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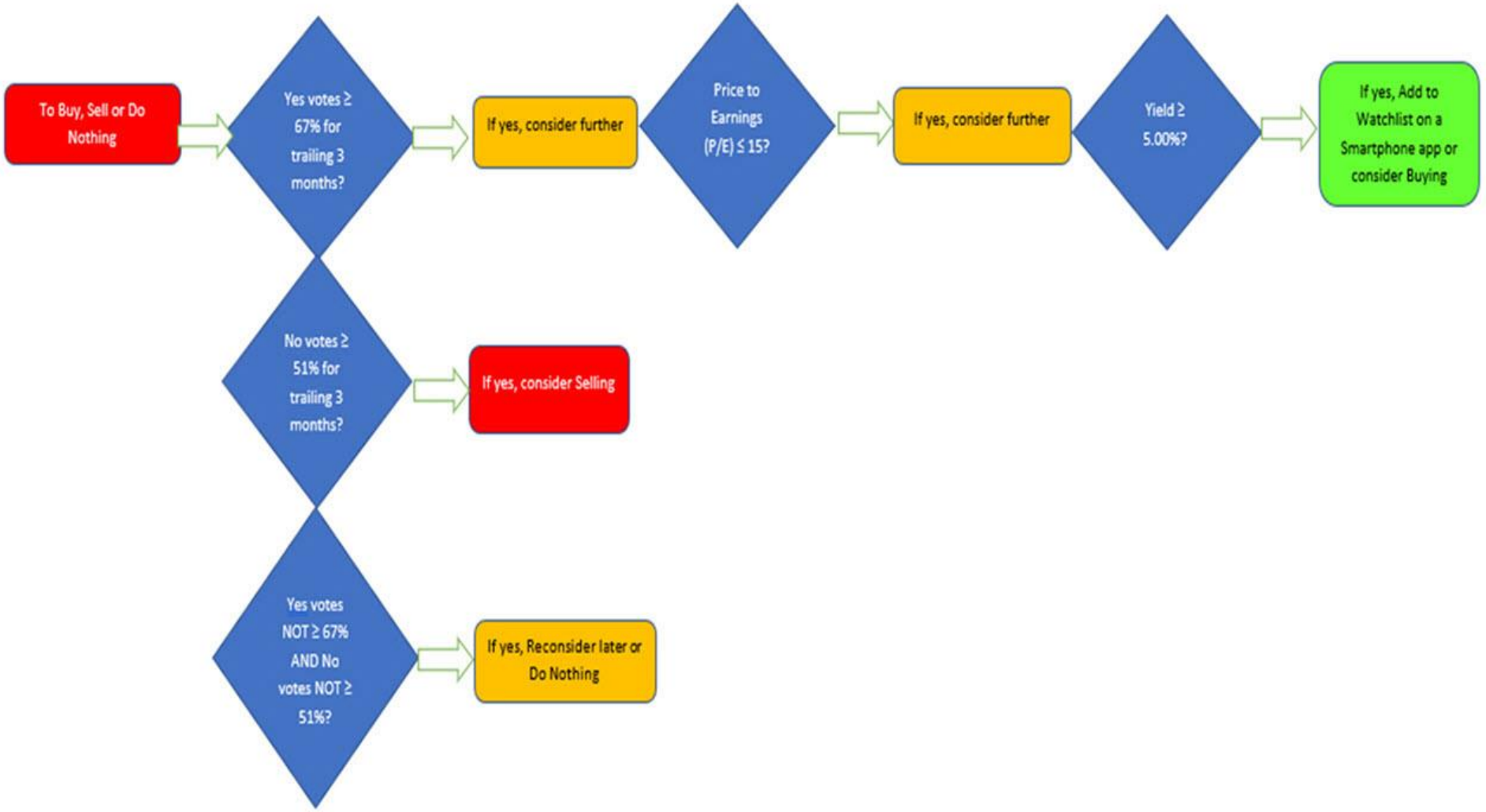
PART 1 FLOWCHART HOW TO DECIDE TO BUY OR SELL OR DO NOTHING



PART 2 BUSINESS CASE 5 REASONS TO USE RSTUDIO & EXCEL TO BUY & SELL SHARES (ADAPTED FROM HARVARD BUSINESS REVIEW MINI GUIDE: BUILDING YOUR BUSINESS CASE)

1. CLARIFY THE NEED

1. CLARIFY THE NEED: Isn't it painful to buy or sell shares or assets at the wrong time? Wouldn't it be beneficial to have a tool to guide you to time the market more effectively? Why do DIY investors make bad timing decisions? Part of the reason lies in paying too much attention to news. Yet, history shows too many of us continue to rely on NEWS announcements as a primary source of DECISION input. To see the evidence, one needs only to COMPARE sudden or significant changes in price with the news of the day.

   As an ALTERNATIVE, the DIY investor has the option to step back from news and noise. The DIY investor can and should use a variety of decision inputs. Here, a suggestion is to measure "crowd" or market participant "signals". It is possible to find crowd signals through SIMPLE "percentages", discipline and systems thinking.

   The author will walk you through and to a system, one pointing to simple percentages. As an overview, the system is divided into 3 segments. Each based on intervals of increasing duration, 3 months, 9 months, and 3 years. In each period more evidence is gathered, in the form of "Votes".

For example, in the trailing 3 months for share ABC, crowd or market participants could have SOLD OFF an unusually large quantity. As a RESULT, the Votes system may well produce a significant majority of yes or buy Votes---say---75% or more, in comparison to---say---25% or less, no or sell Votes. Absorbing these NUMBERS, you will have stepped back, noticing crowd behaviour. To build a POSITION, the DIY investor also wants to consider, at a minimum, brief FUNDAMENTALS. Namely, price-to-earnings ratio (P/E) and yield. More on that later.

TIME is of the essence. Learning the system requires PATIENCE. Setting up free software (RStudio). And getting acquainted with Excel (essential), Access (optional). More on that later.

Where will the solution be used? How should you measure the solution's effectiveness? Do we have a baseline that we can compare against?

Where will the solution be used? The DIY investor can use it on a weekly or monthly basis or both. For example, the author used the system to buy and sell BHP.AX (see Yahoo codes). Where over about 6 months, the author made not less than 10% in profit. Bought at about $40 per share. Selling at around $45.

How should you MEASURE the solution's effectiveness? The DIY investor can measure effectiveness in terms of time spent and profits earned.

Do we have a BASELINE that we can compare against? Yes. One suggestion is to compare returns to the MARKET. Compare apples with apples. That is, check returns against the SAME PERIOD. If, for example, the market had returned 5%, just by buying and holding---ask yourself---what the return was against use of the system.

Doesn't this all sound like a lot of unnecessary work? No. The patient OR motivated DIY investor can start with small test(s). B1 is free. It shows you how to get started quickly. At zero to low cost. Specifically, the main cost would be time. Initial learning curve estimate, including set up, 2-3hrs. After which, the DIY investor could be producing Excel spreadsheets---for decision-making purposes---in about an hour.

Are you more a visual or auditory learner? B1 and B2 both contain a detailed visual map of screenshots, plus guiding words. Getting you started. Getting you to the end.

Overall, the Votes system is simple, containing just a few clear and simple steps. Patience is key because the DIY investor will still need to know what to do if problems arise. If you want to get the best out of the Votes system, please retain a good audit record as to your files and actions. That way, you, or the author or both can pinpoint and solve any issue(s).

2. CONSIDER ALTERNATIVES

What have other solutions or software done? What's worked, and what hasn't?

What have other solutions or software done? The DIY investor might have or be considering other systems or software. Ask: what are the pros and cons of each? Decision criteria or CONSTRAINTS for you, the DIY investor, might include TIME or MONEY or both.

What's worked, and what hasn't? The Votes system is a mix of software computations (via RStudio) and Excel templates. Requiring a little MANUAL labour. Other software solutions, for example, are or would be MORE AUTOMATED. Potentially saving you time. The Votes system is low or no cost. Potentially cheaper than other solutions.

The Votes system also offers an exciting or interesting mechanism to see the "shape" of CROWD BEHAVIOUR. That is, when you manually highlight and run the code in RStudio, the Plots section shows PRICE CHARTS, indicating crowd or price pattern results. It's like an ANIMATION or MOVIE from the past. A more automated solution may not do that.

The author feels COMFORTABLE using the Votes system. It takes him about an 1hr---and not more than 2hrs---to REVIEW holding(s) or check for OPPORTUNITIES. Outside of the basic Votes system, it isn't a bad idea to develop a database of past price behaviour. The idea is to increase knowledge or big picture perspective about markets or economics.

To that end, the author has been using MS Access. You can see screenshots of Access output in both B1 (free) and B2.

What about doing nothing? Not adopting a new system. DOING NOTHING is often viable. The reason could be due to cost to benefit analyses not showing a great upside.

Alternatively, how does doing nothing fit in with the Votes system? The AUTHOR DOES NOTHING IF the Votes system doesn't show a significant percentage for or against buying or selling. In the case of BHP.AX---FOR EXAMPLE---one of the REVIEWS showed 63% yes or buy Votes. At that stage, the AUTHOR DID NOTHING. In general, a score of 67% or greater of yes or buy Votes would have been needed to act, if at all. The simplicity of a SINGLE PERCENTAGE can and has worked for the author (76% yes or buy Votes…). It could for you.

A few questions to consider. Which option costs the least? Which is the fastest to implement? Which has the fewest risks? Which brings in the most revenue? As a DIY investor, thinking through what it would mean to implement a system is what counts.

3. THINK THROUGH THE "HOW" AT A HIGH LEVEL

To implement and benefit from the Votes system, you will need to be mindful of time and cost. As to initial time investment, the author estimates 2-3hrs. That is, downloading RStudio, forking 5 files from GitHub and working through B1 or B2 Quick Start Guide. In terms of cost, you will need access to Excel (essential).

If you don't like the Votes system, you can uninstall RStudio. Estimate of clean up time: less than 30min.

Often, your broker account will have profit and loss info available. It's a good idea to have a system in place.

