=IF(B2=F2,1,0)**

5.8. Check format of social security number

Purpose

Social security numbers usually follow a pre-defined format, and where these numbers do not match this pattern in can indicate fictitious employees, data entry errors, or employees who are not entitled to work.

Requirements

- Employee master file

Carrying out

To actually test each social security numbers against a pattern without the use of additional software requires the use of very complicated formulas and/or macros, which are beyond the scope of this book.

Therefore, although the following tests may help identify invalid social security numbers, they cannot provide assurance that all SSNs are valid.

Sort the data by the social security number column, which will show any entries such as 000000, 999999, ZZZZZZ, XXXXX, etc at the top or bottom of the sheet.

Use **=IF(LEN(B2)<>X,1,0)** to check the length of the SSN for each employee — SSNs usually have a fixed length.

If there are numeric portions (e.g. characters 3, 4 and 5 are always numeric) then you can use **ISNUMBER** with **MID**, e.g.

```
=ISNUMBER(--MID(B2,3,3))
```

5.9. Find duplicates in employee master file

Purpose

Employees usually only have one entry in the master file, and duplicate entries may result in staff being overpaid/paid twice, or incorrect staff being paid. It may also indicate fraud.

Where two different employees share a bank account, address, telephone number, etc., it may indicate fictitious employees set up for fraudulent purposes.

Requirements

- Employee master file

Carrying out

You can use several fields for testing for duplicates, including Name, Bank Account #, Social Security #, Phone #, Address. Use either of these methods to identify duplicates:

1) Use a "**COUNTIF**" formula to identify any records where the field in question appears twice:

   ```
   =IF(COUNTIF(B:B,B2)>1,1,0)
   ```

2) Use a PivotTable:
   - Row field: Field under review
   - Data field: Count of field

   Sort the table so the largest counts are at the top — investigate any records having a count greater than 1.

The PivotTable approach is quickest for testing multiple fields as you do not need to retype formulas, just drag and drop fields.

5.10. Social security/tax logic check

Purpose

Social security and income taxes are normally paid as a percentage of income, and this percentage should remain fairly consistent amongst employees (particularly within the same salary band).

Requirements

- Payroll reports showing salary, tax and social security deductions by employee

Carrying out

Calculate the *average social security* [C] (and/or tax) charge as a percentage of *average pay* [D]:

```
=AVERAGE(C:C)/AVERAGE(D:D)*100
```

Calculate social security (and/or tax) deduction as a percentage of total pay for each employee:

```
=C2/D2*100
```

Extract records where the % greatly differs from the average.

Note: Where stepped tax levels apply (e.g. 20% up to $40,000 and 40% on income above $40,000) it may be appropriate to split employees into salary bands for this test.

See 9.5 for details on splitting the data into strata bands, and 5.4 for calculating averages for separate groups.

5.11. Agree expense claims to supporting documentation

Purpose

Because expenses often involve staff claiming monies with no manual review they are a key fraud risk.

Expenses fraud commonly occurs through over claiming, fictitious claims and duplicate claiming.

Requirements

- List of expense claims

Carrying out

Select a random sample of expense claims, and agree the claims back to supporting documentation, for example:

- invoices/receipts/phone bills
- mileage calculations

Where claims over a certain value require authorization, ensure appropriate authorization was obtained.

Ensure to check the dates that authorization was obtained, and that these were prior to the expense being incurred.

You can also select a sample of X expense claims for each *employee* [A].

Create a column of *random numbers* [D] then use this formula:

```
=IF(D2>=LARGE(IF(A:A=A2,D:D),X),1,0)
```

This is an array formula and must be entered with **Ctrl+Shift+Enter.**

5.12. Summarize Expenses by Employee

Purpose

Where employees are performing similar duties, the expense claims are likely to be similar for those employees. Where individuals are regularly claiming more than their peers, it may be an indication of fraud.

Requirements

- List of expense claims

Carrying out

Use a PivotTable to summarize the expense claims:

- Row field: Employee number/name
- Data fields: Sum of expense claims, Count of expense Claims and Average of Expense Claims

Investigate any employees with unusually large expense claims, by count, value or average value.

You may gain additional insight by "cross tabulating" with another field, and this can help identify unusual patterns. To do this, add a Column Field to the Pivot Table.

Examples of useful cross tabulations include Period, Expense Type, Nominal Ledger Account.

When cross tabulating (i.e. when you have both a row field and a column field) the PivotTable will be easier to read if you only use one data field at a time.

5.13. Duplicate Expense Claims

Purpose

Duplicate expense claims may occur as a result of fraud or error, but either way they are unnecessary expenditure that should be recovered where possible.

Requirements

- List of expense claims

Carrying out

Identify expense claims where the employee has claimed twice on one day, has claimed the same amount in a short period of time, or any other instance that may indicate a duplicate expense claim.

Auditor judgement will be required to determine the most appropriate fields to identify duplicates, depending on the fields that you have available.

It may be necessary to use Helper Columns to combine info from multiple fields. E.g.

```
=Amount & Date

=Employee & Amount & Month (=A2&B2&MONTH(C2))
```

[*Employee* – A, *Amount* – B, *Date* – C]

Duplicates can then be identified using any of the methods discussed in 5.3 or 5.9.

5.14. Benford's testing - Expenses

Purpose

Benford's testing is an extremely powerful technique for identifying manual manipulation of data sets.

If Employees are "making up" their expense claims or are deliberately falsifying claims then it is extremely unlikely that they will conform to Benford's law.

Where employees are putting an excessive number of claims in just below an authorization limit (e.g. $50) then Benford's is likely to show peaks (e.g. at 4 in the first digit test and 48/49 in the first two digit tests).