4. ESTIMATE THE COSTS AND BENEFITS

You might want to compare alternatives in connection to cost versus benefit analysis. You can try estimating time and costs. If you use an off-the-shelf software package, you will have obtained considerable automation as to decision points. If you go with the Votes system, after initial setup, you will be investing about an hour periodically. If you were reviewing existing holdings, for example, you might use the Votes system monthly.

The RStudio computations are at the centre of the Votes system. The software is free. If it remains free, the main consideration is time investment.

In accounting for transactions, accountants initially categorise inflows and outgoings via revenues and expenses. These form your Profit & Loss (P&L) statements. The Votes system does not incorporate P&L templates. However, the info in broker accounts is a great place to start. You will want to have a good audit trail or accounting system.

In terms of accounting for time, you might want to put a cost on the hour. For example, if you spend 1hr per month reviewing a holding, the time cost might show as $100. If you did that 10 or 15 time in a year, the cost would show up at not more than $1,500.

Revenue is magnified or diminished in connection with budget, or amounts invested. Using the Votes system is about improving market TIMING. The author produced about $3,500 in revenue after selling BHP.AX (Yahoo code), and approximately $3,000 in expenses. Not including learning curve costs as to developing the Votes system. The two transactions, buying and selling BHP.AX, transpired over less than 6 months.

It's a good idea to be conservative in generating profit estimates. Accountants do that by incorporating Cost of Goods Sold (COGS), the second line after Revenues. As to buying and selling shares, key GOGS elements might include Cost of shares, cost of brokerage, and time spent analysing. Subtract GOGS from Revenues to get Gross Profit Margin (or loss). As a DIY investor, finding the bottom-line profit should just involve one more key item; namely, tax, if any.

Money is money. Accounting conventions should help to organise and simplify things.

Some costs or benefits may well be hard to quantify. If you can estimate a number, aim to do so. Say, for use of time. If you can't estimate a number, the item or idea might still be worth consideration, or a mention.

If you need help as to quantifying a number, ask yourself if the input is bias. If bias is a problem, aim to corroborate estimates with a second source. On time, it is imagined, you would be the best at putting a value on that. Estimating $100 an hour could be a good starting point.

5. CALCULATE RETURN ON INVESTMENT (ROI)

2. CALCULATE ROI

The classic calculation is ROI = Net Benefit / Total Cost. Goodness of fit depends on a positive number. There are many good templates online.

Four common ways to calculate ROI include:

- Break-even analysis
- Payback period
- Net present value
- Internal rate of return

For the purposes of adopting the Votes system, the Payback period might be the best. Say, for example, you cost your time at $100 an hour. And let's say, for example, it takes you 10 to 15hrs to become proficient. To be conservative, let's assume 15hrs or $1,500. Also assume the time investment is spread over 1 year. If the Votes system is a fit, you could recoup the $1,500 in less than a year. How? By making significantly better timing decisions. On the other hand, the 15hrs or $1,500 could be written off as a sunk cost.

PART 3 SETUP HARDWARE & SOFTWARE ENVIRONMENT

HARDWARE

- PC or Mac
- Smartphone such as an iPhone

SOFTWARE

- RStudio IDE including R language (for use with computer)
- MS Excel or other Spreadsheet app (for use with computer or smartphone or both)
- MS Access (Optional: for use on computer)

INSTALL SOFTWARE & GET FILES TO SET UP GENERAL ENVIRONMENT

- Install RStudio & R language https://posit.co/download/rs
- Fork 3 R files (r1, r2, r3) from GitHub and 1 Excel file (e1) https://github.com/cracked-crystalball-99/rstudio-files-and-excel-files
- Open RStudio and 3 R files (r1, r2, r3)

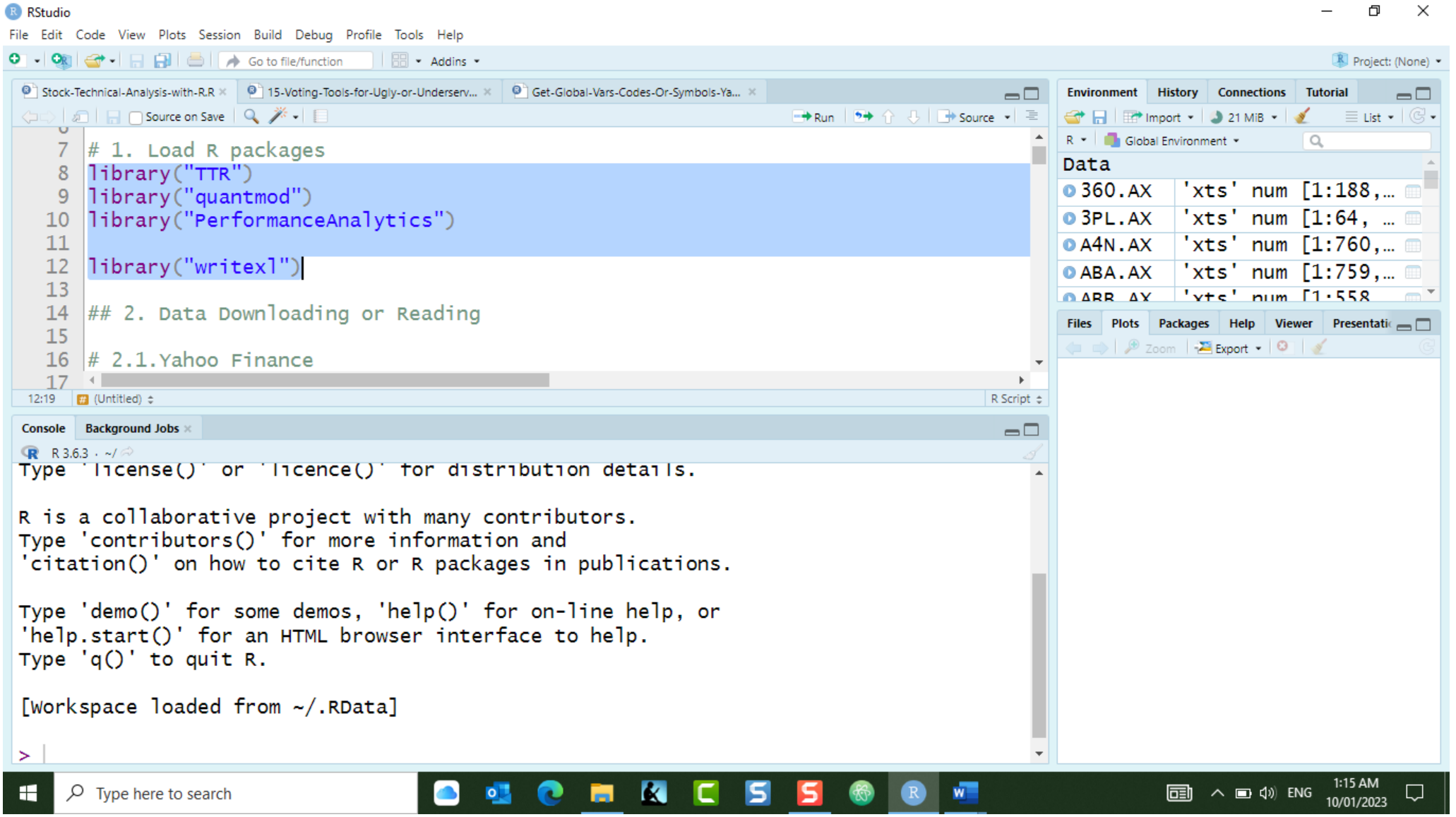
PART 4 STEPS TO CREATE SPECIFIC EXCEL DATA OR INFO

STEP 1 IN FILE R1

a) highlight code lines 2, 3, 4, 6

b) execute one-by-one (Run button)

c) CHECK correct libraries have been loaded


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
Stock-Technical-Analysis-with-R.R
15-Voting-Tools-for-Ugly-or-Underserv...
Get-Global-Vars-Codes-Or-Symbols-Ya...
Source on Save
Run
Source
7 # 1. Load R packages
8 library("TTR")
9 library("quantmod")
10 library("PerformanceAnalytics")
11
12 library("writexl")
13
14 ## 2. Data Downloading or Reading
15
16 # 2.1.Yahoo Finance
17
12:19
(Untitled)
R Script
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R 3.6.3 · ~/
Type 'license()' or 'licence()' for distribution details.
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
[Workspace loaded from ~/.RData]
>
Environment
History
Connections
Tutorial
Import
21 MiB
List
R
Global Environment
Data
360.AX 'xts' num [1:188,...
3PL.AX 'xts' num [1:64, ...
A4N.AX 'xts' num [1:760,...
ABA.AX 'xts' num [1:759,...
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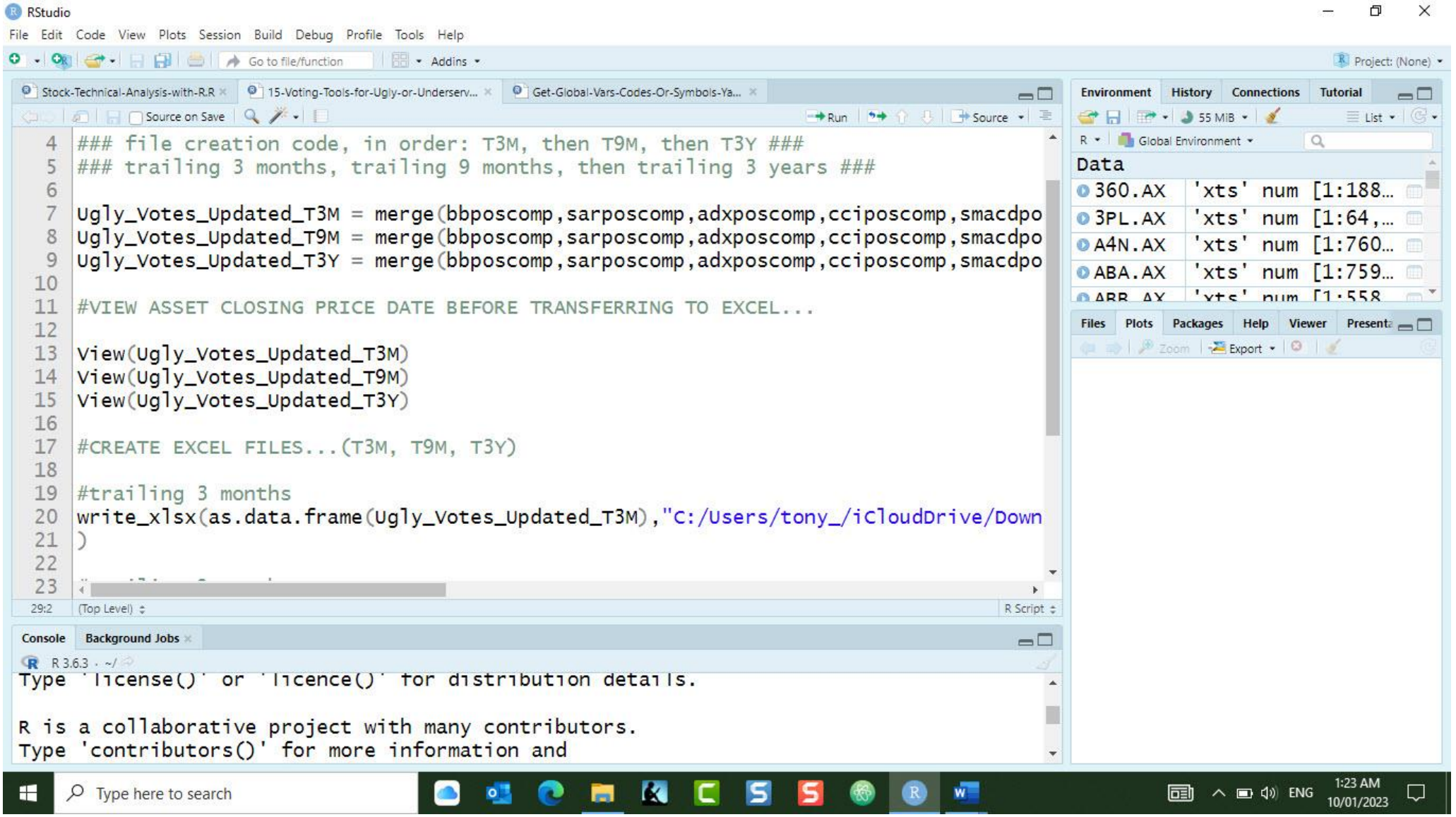
STEP 2 IN FILE R2

d) Take notice of the division of sections or intention to create 3 Excel or spreadsheet files

e) For each of the 3 sections determine where to store the files

f) For each of the 3 sections carefully type 3 different file names and one SINGLE storage path


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
Stock-Technical-Analysis-with-R.R
15-Voting-Tools-for-Ugly-or-Underserv...
Get-Global-Vars-Codes-Or-Symbols-Ya...
Source on Save
Run
Source
4 ### file creation code, in order: T3M, then T9M, then T3Y ###
5 ### trailing 3 months, trailing 9 months, then trailing 3 years ###
6
7 Ugly_Votes_Updated_T3M = merge(bbposcomp,sarposcomp,adxposcomp,cciposcomp,smacdpo
8 Ugly_Votes_Updated_T9M = merge(bbposcomp,sarposcomp,adxposcomp,cciposcomp,smacdpo
9 Ugly_Votes_Updated_T3Y = merge(bbposcomp,sarposcomp,adxposcomp,cciposcomp,smacdpo
10
11 #VIEW ASSET CLOSING PRICE DATE BEFORE TRANSFERRING TO EXCEL...
12
13 View(Ugly_Votes_Updated_T3M)
14 View(Ugly_Votes_Updated_T9M)
15 View(Ugly_Votes_Updated_T3Y)
16
17 #CREATE EXCEL FILES...(T3M, T9M, T3Y)
18
19 #trailing 3 months
20 write_xlsx(as.data.frame(Ugly_Votes_Updated_T3M),"C:/Users/tony_/iCloudDrive/Down
21)
22
23
29:2 (Top Level) R Script
Console Background Jobs
R 3.6.3 · ~/
Type 'license()' or 'licence()' for distribution details.
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
Environment History Connections Tutorial
55 MiB
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STEP 3 IN FILE R3

g) Set dates to trailing 3 months, preceding the current month

   i) If current month is May 2023, set trailing 3 months as: Feb to Apr, formatting correctly.

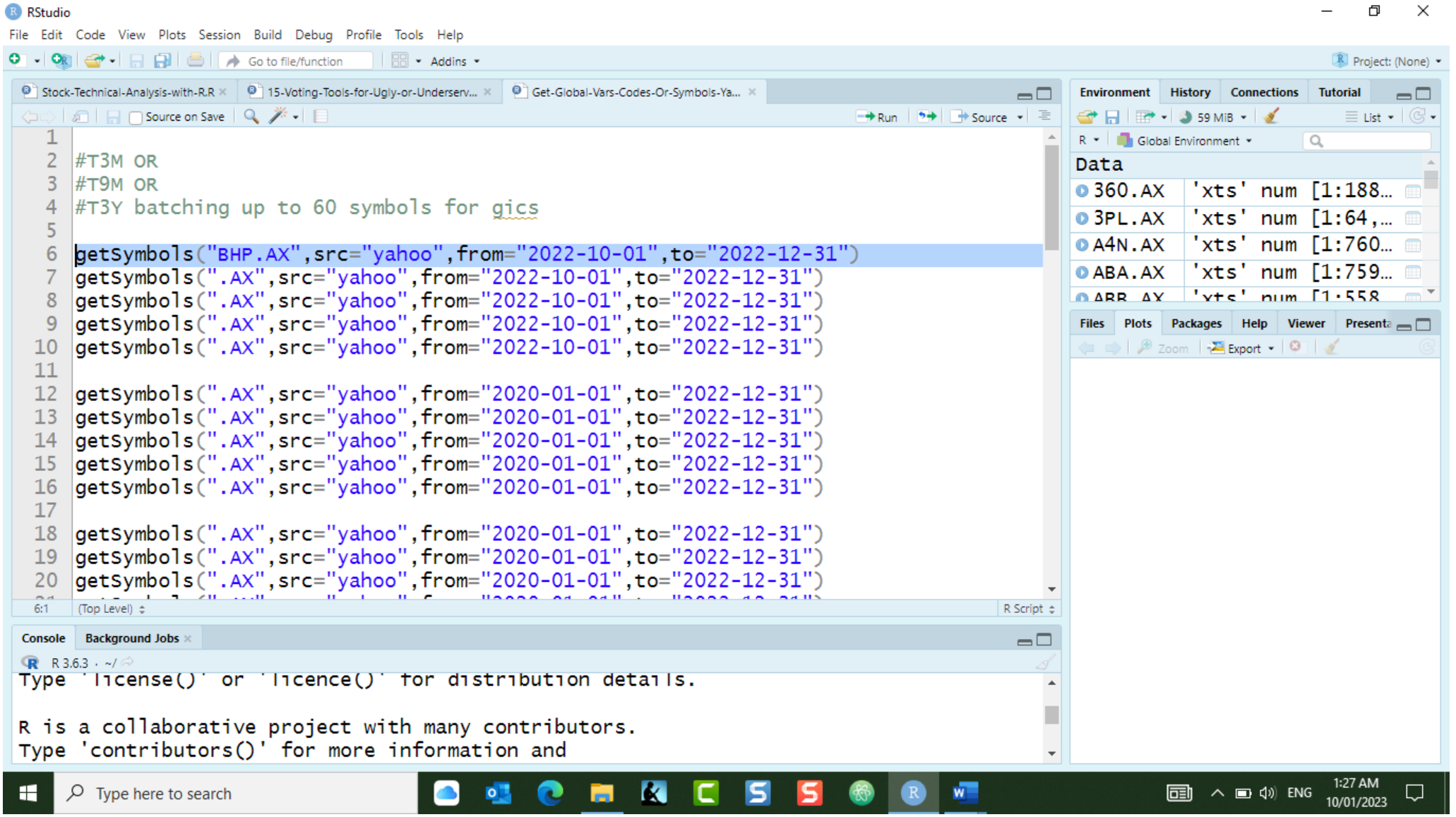
h) Enter yahoo code(s)

   i) For example: for BHP enter BHP.AX (as per Yahoo Finance conventions)

i) CHECK the details, Yahoo code(s) and dates etc

j) RUN the code by highlighting and executing one Yahoo code and date combo at a time

   i) The idea is to prepare for key or major process, back in file r1---now proceed to Step 4