Requirements

- List of Expense claims

Carrying out

For a detailed description on performing Benford's testing in Excel please see 3.6.

You may also like to filter the PivotTable by employee, so you can see how each employee's claims conform to Benford's Law, rather than the population as a whole.

Be aware that Benford's testing works best with larger populations, so if each employee has only made a few expense claims then this approach may not be appropriate.

You can also chart the results to visually assess conformity with Benford's Law.

5.15. Suspicious comments on expense claims

Purpose

Often the description used on an expense claim can indicate something that requires further investigation, e.g. miscellaneous, personal, various, etc.

Requirements

- List of expense claims
- List of suspicious words/comments

Carrying out

The formula for this is quite complicated, but it works a treat!

```
=IF(SUM(ISERROR(SEARCH(Words!$A$1:$A$10,B2))*1)>0,0,1)
                                        +AutoFilter Extract
```

In this example, the list of words to search for is in a sheet named "*Words*" in cells **A1:A10.**

This is an Array Formula, and you must enter it with **Ctrl+Shift+Enter**.

Note that the **SEARCH** command is not case sensitive. To perform a Case Sensitive search, use **FIND** in place of **SEARCH.**

5.16. Expense claims when employee not at work

Purpose

If employees are claiming not to be at work, because they are on vacation or are sick, they should not be filing or incurring expense claims.

Requirements

- List of dates employees not working
- List of expense claims

Carrying out

From the time sheet records extract the days where employees were not at work (e.g. filter for vacation/sick time codes).

In both worksheets, create a helper column containing the *name* [A] and *date* [B]:

```
=A2&B2
```

Now use **VLOOKUP** (with the helper column as the matching column) to identify any expense claims on dates when the employees were not at work.

You can check against both the date the expense was incurred and the date the claim was filed, if you have both date fields available (i.e. create a helper column for each date in the expense claims listing, and perform the test twice).

5.17. Overtime authorization

Purpose

Overtime payments usually require authorization from a manager. Without proper controls, there is scope for employees to fraudulently claim overtime that they either did not work or were not authorized to work.

Requirements

- List of overtime payments/timesheets

Carrying out

Ensure that each overtime payment has been authorized by an appropriate individual (i.e. the "*Authorized by*" field isn't blank).

If you have a list of individuals able to authorize overtime, you can use **VLOOKUP** to ensure that the authorizing individual is on this list (if they're not then **VLOOKUP** will return **"#N/A"**).

If possible, agree individual overtime payments to the timesheet records. Again, use **VLOOKUP** to import the overtime pay field from the payment reports to the timesheet reports and perform appropriate calculations to establish reasonableness.

It may not be possible to get overtime authorization data electronically. In this case, pick a random sample of overtime hours from the timesheet records and follow these through to paper records.

You may want to pick a random sample from each employee or department (e.g. 3 overtime shifts per employee). See test 5.11 for details on extracting a grouped random sample.

5.18. Leave never taken

Purpose

Where employees are committing fraud, it is common for them not to take vacations. They do this so that no one else takes over their duties, and there is less opportunity for anyone to discover their fraudulent actions.

Any employee who has not taken vacation or rarely takes vacations raises suspicions.

Requirements

- Vacation records from timesheets
- Employee master file

Carrying out

Use a pivot table to summarize the vacation hours/days for each employee:

- Row field: *Employee name/number* [B]
- Data field: *Sum of Hours/Days* [C]

Use **VLOOKUP** to import the total vacation taken for each employee into the master file, and ensure that all employees have taken their annual leave entitlement.

An alternative method is to use a **SUMIF** formula in the employee master file to total the vacation hours for each employee:

```
=SUMIF(Vacations!B:B,B2,Vacations!C:C)
```

Where the vacations records are in a sheet called *Vacations*.

5.19. Non Consecutive Leave

Purpose

Following on from 5.18, some fraudsters know that if they don't take their annual leave it will raise suspicions. One way for them to get around this is to take odd days here and there.

This way they still use their leave, but are never away long enough for temporary cover to be necessary. Some companies (particularly financial institutions), force their staff to take 2 weeks consecutive leave at least once a year.

Requirements

- Vacation records from timesheets

Carrying out

Add a *Week number* column [*Date* – B]:

```
=WEEKNUM(B2)
```

Use a pivot table to cross tabulate vacation hours with week number:

- Row field: *Employee name/number*
- Column field: *Week Number*
- Data field: *Sum of Hours/Days*

To the right of the Pivot Table, use a **MAX** formula, to determine the maximum hours vacation each employee has taken in any given week, e.g.

```
=MAX(B5:AS5)
```

And review these for any less than a full week (35 or 40 hours).

5.20. Cancelled and reissued checks

Purpose

Where payroll checks are cancelled, and then reissued there is a risk that they are not authorized correctly, or that a fraud slips through. For example, a payroll clerk could cancel an old payroll check, and reissue it in their name, or cancel a check and reissue it for a different amount.

In many cases for a check to be reissued it should go through the same authorization process as the original check.

Requirements

- A list of cancelled payroll checks
- A list of reissued payroll checks (if a separate log is maintained)
- A list of payroll checks continuing reference numbers

Carrying out

Identify payroll checks that have been cancelled and re-issued. This may be possible by identifying duplicate reference numbers in the check listing, or by using **VLOOKUP** to identify matches between reports (See 5.3 & 5.9 for details on detecting duplicates).

Investigate any records that look suspicious, such as where the payee name or amount is different.