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
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15-Voting-Tools-for-Ugly-or-Underserv...
Get-Global-Vars-Codes-Or-Symbols-Ya...
Source on Save
Run
Source
#T3M OR
#T9M OR
#T3Y batching up to 60 symbols for gics
getSymbols("BHP.AX",src="yahoo",from="2022-10-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2022-10-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2022-10-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2022-10-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2022-10-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2020-01-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2020-01-01",to="2022-12-31")
getSymbols(".AX",src="yahoo",from="2020-01-01",to="2022-12-31")
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getSymbols(".AX",src="yahoo",from="2020-01-01",to="2022-12-31")
6:1
(Top Level)
R Script
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R 3.6.3 · ~/
Type 'license()' or 'licence()' for distribution details.
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
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59 MiB
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3PL.AX 'xts' num [1:64,...
A4N.AX 'xts' num [1:760...
ABA.AX 'xts' num [1:759...
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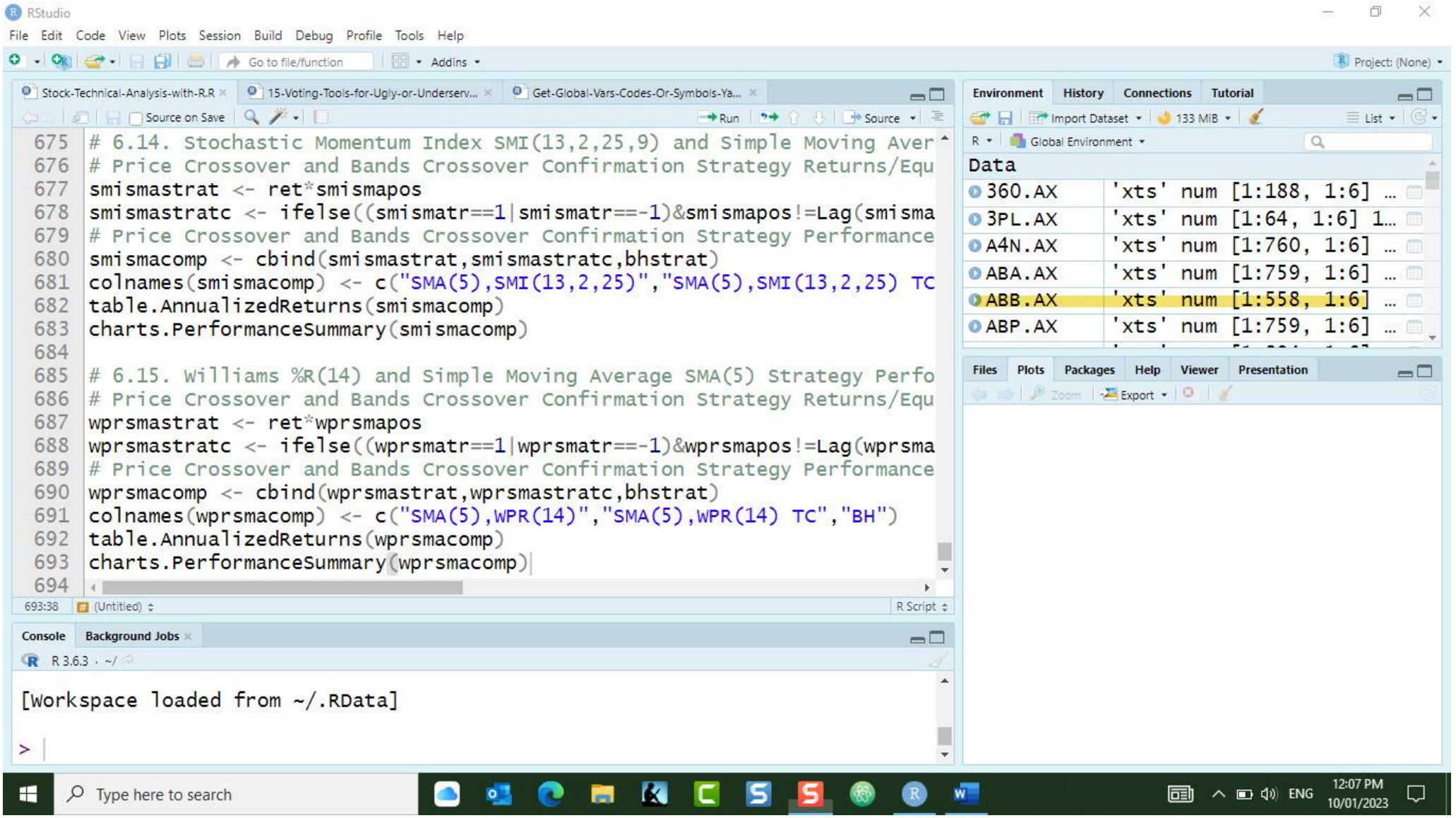
10/01/2023

STEP 4 IN FILE R1

k) Go to file r1 check right panel to SEE global vars or BHP.AX etc (from file r3, step 3 detail)

l) CHECK global vars are both an ‘xts’ object and right number of observations (ex 64 or 190 etc)

   i) If everything is in order proceed to 4) m)



m) HIGHLIGHT code lines from lines 22 to 664

n) RUN the code!

o) VIEW the Plots section displaying like a movie to bottom right

   i) Enjoy learning about “shape” of price or crowd behaviour

p) ALLOW code to complete

   i) Idea is to get necessary vars or variables for further processing, as to file r2---now proceed to Step 5

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

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Stock-Technical-Analysis-with-R.R | sma5poscomp | sma21poscomp | ema5poscomp | ema21poscomp | smaposcomp | emaposcomp

Source on Save | Run | Source

```
672 # Price Crossover and Bands Crossover Confirmation Strategy Returns/Equity Curve
673 smismastrat <- ret*smismapos
674 smismastratc <- ifelse((smismatr==1|smismatr==-1)&smismapos!=Lag(smismapos),(ret
675 # Price Crossover and Bands Crossover Confirmation Strategy Performance Comparis
676 smismacomp <- cbind(smismastrat,smismastratc,bhstrat)
677 colnames(smismacomp) <- c("SMA(5),SMI(13,2,25)","SMA(5),SMI(13,2,25) TC","BH")
678 table.AnnualizedReturns(smismacomp)
679 charts.PerformanceSummary(smismacomp)
680
681 # 6.15. Williams %R(14) and Simple Moving Average SMA(5) Strategy Performance Co
682 # Price Crossover and Bands Crossover Confirmation Strategy Returns/Equity Curve
```

689:38 (Top Level) R Script

Console | Background Jobs

R 3.6.3 · ~/

```
1)*wprsmapos,ret*wprsmapos)
> # Price Crossover and Bands Crossover Confirmation Strategy Performance Comparison
> wprsmacomp <- cbind(wprsmastrat,wprsmastratc,bhstrat)
> colnames(wprsmacomp) <- c("SMA(5),WPR(14)","SMA(5),WPR(14) TC","BH")
> table.AnnualizedReturns(wprsmacomp)
                          SMA(5),WPR(14) SMA(5),WPR(14) TC     BH
Annualized Return                 0.1403             0.1327 0.2110
Annualized Std Dev                0.3235             0.3235 0.4534
Annualized Sharpe (Rf=0%)         0.4336             0.4102 0.4655
> charts.PerformanceSummary(wprsmacomp)
>
```

Environment | History | Connections | Tutorial

131 MiB | List

R | Global Environment | dtl

Data

DTL.AX	'xts' num [1:760…

Files | Plots | Packages | Help | Viewer | Present

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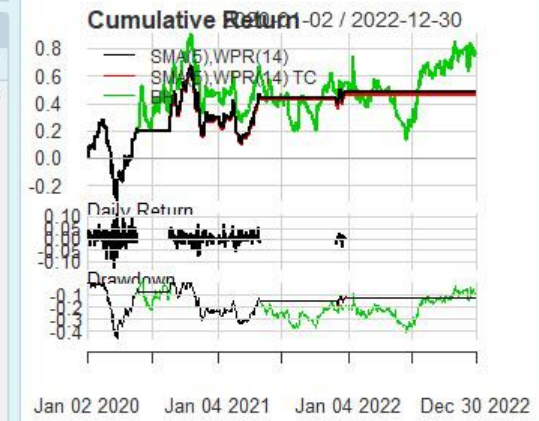

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ENG 1:03 PM 10/01/2023

STEP 5 IN FILE R2

q) Note aim is to produce Excel or spreadsheet files for decision-making purposes

r) If preparing trailing 3 months, highlight and run code lines x, y, then z (ex code lines 4, 10, 17-8)

   i) Run x, y and z lines---one by one---in that order

   ii) X merges key or important vars from Step 4

   iii) Y enables you to VIEW the merge, checking for correct date range

   iv) Z creates and sends the Excel file or spreadsheet to your DESIGNATED folder

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Stock-Technical-Analysis-with-R.R | 15-Voting-Tools-for-Ugly-or-Underserv... | Get-Global-Vars-Codes-Or-Symbols-Ya...

```
3
4  ### file creation code, in order: T3M, then T9M, then T3Y ###
5  ### trailing 3 months, trailing 9 months, then trailing 3 years ###
6
7  Ugly_Votes_Updated_T3M = merge(bbposcomp,sarposcomp,adxposcomp,cciposcomp,
8  Ugly_Votes_Updated_T9M = merge(bbposcomp,sarposcomp,adxposcomp,cciposcomp,
9  Ugly_Votes_Updated_T3Y = merge(bbposcomp,sarposcomp,adxposcomp,cciposcomp,
10
11 #VIEW ASSET CLOSING PRICE DATE BEFORE TRANSFERRING TO EXCEL...
12
13 View(Ugly_Votes_Updated_T3M)
14 View(Ugly_Votes_Updated_T9M)
15 View(Ugly_Votes_Updated_T3Y)
16
17 #CREATE EXCEL FILES...(T3M, T9M, T3Y)
18
19 #trailing 3 months
20 write.xlsx(as.data.frame(Ugly_Votes_Updated_T3M),"C:/Users/tony /iCloudDri
```

32:1 (Top Level) R Script

Console | Background Jobs

R 3.6.3 · ~/

```
(ret-0.01)*wprsmapos,ret*wprsmapos)
> # Price Crossover and Bands Crossover Confirmation Strategy Performance Comp
arison
> wprsmacomp <- cbind(wprsmastrat,wprsmastratc,bhstrat)
> colnames(wprsmacomp) <- c("SMA(5),WPR(14)","SMA(5),WPR(14) TC","BH")
```

Environment | History | Connections | Tutorial

Import Dataset · 97 MiB · List

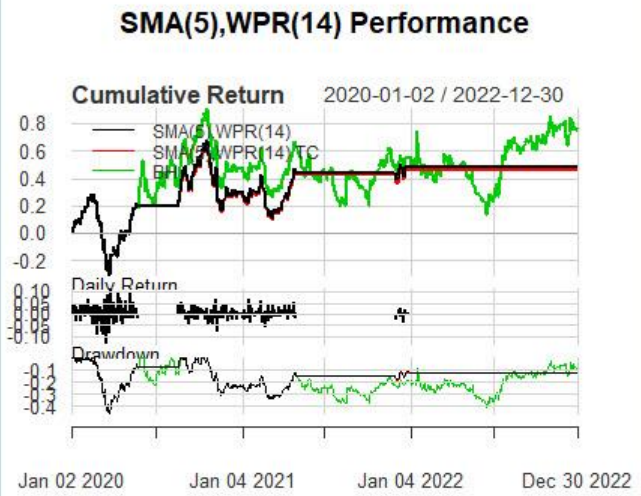
R · Global Environment

Data

360.AX	'xts' num [1:188, 1:6]…
3PL.AX	'xts' num [1:64, 1:6] …
A4N.AX	'xts' num [1:760, 1:6]…
ABA.AX	'xts' num [1:759, 1:6]…

Files | Plots | Packages | Help | Viewer | Presentation

Zoom · Export



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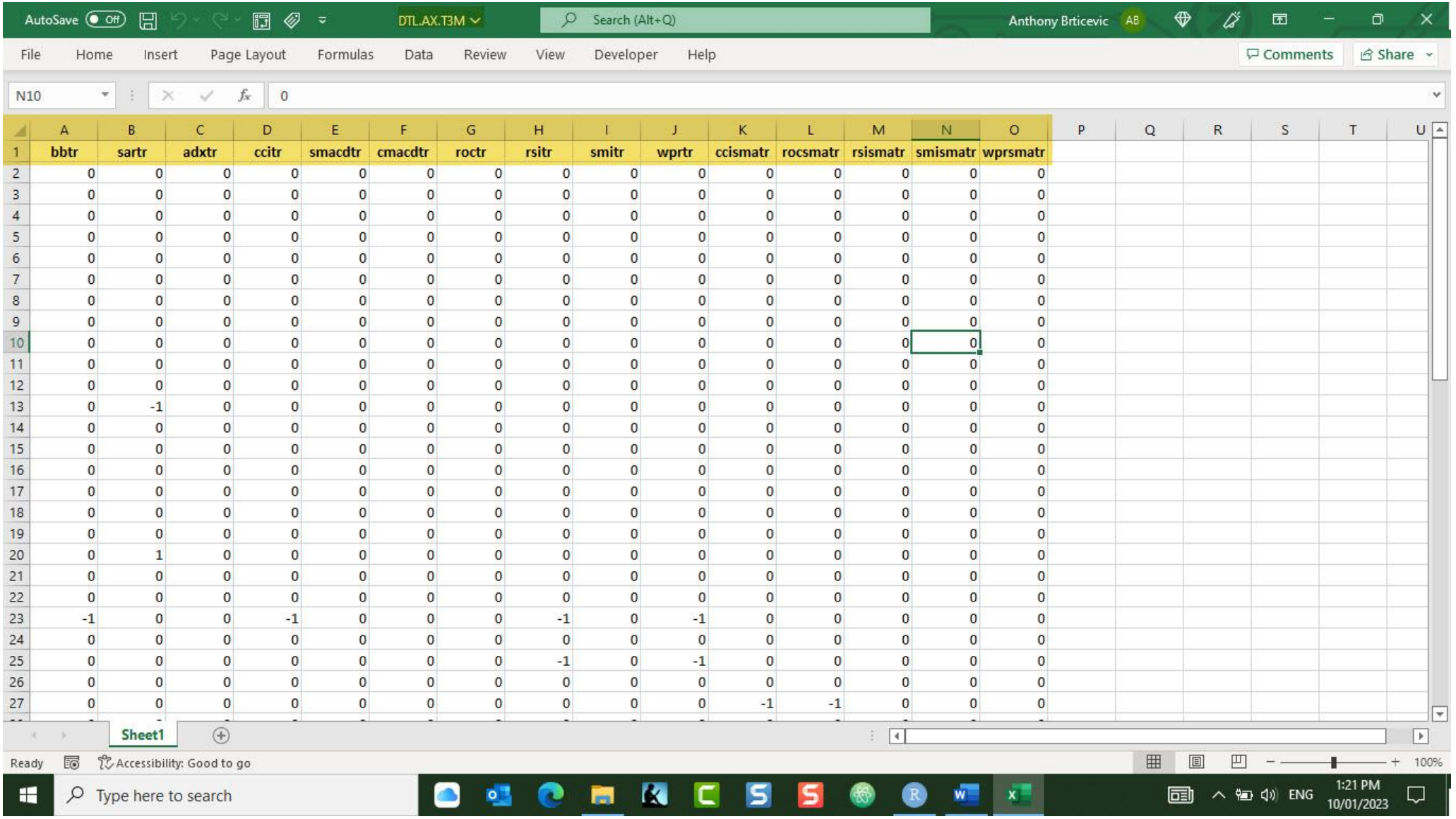
ENG 1:14 PM 10/01/2023

s) Go to your designated folder and find the Excel file (ex for trailing 3 months)

t) OPEN that file and delete columns …

   i) The idea is to be left with 15 columns A-0, each with “tr” at end of COLUMN NAME



AutoSave Off | DTL.AX.T3M | Search (Alt+Q) | Anthony Brticevic AB

File Home Insert Page Layout Formulas Data Review View Developer Help | Comments | Share

N10 | 0

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	bbtr	sartr	adxtr	ccitr	smacdtr	cmacdtr	roctr	rsitr	smitr	wprtr	ccismatr	rocsmatr	rsismatr	smismatr	wprsmatr
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	-1	0	0	-1	0	0	0	-1	0	-1	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	-1	0	-1	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	-1	-1	0	0	0

Sheet1

Ready | Accessibility: Good to go | 100%

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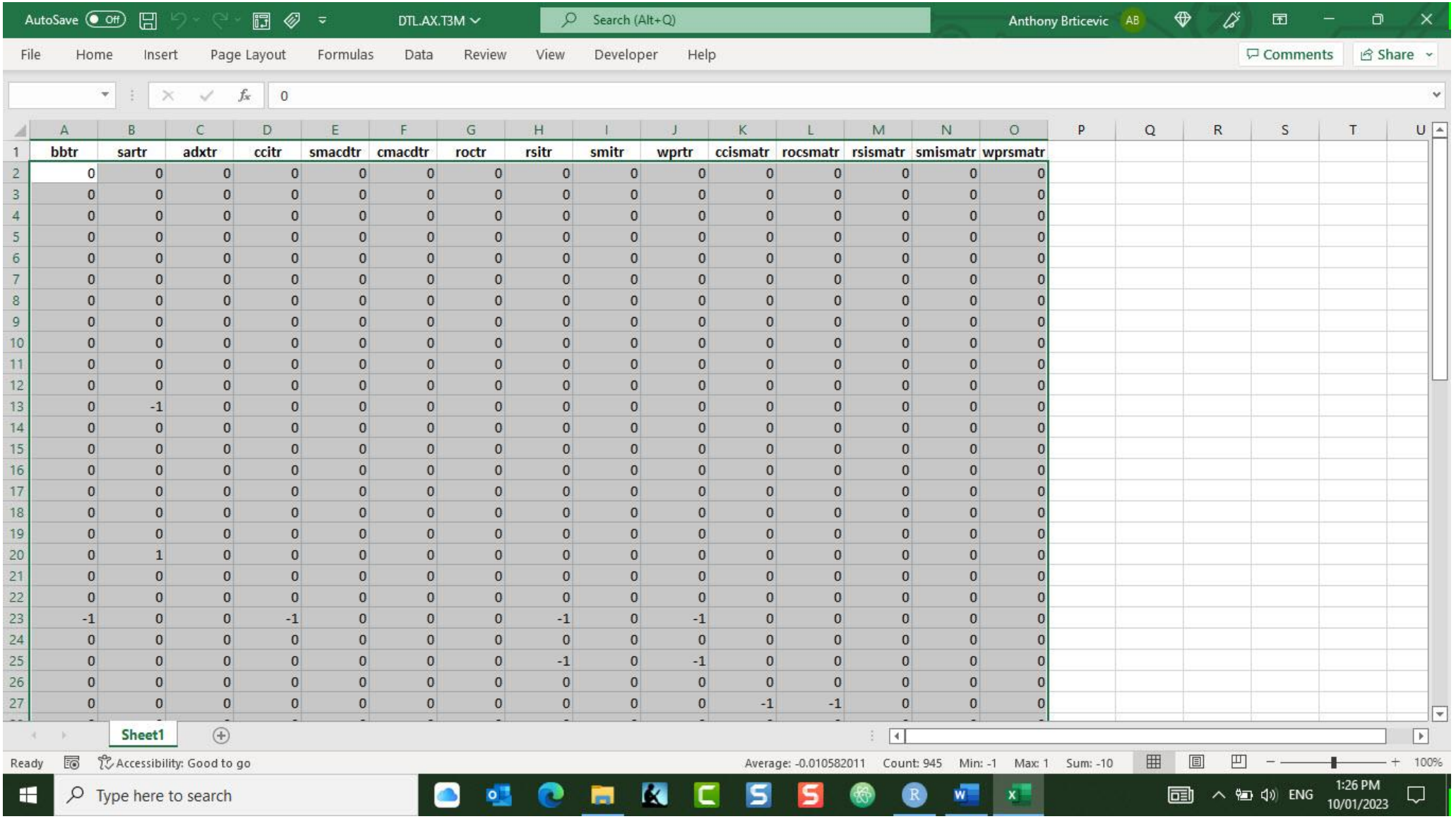
u) HIGHLIGHT ALL cells, beginning from A1… until you have highlighted all cells with data, 0s and 1s

   i) Ex for 63 or 64 observations, you will have highlighted cells A1-to-A65-to-O65

v) COPY those cells (ex ctrl + C on pc)