5.21. PO BOX Addresses

Purpose

Employees should have a proper registered address; it is unusual for employees to use post office boxes.

Where unidentifiable addresses are used it may indicate a fictitious employee.

Requirements

- Employee master file

Carrying out

Manually search/AutoFilter the address field for each of:

- POBOX
- PO BOX
- P.O. BOX
- etc.

Alternatively, use the search formula in Test 5.15 against a list containing the PO BOX variations.

5.22. Only person working overtime

Purpose

Where overtime is worked, it is uncommon for one employee to be the only person working overtime.

Therefore, if individuals are frequently the only person working overtime this may warrant investigation.

Requirements

- Overtime records

Carrying out

Use a PivotTable to summarize the report:

- Row field: Employee name/number
- Column field: Date (or use WeekNumber as in Test 5.19)
- Data field: Sum of Overtime Hours

Review the resulting table for suspicious patterns, e.g. days where only one or two people are working overtime, or two individuals who frequently work overtime together, and are the only people working overtime.

Tip: If you change the Data field to Count of Overtime hours, the "Grand Total" will show the number of people working on each day (assuming only one overtime entry per employee per date).

Tip: Depending on the number of employees and number of days overtime was worked, you may find the table easier to view the PivotTable if you swap the Row and Column fields.

6. Cash

Although cash is a high risk area, the audit of cash is often fairly straight forward. This is largely because audit procedures covering cash disbursements are covered under trade payables and payroll, and procedures covering receipts are covered within accounts receivable.

Therefore, the cash audit section typically consists of a confirming a few bank accounts. Other cash accounts (e.g. petty cash, till floats) are often immaterial in size, but are looked at because cash is an inherently risky area. The key audit objectives are:

- Existence — do the accounts actually exist?
- Completeness — have all accounts been included (including overdrawn accounts)?
- Accuracy — are the balances stated correctly (i.e. taking account of reconciling items)?
- Valuation — despite recent events, the likelihood of a bank defaulting is still extremely low and when a bank does collapse this is almost impossible to foresee. Therefore, the valuation of "home currency" holdings is rarely an issue. However, the valuation of foreign currency accounts is of concern, as they may have been translated at an incorrect rate.
- Presentation — have the balances been appropriately presented and disclosed in the accounts (e.g. loan accounts classified as liabilities, not cash).

This section introduces a few tests that will help with the audit of cash.

6.1. Identify bank accounts

Purpose

All bank account balances should be confirmed directly with the bank through bank confirmations, even where a zero balance is reported (the client could be reporting a zero balance, but in reality the account is heavily overdrawn).

This test helps identify bank accounts in the trial balance so that the balances can be confirmed. This is also useful for ensuring that the accounts are correctly classified in the financial statements.

Requirements

- Trial Balance
- List of search terms

Carrying out

Create a list of search terms, including words like “bank”, “overdraft”, “cash”, “deposit”, etc. and any bank accounts identified in prior years.

You may also want to include common bank names in your list, or all banks in your country. Most financial regulators have a list of the institutions that they regulate on their websites, which you can import into this list.

Use the same approach as in 6.4 to identify any accounts matching these terms.

6.2. Check Sequence Numbers

Purpose

Checks should be issued sequentially, and records maintained of any voided checks. Where check numbers are missing from the sequence (and not recorded as voided) it may indicate fraud or a break down in controls.

Requirements

- Listing of checks issued
- Listing of voided checks

Carrying out

Sort the listing by check number. Use an **IF** statement to Identify any missing *check numbers* [B]:

```
=IF(B2<>B1+1,1,0)
```

Ensure that the missing items appear on the voided check log, or are otherwise accounted for.

Alternatively, in a separate sheet create a sequential list of check numbers from the first to the last in column A.

Now use **VLOOKUP** to import the check numbers from the listing of issued checks – any **"#N/A"** results are missing checks.

You can use **VLOOKUP** to ensure that all missing checks are recorded on the void log (and identify any that are missing).

6.3. Bank Reconciliations

Purpose

Bank reconciliations should be carried out at least monthly by the client, and reviewing these is part of just about every audit.

One of the most common items on a bank reconciliation are un-deposited checks. However, if the client has not booked the disbursement, and left it off the bank reconciliation it can overstate cash.

This is used in "kiting" where a company transfers money from one account to the other, and books the receipt before year end, but not the disbursement until the following period.

Requirements

- Bank statements (electronic)

Carrying out

Use an appropriate method to extract the entries that represent check payments from the electronic bank statements (e.g. filter the description column for **"Check:100*"**).

Extract the check number from the description, so you have a list of checks numbers that have been cashed.

Check for any missing items using the same approach as in 6.2, and ensure that these items appear either on the voided check log or on the period end bank reconciliation.

Tip: To ensure you capture all missing items, physically view the check book to find the last check issued in the period.

6.4. Review check log

Purpose

It is rare for a company to make a check out to "Cash", and where this happens there is an increased risk of fraud. There are also other words or phrases that may indicate an increased risk of fraud that you wish to search for.

Requirements

- Check log
- List of words/phrases to search for

Carrying out

Search the check log (particularly the "*Payee*" field) for the word "*Cash*". You can do this using AutoFilters or just using the Excel search function (**Ctrl+F**).

If you are searching for multiple words/phrases, use the following formula:

```
=IF(SUM(ISERROR(SEARCH(Words!$A$1:$A$10,B2))*1)>0,0,1)
```

In this example, the list of words to search for is in a sheet named "*Words*" in cells **A1:A10**.

This is an Array Formula, and you must enter it with **Ctrl+Shift+Enter**.