   i) Aim to paste data in Excel template e1



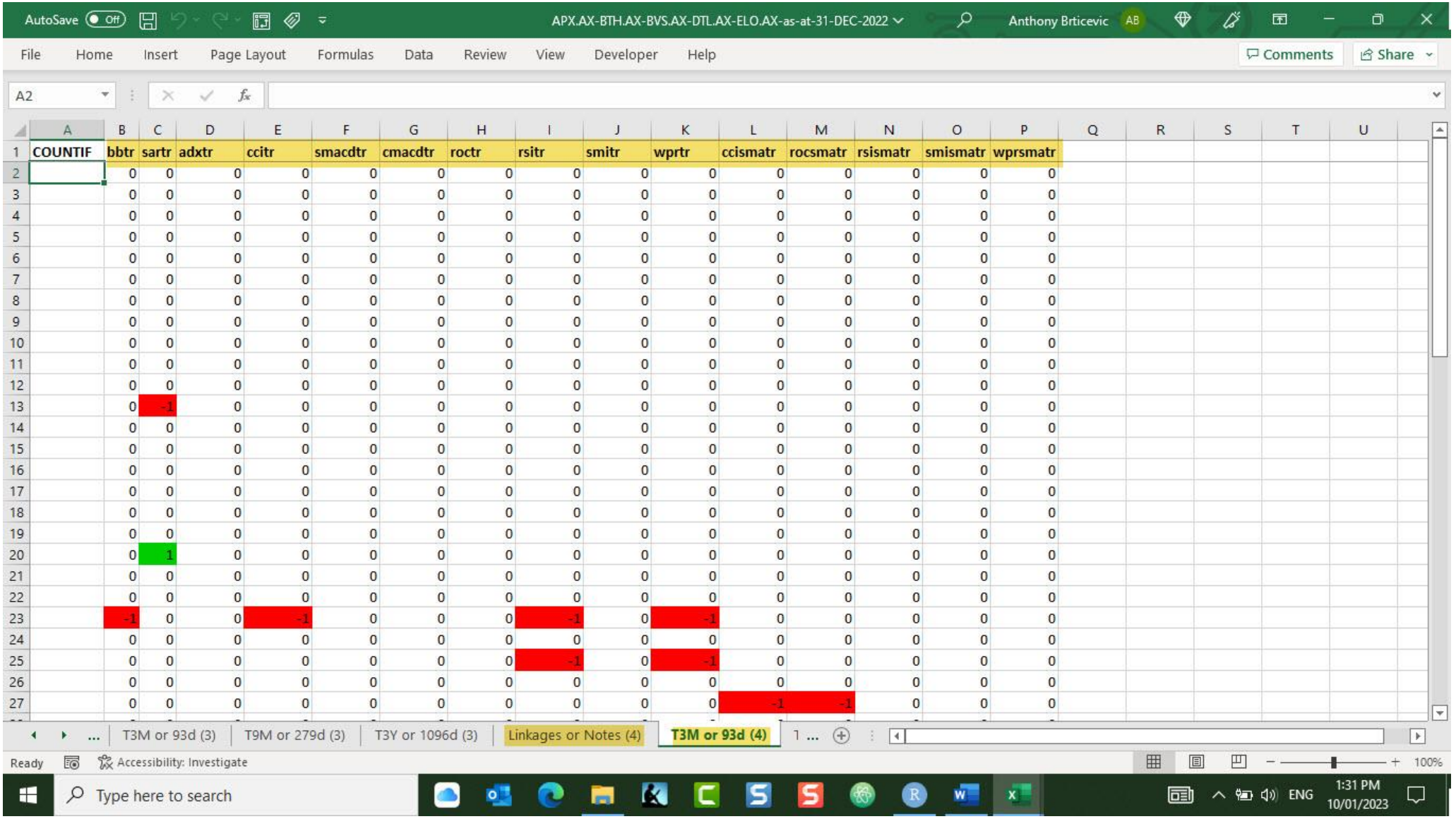
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	bbtr	sartr	adxtr	ccitr	smacdtr	cmacdtr	roctr	rsitr	smitr	wprtr	ccismatr	rocsmatr	rsismatr	smismatr	wprsmatr
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	-1	0	0	-1	0	0	0	-1	0	-1	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	-1	0	-1	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	-1	-1	0	0	0

STEP 6 IN FILE E1

w) PASTE data from Step 5 into appropriate tab of file e1

i) SPEND 2-3 minutes CHECKING the structure of file e1

ii) AFTER pasting data there, pre-populated Excel formulas do magic


AutoSave Off
APX.AX-BTH.AX-BVS.AX-DTL.AX-ELO.AX-as-at-31-DEC-2022
Anthony Brticevic
File Home Insert Page Layout Formulas Data Review View Developer Help
Comments Share
A2
COUNTIF bbtr sartr adxtr ccitr smacdtr cmacdtr roctr rsitr smitr wprtr ccismatr rocsmatr rsismatr smismatr wprsmatr
T3M or 93d (3) T9M or 279d (3) T3Y or 1096d (3) Linkages or Notes (4) T3M or 93d (4)
Ready Accessibility: Investigate
100%
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ENG 1:31 PM 10/01/2023

iii) CHECK, for example, tab Linkages and Notes

iv) Note the “percentages”, “graph” and various “totals”

v) These are IMPORTANT ELEMENTS and numbers

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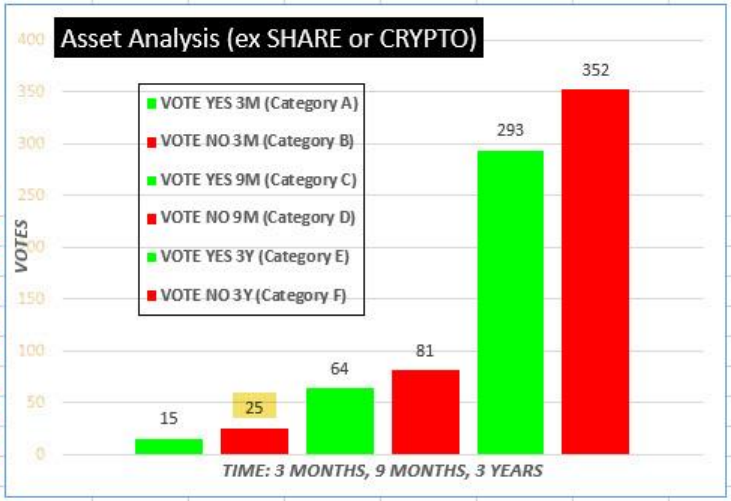
File Home Insert Page Layout Formulas Data Review View Developer Help | Comments | Share

H17 =SUM(H2:H16)

	A	B	C	D	E	F	G	H	I
1	Asset Analysis (ex share or crypto), No. of Votes to Buy or Sell, aggregaged across 3 timeframes (3 months, 9 months, 3 years), using 15 tools or Indicators, aggregations Horizonal, Vertical		VOTE YES 3M (Category A)	VOTE NO 3M (Category B)	VOTE YES 9M (Category C)	VOTE NO 9M (Category D)	VOTE YES 3Y (Category E)	VOTE NO 3Y (Category F)	Totals Horizonal Analysis
2	Tool #1 (bbtr)		1	1	6	6	25	26	-1
3	Tool #2 (sartr)		3	3	8	9	33	34	-2
4	Tool #3 (adxtr)		2	2	4	2	14	14	2
5	Tool #4 (ccitr)		1	2	6	12	27	44	-24
6	Tool #5 (smacdtr)		1	0	9	8	28	27	3
7	Tool #6 (cmacdtr)		1	1	2	1	14	14	1
8	Tool #7 (roctr)		2	4	5	11	30	29	-7
9	Tool #8 (rsitr)		0	2	2	3	9	15	-9
10	Tool #9 (smitr)		2	1	7	6	22	21	3
11	Tool #10 (wprtr)		1	6	7	16	41	66	-39
12	Tool #11 (ccismatr)		1	2	3	2	8	11	-3
13	Tool #12 (rocsmatr)		0	1	3	3	21	30	-10
14	Tool #13 rsismatr)		0	0	0	0	0	2	-2
15	Tool #14 (smismatr)		0	0	2	2	14	15	-1
16	Tool #15 (wprsmatr)		0	0	0	0	7	4	3
17	Totals Categories A-F Vertical Analysis		15	25	64	81	293	352	
18	Percentages Per Period (Categories A-F)		38%	63%	44%	56%	45%	55%	



T3M or 93d (3) | T9M or 279d (3) | T3Y or 1096d (3) | Linkages or Notes (4) | T3M or 93d (4)

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x) OPEN tab Votes % Compare tab

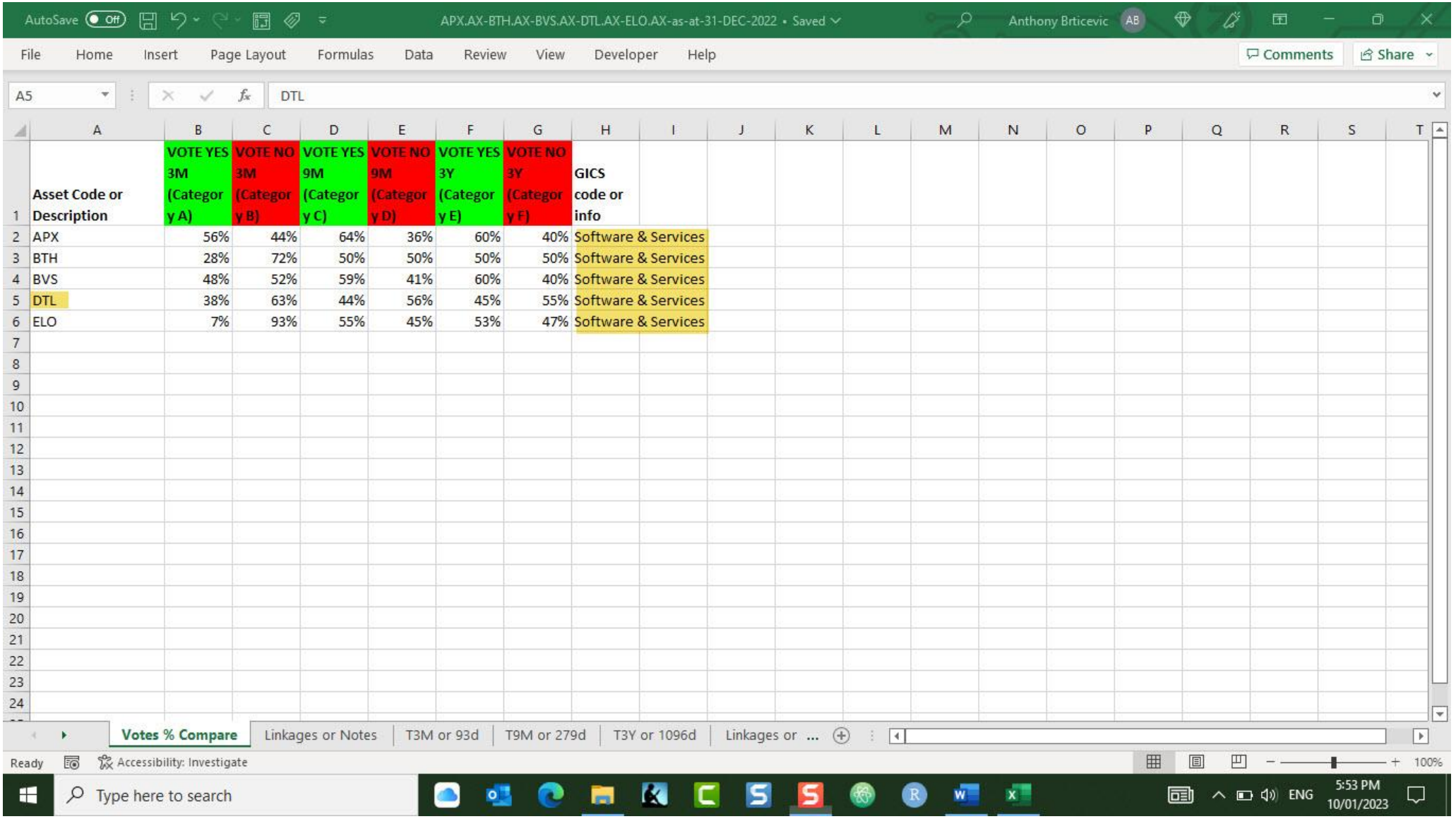
y) At minimum, populate cell A2 with Yahoo code in that tab

   i) For example, BHP or BHP.AX

   ii) If you know the GICS, add those in Column F

   iii) This info nicely flows through to a clearer picture

   iv) DO a final CHECK of data and info


AutoSave Off
APX.AX-BTH.AX-BVS.AX-DTL.AX-ELO.AX-as-at-31-DEC-2022 • Saved
Anthony Brticevic AB
File Home Insert Page Layout Formulas Data Review View Developer Help
Comments Share
A5 DTL
Asset Code or Description
VOTE YES 3M (Category A)
VOTE NO 3M (Category B)
VOTE YES 9M (Category C)
VOTE NO 9M (Category D)
VOTE YES 3Y (Category E)
VOTE NO 3Y (Category F)
GICS code or info
APX 56% 44% 64% 36% 60% 40% Software & Services
BTH 28% 72% 50% 50% 50% 50% Software & Services
BVS 48% 52% 59% 41% 60% 40% Software & Services
DTL 38% 63% 44% 56% 45% 55% Software & Services
ELO 7% 93% 55% 45% 53% 47% Software & Services
Votes % Compare
Linkages or Notes
T3M or 93d
T9M or 279d
T3Y or 1096d
Linkages or ...
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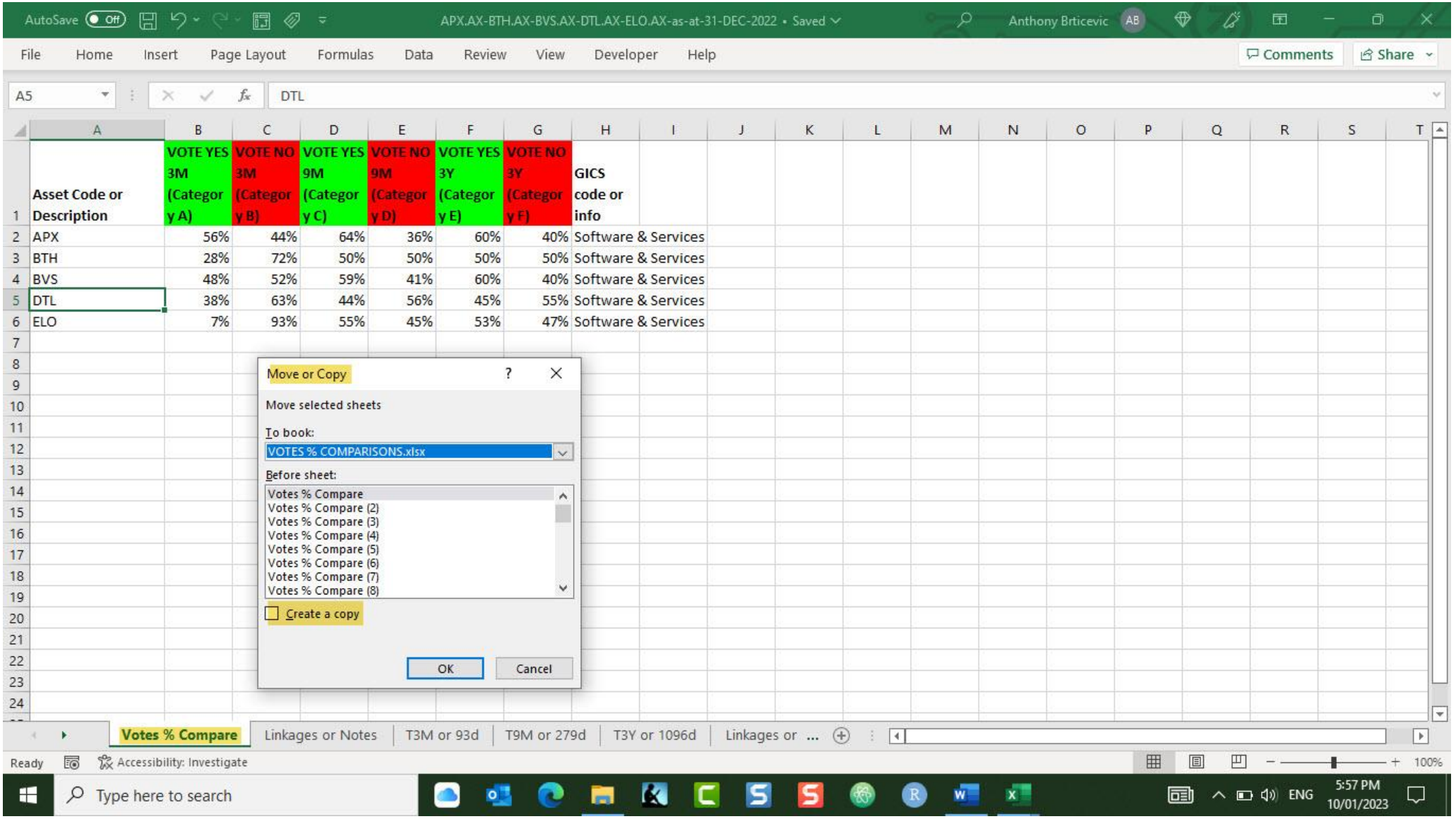
z) PREPARE to copy Votes % Compare data to file e2 (NOTE WELL: You will PREPARE & CREATE your own Excel file, e2---please see Step 7 below---FOR GUIDANCE)

aa) RIGHT-CLICK Votes Comparison % tab

bb) … in drop-down menu, SELECT where to move or copy

cc) CHOOSE file e2 (make sure it is open)


AutoSave Off
APX.AX-BTH.AX-BVS.AX-DTL.AX-ELO.AX-as-at-31-DEC-2022 • Saved
Anthony Brticevic AB
File Home Insert Page Layout Formulas Data Review View Developer Help
Comments Share
A5 DTL
Asset Code or Description
VOTE YES 3M (Category A)
VOTE NO 3M (Category B)
VOTE YES 9M (Category C)
VOTE NO 9M (Category D)
VOTE YES 3Y (Category E)
VOTE NO 3Y (Category F)
GICS code or info
APX 56% 44% 64% 36% 60% 40% Software & Services
BTH 28% 72% 50% 50% 50% 50% Software & Services
BVS 48% 52% 59% 41% 60% 40% Software & Services
DTL 38% 63% 44% 56% 45% 55% Software & Services
ELO 7% 93% 55% 45% 53% 47% Software & Services
Move or Copy
Move selected sheets
To book:
VOTES % COMPARISONS.xlsx
Before sheet:
Votes % Compare
Votes % Compare (2)
Votes % Compare (3)
Votes % Compare (4)
Votes % Compare (5)
Votes % Compare (6)
Votes % Compare (7)
Votes % Compare (8)
Create a copy
OK
Cancel
Votes % Compare
Linkages or Notes
T3M or 93d
T9M or 279d
T3Y or 1096d
Linkages or ...
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STEP 7 IN FILE E2

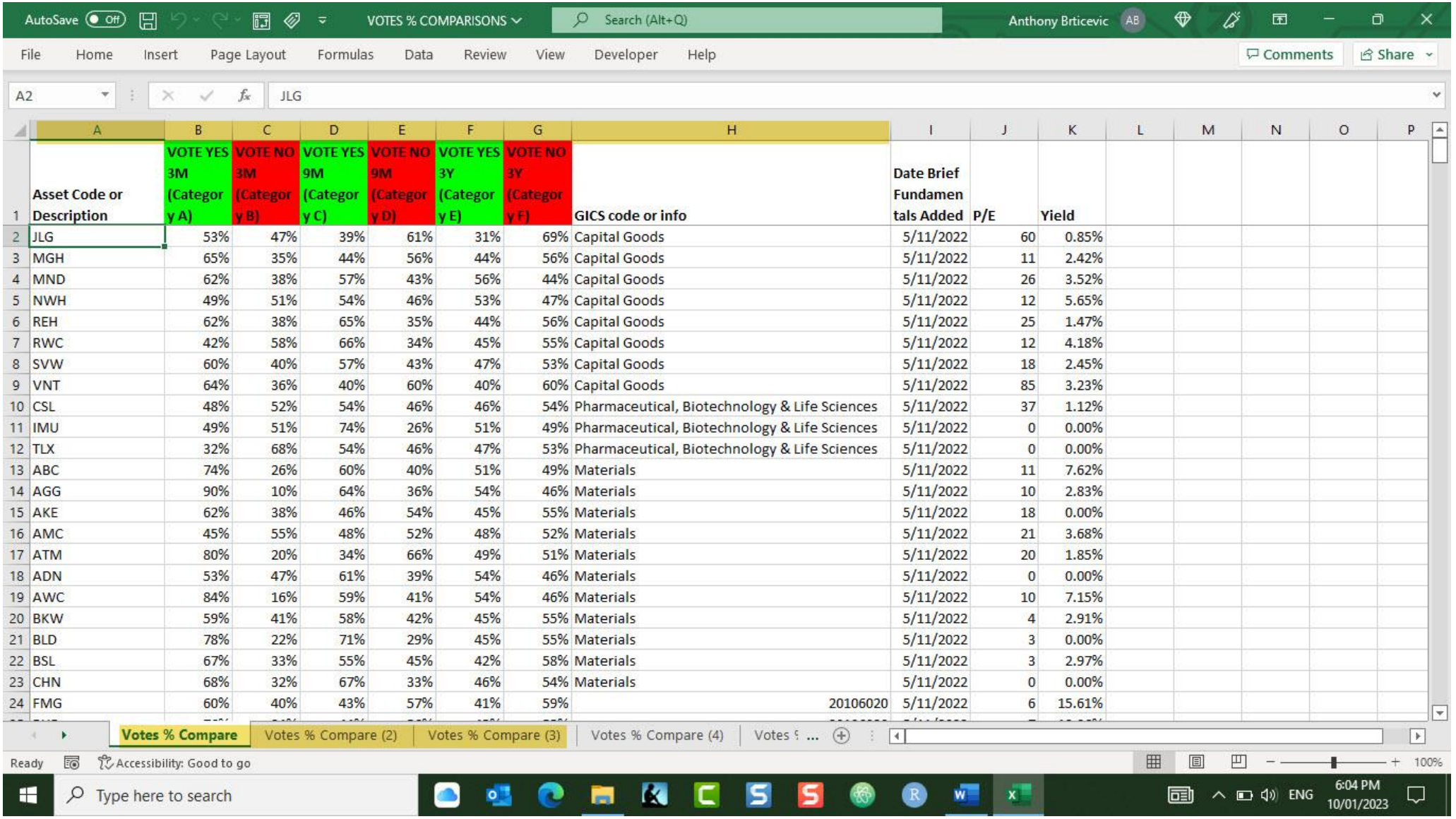
dd) NOTE the first tab replicates Columns A-H from Votes % Compare tab, from file e1