Note that the **SEARCH** command is not Case Sensitive. To perform a Case Sensitive search, use **FIND** in place of **SEARCH.**

You can use the same approach to review the petty cash log.

7. Non-Current Assets

Non-current assets are tangible assets that are owned by the company, and are not intended for resale (i.e. they are expected to be held/used over an extended period).

The accounts covered by the non-current assets section are usually split into asset categories and consist of the "asset cost", "accumulated depreciation" and "depreciation expense". There may also be other accounts, (such as profit/loss on disposals) that are of significance.

Non-current assets may also include non tangible assets, such as brands, patents, rights, etc. (in some jurisdictions these are classified under non-current assets, and elsewhere they are classified separately).

The key audit objectives are:

- That the balance represents all assets owned by the company, or held under finance lease/hire purchase agreements (completeness/accuracy)
- The assets actually exist and are owned by the company (existence/ownership)
- The assets are being used by the company, are under construction, or are intended to be used in the future (valuation)
- Fixed assets are valued correctly, depreciation has been correctly calculated, and the assets are not impaired (valuation)
- Appropriate controls are in place over the procurement of non-current assets.

Although the tests in this section focus on tangible assets, many of them can easily be adapted to review intangibles. If the client has a significant number of intangible assets, this will warrant automated testing.

7.1. Totals

Purpose

As with any key report, it is vital that the fixed asset register totals agree to the trial balance and other disclosures in the accounts. This includes asset cost, accumulated depreciation and the depreciation charge for the period.

Requirements

- Fixed Asset Register

Carrying out

Total up the various columns (Purchase Cost, Accumulated Depreciation, Depreciation Charge) and agree these to the accounts in the trial balance.

If additional fixed asset disclosures are required (e.g. a breakdown by asset category), you can obtain totals for each category using Excel's Subtotal function or using Pivot Tables.

You can also review the client's monthly non-current assets control account reconciliations, to ensure that this is being monitored on a regular basis by the client.

7.2. Additions & Disposals

Purpose

Asset additions and disposals are a high risk area, as they directly require the manual input of data.

Furthermore, they usually require separate disclosure in the financial statements. This test helps extract a sample for controls testing.

Requirements

- List of additions and list of disposals, or
- Fixed asset register with purchase and disposal dates

Carrying out

If you need to extract the additions/disposals from the FAR use auto-filters on the purchase/disposal date column (e.g. *>[period start-date]*), then copy the visible cells to a new sheet.

Extract a random sample of additions and disposals and follow them through to ensure correct accounting treatment.

For additions, ensure that the expense is capital in nature, and for disposals where assets were sold (as opposed to scrapped), recalculate the profit or loss on disposal.

Total up the value of additions, disposals and related cumulative depreciation and ensure these agree to the disclosures in the financial statements.

You may also like to review the asset addition descriptions for items which appear non-business related – a common fraud is purchasing assets for personal use.

7.3. Fully/Over Depreciated Assets

Purpose

Fully depreciated assets should only be included in the Cost and Accumulated Depreciation if they are still in use, otherwise they should be marked as scrap. Isolating assets that are fully depreciated allows you to extract a sample for follow up testing.

Fixed asset registers are often separate from the main accounting/ERP package (e.g. an Excel Spreadsheet). This introduces scope for error, and there are frequently inadequate controls in place to prevent assets being depreciated beyond zero.

This results in the depreciation charge being overstated and the value of assets being understated.

Requirements

- Fixed Asset Register

Carrying out

Fully Depreciated Assets:

- AutoFilter on Net Book Value for assets with a value of 0
- Use `=IF(D2=E2,1,0)` to check for cases where *cost* [D] equals *accumulated depreciation* [E]

Over depreciated Assets:

- AutoFilter on NBV for assets with a value less than 0
- Use `=IF(D2>E2,1,0)` to check for assets where Accumulated depreciation exceeds cost

Note: We test both NBV and Cost/Accumulated Depreciation, as the two may be calculated independently by the client's systems.

7.4. Large net book value

Purpose

Assets that are of a larger value are inherently more risky by nature of their value (i.e. there is a greater significance on the business if a large value item is misplaced/stolen/damaged/etc.).

This test will extract the larger value assets for follow up testing.

Requirements

- Fixed Asset Register

Carrying out

Sort the FAR by *Net Book Value* and copy the largest items to a new sheet.

Alternatively, use Excel's **LARGE** function.

This will return the n^{th} largest item in an array. For example, to get the 10 largest assets by *cost* [C] use:

```
=IF(C2>=LARGE(C:C,10),1,0)          +AutoFilter Extract
```

Review the large value assets, and ensure they are consistent with last year's listing and current year purchase records.

You may want to physically inspect large value assets, particularly if they are portable.

For fixed assets such as buildings, it is important to consider whether the asset is impaired. For example, a decommissioned factory, that has no (or limited) resale value may need to be written off. (Note that the land the building sits on is usually valued and reported separately).

7.5. Recalculate depreciation

Purpose

Depreciation is usually calculated by a separate system, and this introduces scope for error. There is also the potential for assets to be deliberately overstated by under depreciating them.

Requirements

- Fixed Asset Register with *Purchase Cost* [B], *Purchase Date* [C], *Depreciation Rate* [D] and *Depreciation Charge* [E]

Carrying out

First add a *column* [F] that shows how many months depreciation to charge using a formula such as:

```
F2      =MAX(MIN(2010*12+5+1-YEAR(C2)
                                *12-MONTH(C2),12),0)
```

This is using 31/5/2010 as the period end, replace the 2010 and 5 according to your period end.

Calculate the expected depreciation charge using a formula such as:

```
G2      =F2/12*D2*B2
```

Extract items where the recalculated depreciation does not agree to the depreciation charge for each asset and understand why.

```
=IF(ABS(G2-E2)>0.05,1,0)                +AutoFilter Extract
```

Tip: Depending on whether a full month's depreciation is charged in the month of acquisition you may need to modify the formulas.

You can also recalculate the accumulated depreciation by using the total age of each asset.

Note: You will need to filter out nil NBV assets, as this approach does not take account of them and they will show as differences.

7.6. Exceptions

Purpose

Many organizations have a minimum limit below which assets are not capitalized and are expensed (e.g. $250).

Searching for any items with a purchase cost below this limit checks that controls are operating as expected.

Items with a zero or negative purchase cost are unusual, and may indicate data input errors, or suspicious activity.

It may be unusual for assets to be purchased on non-working days, and this may indicate employees purchasing for personal use.

Requirements

- Fixed Asset Register

Carrying out

Use an AutoFilter to find any items with a purchase cost below the minimum limit.

If any items are found, follow this up as to why they were capitalized and not expensed.

To find items with a zero or negative unit cost, use an AutoFilter for items with a cost less than or equal to zero.

See 3.10 for how to identify items with a purchase date that falls on a non-working day.

8. Journals/General Ledger

Journal entries are postings made directly to nominal ledger accounts, and therefore have the ability to completely undermine a financial statement audit. For example, you can audit trade payables and ascertain that the ledgers are correct, but a journal can still be posted directly to the control account, changing the ultimate balance.

There are usually strict controls around journal postings, and only a few employees have authorization/access. However, errors can (and do) still occur, and given the magnitude of some journals, these can have a significant impact on the accounts.

Journal entries are also susceptible to fraud by management override, and many large scale, "headline grabbing" frauds resulted from management override of the journal process.

Therefore, reviewing journal postings is an important process in the audit. In fact, in most jurisdictions the auditing standards require the testing of journal entries by external Auditors (e.g. SAS 99 in the USA, or ISA240 in the UK).

Given the volumes of journals posted in even small companies (especially including automated system journals), manually testing journal entries is unlikely to be the most efficient approach.

In some cases, it may even be impossible to obtain sufficient appropriate audit evidence without using computers to analyse journals, and select items for further testing.

Therefore, this section introduces 11 tests to help automate the auditing of journal postings, and provide a deeper understanding of the underlying transactions.

8.1. Duplicate Journals

Purpose

Due to the manual nature of journal postings, there is a risk that journal vouchers are processed twice (e.g. if they didn't get stamped as processed the first time).

As journals are often for significant values, this can have a very material impact on the accounts.

Requirements

- List of journal postings

Carrying out

Create a "helper column" to join the *account number* [A] and the *amount* [B] together:

```
=A2&B2
```

Identify duplicates using one of the methods described in 5.3 or 5.9.

You may also want to include the period (or other columns, such as the description) in the helper column if you find the account number and amount result in a large number of false positives.

Note: Because journals usually have multiple lines, and because a journal entered a second time would likely be issued a different journal reference we do not include this in the helper column.

However, you may want to identify cases where a line item within a journal is duplicated, using a helper column consisting of journal reference, amount and account.

8.2. Missing Journals

Purpose

Journals are usually issued sequentially and given a unique, sequential reference number.

There should be legitimate reasons for any gaps in the sequence, and details of any voided journals maintained.

Requirements

- List of journal postings

Carrying out

If the reference contains letters or non incrementing numbers, use an appropriate combination of **LEFT**, **RIGHT** and **MID** to extract the numeric portion.

In a separate sheet list all the numbers from the start of your sequence to the end of the sequence (e.g. 1 to 1000).

Alternatively combine the above steps by creating a sequence that includes the "static" portion of the reference, e.g.

```
="JNL_"&TEXT(999+row(),"00000")
```

This will create a reference of the format "**JNL_01001**" starting at 1001 in row 2 (999+row #2) that can be copied down.

Use **VLOOKUP** to match this list to the journal listing.

Use AutoFilter to extract any records with **"#N/A"** (i.e. where a match couldn't be found) — these are the gaps.

Tip: This test can also be performed on the line numbers (as opposed to journal reference) to ensure no lines are missing.

8.3. Non-Balancing Journals

Purpose

All journal entries should balance to zero, and whilst many accounting packages enforce this, some do not.

This test will find any journal postings that do not balance.

Requirements

- List of Journal Postings

Carrying out

If Journal Debits and Credits are in separate columns, these will need to be combined into a single column, with positive numbers for debits and negatives for credits.

Create a pivot table:

- Row field: journal reference number
- Data field: Sum of Amount

This should show zero for every line. If any journals do not total zero (sort to bring these to the top), use the Show Detail feature to extract the journal lines.

Alternatively, use a **SUMIF** formula [*Journal Reference* – A, *Amount* – C]:

```
=SUMIF(A:A,A2,C:C)
```

Use AutoFilter to extract any non-zero rows. Alternatively, embed the **SUMIF** in an **IF** formula and use **ABS** to avoid rounding issues:

```
=IF(ABS(SUMIF(A:A.A2.C:C))>0.05,1,0)
```

8.4. Significant Journals

Purpose

As with all areas, the larger journal entries are inherently more risky. This test will extract the larger items for further investigation.

Requirements

- A listing of journal entries, or
- The pivot table from 8.3 above

Carrying out

To find journals with large individual line items, create a pivot table:

- Row field: journal reference number
- Data field: Maximum of Amount

(If using the pivot table from 8.3, just change the data field to Maximum of Amount from Sum of Amount).