i) The intention is to aggregate or pull together analyses

ii) The analyses could be about 100s or even 1000s of companies

iii) However, in file e2, many Votes % Compare tabs will have been created

iv) But for each one of them, you will have copied & pasted data from them to the MASTER tab (or first tab)



	A	B	C	D	E	F	G	H	I	J	K
1	Asset Code or Description	VOTE YES 3M (Category A)	VOTE NO 3M (Category B)	VOTE YES 9M (Category C)	VOTE NO 9M (Category D)	VOTE YES 3Y (Category E)	VOTE NO 3Y (Category F)	GICS code or info	Date Brief Fundamentals Added	P/E	Yield
2	JLG	53%	47%	39%	61%	31%	69%	Capital Goods	5/11/2022	60	0.85%
3	MGH	65%	35%	44%	56%	44%	56%	Capital Goods	5/11/2022	11	2.42%
4	MND	62%	38%	57%	43%	56%	44%	Capital Goods	5/11/2022	26	3.52%
5	NWH	49%	51%	54%	46%	53%	47%	Capital Goods	5/11/2022	12	5.65%
6	REH	62%	38%	65%	35%	44%	56%	Capital Goods	5/11/2022	25	1.47%
7	RWC	42%	58%	66%	34%	45%	55%	Capital Goods	5/11/2022	12	4.18%
8	SVW	60%	40%	57%	43%	47%	53%	Capital Goods	5/11/2022	18	2.45%
9	VNT	64%	36%	40%	60%	40%	60%	Capital Goods	5/11/2022	85	3.23%
10	CSL	48%	52%	54%	46%	46%	54%	Pharmaceutical, Biotechnology & Life Sciences	5/11/2022	37	1.12%
11	IMU	49%	51%	74%	26%	51%	49%	Pharmaceutical, Biotechnology & Life Sciences	5/11/2022	0	0.00%
12	TLX	32%	68%	54%	46%	47%	53%	Pharmaceutical, Biotechnology & Life Sciences	5/11/2022	0	0.00%
13	ABC	74%	26%	60%	40%	51%	49%	Materials	5/11/2022	11	7.62%
14	AGG	90%	10%	64%	36%	54%	46%	Materials	5/11/2022	10	2.83%
15	AKE	62%	38%	46%	54%	45%	55%	Materials	5/11/2022	18	0.00%
16	AMC	45%	55%	48%	52%	48%	52%	Materials	5/11/2022	21	3.68%
17	ATM	80%	20%	34%	66%	49%	51%	Materials	5/11/2022	20	1.85%
18	ADN	53%	47%	61%	39%	54%	46%	Materials	5/11/2022	0	0.00%
19	AWC	84%	16%	59%	41%	54%	46%	Materials	5/11/2022	10	7.15%
20	BKW	59%	41%	58%	42%	45%	55%	Materials	5/11/2022	4	2.91%
21	BLD	78%	22%	71%	29%	45%	55%	Materials	5/11/2022	3	0.00%
22	BSL	67%	33%	55%	45%	42%	58%	Materials	5/11/2022	3	2.97%
23	CHN	68%	32%	67%	33%	46%	54%	Materials	5/11/2022	0	0.00%
24	FMG	60%	40%	43%	57%	41%	59%	20106020	5/11/2022	6	15.61%

ee) NOTE the data sitting inside the second tab, it will be your first ever analyses tab---probably named Votes % Compare (2)

ff) IN THAT TAB, copy and paste the data over to Votes % Compare, starting the paste at cell A1 (in the first tab)

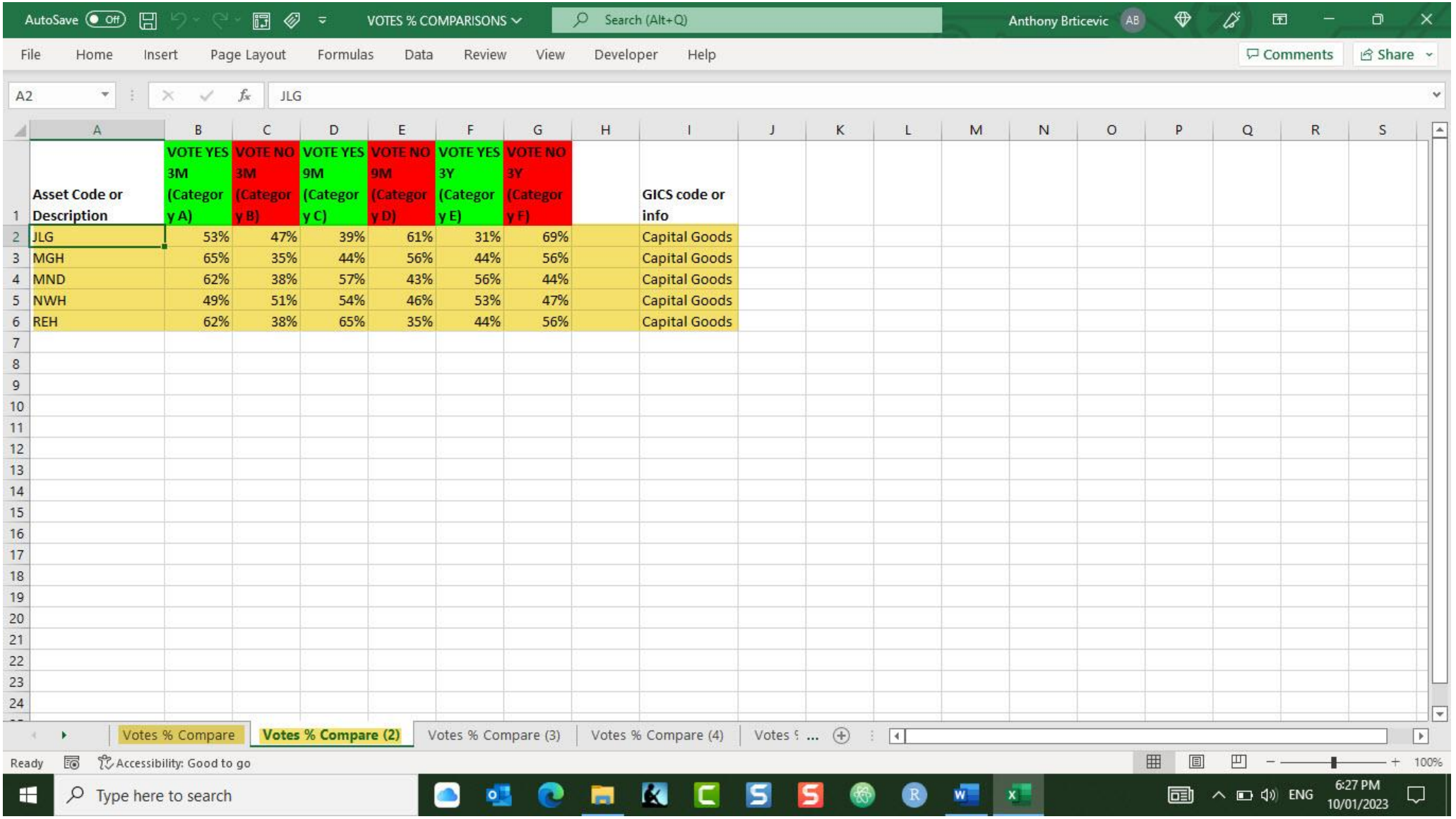
i) NOTE the paste may not show the correct data

ii) If so, click on cell B2, referring to FORMULA BAR ABOVE

iii) CHANGE the last two characters to 18

iv) And ENTER

v) Check to see data is correct or matches tab Votes % Compare (2)



	A	B	C	D	E	F	G	H	I
1	Asset Code or Description	VOTE YES 3M (Category A)	VOTE NO 3M (Category B)	VOTE YES 9M (Category C)	VOTE NO 9M (Category D)	VOTE YES 3Y (Category E)	VOTE NO 3Y (Category F)		GICS code or info
2	JLG	53%	47%	39%	61%	31%	69%		Capital Goods
3	MGH	65%	35%	44%	56%	44%	56%		Capital Goods
4	MND	62%	38%	57%	43%	56%	44%		Capital Goods
5	NWH	49%	51%	54%	46%	53%	47%		Capital Goods