Sort the listing by the data field so that the largest items are at the top — these are the journals with the largest individual line items.

Use "Show Detail" (double click the value cell) to drill down into the lines making up each journal.

To find journals with a large total debits, create an additional column in the source data that shows just debit values:

`=IF(B2>0,B2,0)` [*Amount* – B]

Then use *Sum of Debits* as the data field in the PivotTable.

8.5. Transactions posted at unusual times

Purpose

It is unusual for staff to be posting journal entries on weekends or other times the office is closed, and transactions posted at these times may indicate staff are trying to cover their tracks or are doing something suspicious.

Requirements

- List of journal entries with posted date & time

Carrying out

Review the listing for the following

D. Journals posted on weekends

```
=IF(OR(WEEKDAY(B2)=6,WEEKDAY(B2)=7),1,0)
```

E. Journals posted on public holidays

Have a list of public holidays stored in a separate worksheet, and use **VLOOKUP** to see if any of the dates that transactions were posted match any of these

F. Journals posted out of hours

```
=IF(OR(C2<TIMEVALUE("08:00:00"),
                    C2>TIMEVALUE("18:00:00")),1,0)
```

You can also cross reference the findings with the user who posted the transactions and look for a patterns where a specific individual is regularly posting transactions at unusual times.

To do this, create a PivotTable with the user as the Row Field, the column added above as the column field and sum of amount as the data field. Alternatively use the added column as a report filter.

8.6. Rounded Journals

Purpose

Although there are sometimes legitimate reasons for round transactions, they rarely occur naturally within accounting records, and may indicate suspicious activity.

Where estimates are used (for example a provision for doubtful debts) these are often rounded and this may indicate an estimate that has had little thought put into it.

Requirements

- Listing of Journal Transactions

Carrying out

Use a formula like [*Amount* – B]:

```
=IF(MOD(B2,1000)=0,1,0) + AutoFilter Extract
```

(use 1000, 1000000, etc. as your rounding base as appropriate).

You can also search for journals where the total debits are a rounded amount, and you can do this in a number of ways.

- Use the above approach with the PivotTable from 8.4 (with Sum of Journal Debits as data field).
- Add a Sum of Journal Debits column to the original listing, then use above approach [*Journal Reference* – A]
    - Using **SUMIFS** (Excel 2007 and later)

      ```
      =SUMIFS(B:B,A:A,A2,B:B,">0")
      ```

    - Using **SUMPRODUCT** (all versions of Excel)

      ```
      =SUMPRODUCT(--(A:A=A2),--(B:B>0),B:B)
      ```

8.7. Summarize by User

Purpose

It is likely that only certain users have the authorization to post journals, and it may be that certain users only have authorization to post certain journal types, or to certain accounts.

Summarizing journal postings by user allows you to quickly see who has posted journal transactions.

Requirements

- Listing of Journal Transactions with Posted By field

Carrying out

Create a pivot table:

- Row field: User/Posted by
- Data fields:
    - Sum of debits (you may need to add this field to the source data – see 8.4)
    - Count of any column (this will show the number of lines they have posted)
    - Average of total debits

You can "cross tabulate" this pivot table to gain additional insight by adding a column field, for example:

- Account (to see which accounts each user has posted to)
- Journal/transaction type (so see which types of journals each user has posted)

Tip: When cross tabulating, the table is easier to read if you only use one data field at a time.

8.8. Summarize by period

Purpose

With the exception of the last period (and sometimes the first), a fairly consistent level of journal postings would be expected throughout the year.

There may of course be very legitimate reasons for unusual levels of journal postings, but large fluctuations definitely warrant asking the question.

Requirements

- Listing of Journal Transactions with period

Carrying out

If you do not have a period field in the source data you will need to create one. If your year runs from 1st January to 31st December, and your periods follow calendar months then you can just use:

```
=MONTH(B2)
```

If your year runs from any other date, the easiest way to add a period column is to use the **TRUE** form of **VLOOKUP** against a date table (in a similar way to looking up aging bands as in 3.4).

Create a pivot table:

- Column field: Period
- Data fields: As in 8.7

Again, you can gain additional insight by cross tabulating this by adding a row field (e.g. Account, User).

Note: Most people find it more natural to view periods in columns, but if you prefer you can use the Row field for the period.

8.9. Multi User – Same Journal

Purpose

Where two different users have both posted journals using the same journal reference number, it usually indicates a breakdown in system controls or manipulation of the underlying records.

Requirements

- Listing of Journal Transactions with *Posted By* field [E]

Carrying out

Sort your data by *journal reference number* [B] (so all lines with the same journal reference will be adjacent).

Use the following "nested IF" formula to identify journals of interest:

```
=IF(B2=B1,IF(E2<>E1,1,0),0)                    +AutoFilter extract
```

Note: This will only identify one line from each journal, so you will need to then filter/search the source for all lines for those journals.

Alternatively, use the more complicated formula below:

```
=IF(COUNTIF(B:B,B2)<>SUMPRODUCT(--(B:B=B2),--
(E:E=E2)),1,0)
```

Warning: this formula make take Excel a few minutes to calculate, use absolute ranges (e.g. $B$2:$B$4000) to speed it up. If you have a very large report and really need to speed it up you can use this formula, but I'm not going to try and explain it!

```
=IF(COUNTIF(B:B,B2)<>SUMPRODUCT(--(OFFSET($B$1,
MATCH(B2,B:B,0)-1,0,COUNTIF(B:B,B2),1)=B2),--(OFFSET
($E$1,MATCH(B2,B:B,0)-1,0,COUNTIF(B:B,B2),1)=E2)),1,0)
```

8.10. Outlying journal postings

Purpose

Journal postings within a group (that group could be journal type, account posted to, or user/posted by) tend to remain fairly consistent. The payments at the extremes may indicate fraud or error and often warrant further investigation.

Requirements

- Listing of Journal Transactions

Carrying out

Indentify the *group* [B] that you are investigating, and calculate the *average* [D – calculated] for that group [*Amount* –C].

If you use Excel 2007 or later, you can use:

```
=AVERAGEIF(B:B,B2,C:C)
```

If you're using an earlier version of Excel, the easiest way to get the average for a group is to use a PivotTable:

- Row Field: Group
- Data field: Average of Amount

VLOOKUP can then be used to import the average for the group back into the original listing (using the group as the matching column).

Extract any records which deviate significantly from this average, e.g. if you determine 300% (3 times) average to be significant, then use:

```
=IF(C2>3*D2,1,0)
```

+ AutoFilter Extract

8.11. Specific Comments

Purpose

Certain comments (e.g. “suspense”, “net to zero”, “balancing amount”, “miscellaneous”, “unknown”, etc.) in the narrative description may indicate journal postings that need further investigation.

Requirements

- Listing of journal postings with narrative description
- List of words/phrases to search for

Carrying out

This method shows an alternative to that used in previous examples (6.4).

To use this approach, each word/phrase in the list must have a “*” at the beginning and end (e.g. *suspense*, *net to zero*, etc.).

```
=IF(SUM(COUNTIF(B2,Words!$A$2:$A$29))>0,1,0)
```

Again, this is an array formula, and you need to enter it with **Ctrl+Shift+Enter**.

Note: Replace **Words!$A$2:$A$29** with the range that contains your list (this can be on a separate sheet). Remember to lock the reference down with $.

9. Other Tests

The sections that we've covered so far, introduce a wide variety of tests, but they by no means cover every situation that Excel can help you in your audits.

You can adapt the skills and techniques that you've learned, and apply them to just about every area of the audit.

But there's a few techniques that I think you might find useful and I've not shared yet, so that's what this section is for — the bits that didn't fit in the previous sections.

9.1. Comparing two versions

Purpose

Often, updated schedules/workbooks are received from the client and identifying (and confirming) the changes is a tedious task.

This test shows you how to quickly compare two versions.

Requirements

- 2 versions of a workbook or worksheet

Carrying out

If you are only comparing two sheets, then in a blank sheet, in cell **A1** enter the formula:

```
=IF(Sheet1!A1<>Sheet2!A1,"Difference","")
```

(where **Sheet1** and **Sheet2** are the worksheets you're comparing).

Copy that formula so that it covers the size of the used area in the worksheets you're comparing – any cells that show "Difference" have changed.

If you're comparing two workbooks, set up a third workbook, with identical worksheets. You can then either use the formula above (adding in the workbook names and changing the sheet names accordingly for each sheet), or alternatively use this formula, which only requires you to change the workbook names:

```
=IF(INDIRECT("'[workbook1.xls"&MID(CELL("filename"),FIND("]",
        CELL("filename")),255)&"'!"&ADDRESS(ROW(),COLUMN()))
        <>INDIRECT("'[workbook2.xls"&MID(CELL("filename"),
        FIND("]",CELL("filename")),255)&"'!"&ADDRESS(ROW(),
        COLUMN())),"Difference","")
```

9.2. Creating Lead Schedules

Purpose

When auditing a section of the accounts, it's often useful to have a "lead schedule", detailing all the accounts from the trial balance that make up that section.

This allows you to "tick off" the balances as you audit them, ensuring that none get missed.

Requirements

- Trial Balance

Carrying out

If you do not already have Categories/sections set up, then do so by adding a column and allocating each account to the appropriate section (e.g. Trade payables, fixed assets, inventory, P&L, etc).

Tip: If you've allocated the accounts in previous years, use VLOOKUP (with account code as matching column) to import them.

Create a PivotTable:

- Row field: Category/section
- Data field: Count of Category/Section

Go through each section in the PivotTable and double click the number of records to "Show detail", creating a new sheet for each section, showing only the accounts in that section (you'll probably want to rename the sheets too).

9.3. Analytical Review

Purpose

Conducting an analytical review (i.e. period on period comparison) is useful in a number of scenarios.

At the planning stages it can be used to highlight areas to focus on (i.e. where there have been significant changes).

When covering smaller balances, such as accruals, pre-payments or expense accounts, an analytical review can provide reasonable comfort over the balances or highlight areas of interest.

Requirements

- Current and prior period reports

Carrying out

If you do not already have comparative figures on the same report use **VLOOKUP** to import them.

Calculate additional columns to show the *absolute* [D] and *percentage* [E] difference between the *current year balance* [B] and *prior year balance* [C]:

D2	=B2-C2		
E2	=(B2-C2)/C2	or	=D2/C2

Note, when calculating the percentage difference you always divide by the prior year balance.

Tip: Sort the data to identify accounts with the largest variances.

Note: Accounts with no movement may also indicate suspicion – is there a valid reason for there to be no movement (e.g. is the accrual/prepayment still relevant?)

9.4. Systematic Sampling

Purpose

Although rare, there are some cases where a systematic sampling approach (i.e. extracting every n^{th} item) is more relevant than using random sampling.

One situation may be if you want to ascertain that a control was operating consistently over time.

Requirements

- Any listing

Carrying out

Add a column with the following formula:

```
=IF(MOD(ROW(),N)=0,1,0)
```

Where *N* is the frequency that you to extract.

E.g. if *N* is 10 (**=IF(MOD(ROW(),10)=0,1,0)**), then this will identify rows 10, 20, 30 etc. (if you have a header row, this will be records 9, 19, 29…).

You can change the starting point by adding a number to the **ROW**() part of the formula.

E.g. to start at row 7 (record 6) use:

```
=IF(MOD(ROW()+3,10)=0,1,0      (row 7 + 3 = 10)
```

9.5. Stratifying Data

Purpose

Often it is useful to group data based on the magnitude of the amount column (i.e. stratifying data). You can then use these groupings as fields in PivotTables to analyse reports further.

Requirements

- Worksheet containing strata bands

Carrying out

Create a table in a worksheet with the first column containing the start point of each strata band, and description in the second.

	A	B
1	Band Start	Band Description
2	-99999999	Less than 0
3	0	0 to 100
4	100	100 to 200
5	200	200 to 300
6	300	300 to 400
7	400	400+

Note that we have included a "*Less than*" band with a "very large negative number" (i.e. smaller than the smallest amount in the listing). If you omit this, and have items lower than your first "*Band start*" you will get "**#N/A"** errors.

Use the **TRUE** version of **VLOOKUP** to import the bands to the original listing [*Amount – C*]:

```
=VLOOKUP(C2,Bands!$A$2:$B$7,2,TRUE)
```

10. Supercharging Excel

In this book I've covered 101 tests that you can perform in Excel, and I hope you'll find they dramatically improve your auditing!

Although auditing with Excel is much easier than doing it manually, it does have its draw backs...

1. It is still far more complicated than it needs to be. All those long formulas can be difficult to remember, and you don't want to be carrying this book around for the rest of your career!

   There's also the chance that you'll make a mistake entering a formula and not notice, or miss a critical step, leading to unreliable audit evidence (and in extreme cases a wrong audit opinion).

2. Because Excel was not designed for auditing, it is nowhere near as efficient as it could be. Many of the tests have several steps, with lots of time-consuming user input, and when analysing big reports some of the formulas in Excel (especially **VLOOKUP**) can take a long time to calculate.

3. There are some things you just can't do in Excel because the functionality doesn't exist, is too technical or requires extensive programming.

Please don't feel disheartened! What you've learnt in this book will be incredibly valuable in your auditing, both in saving you time and improving the quality of your work.

Furthermore, getting to grips with the basics in Excel is an important first step on the path to Computer Aided Auditing – it's where everyone begins!

But before long you're going to start hitting limitations in Excel and you're going to want to do more than you're currently able to — just like I did.

Therefore, I want to let you know where to go next — when you're ready to move on from Excel and really start leveraging the benefits of technology in your audits, there is a solution!

You'll probably be glad to know I'm not actually going to suggest you move on from Excel, the software that you're already familiar with and comfortable using.

Instead, I'm going to recommend "Supercharging Excel" for the world of audit.

What do I mean by Supercharging Excel?

Well, I want to tell you about an add-in for Excel that I have created, which contains over 130 tools and functions, all designed to make life as an Auditor easier. Much easier!

What does it do? Well, it pretty much does everything in this book for you, and a whole lot more!

OK, it doesn't quite do it all for you — there's some very simple input forms to fill out — but it does allow you to perform just about every test in this book in about ¼ the time, without having to remember a single formula!

But most importantly, it's incredibly easy to use — you don't need any experience to get started, other than some basic Excel skills.

Actually, it's far easier to use than 95% of this book, so if you've followed anything I've said so far, the chances are you'll pick it up straight away!

And if you've found that some of this book is a little too complex and beyond your technical skills, this could be exactly what you're

looking for (yes, it will do those huge formulas in 8.9 and 9.1 for you too!).

So, what is this Add-in I created?

Well, it's called TopCAATs, and it's how I've helped hundreds of Auditors from all over the world save thousands of hours and hundreds of thousands of Dollars, Pounds, Euros, Lira, Yen, etc, etc.

I've packaged all my Excel skills (and audit knowledge) into a simple, easy to use solution, so you can take advantage of everything I know, without having to spend years learning the finer details of computer programming like I did!

And as a reader of my book, I've arranged for you to try TopCAATs out, for free, and see for yourself just how easy it is to use, and just how much time it will save your audit department!

So, head over to www.TryTopCAATs.com to see a demonstration of TopCAATs in action, and to get started with your free trial.

www.TryTopCAATs.com

What others have said about TopCAATs

"I find TopCAATs an incredibly valuable product. It has dramatically improved my efficiency, particularly when it comes to data manipulation — often saving 50% of the time I would usually spend doing a task.

TopCAATs is one of the easiest software packages out there and whenever I've needed help, the service I've received has been excellent — always very helpful.

Was TopCAATs a valuable investment? It paid for itself in the first test we did!"

Craig Scott, Senior Financial Analyst, dms Organization, Cayman Islands

"TopCAATs saves us significant time in many areas. E.g., we used to manually agree receipts with physical documents, which took many hours just to cover the significant items. Now, we get the files electronically and use the TopCAATs "Join 2 Sheets" tool and match 100% of deposits with debtor accounts in 20 minutes."

Marcelo Toapanta, Director, Attesting Group Advisors, Ecuador

"It used to take hours to complete a monetary unit sample, but with TopCAATs it takes just minutes to perform, evaluate and document a sample.

TopCAATs allows us to recalculate depreciation on 100% of a clients non-current assets, regardless of the number of assets — a task that was previously impossible."

Vladimir Kolmakov, Partner, Sofia Financial Accounting Company

Notes: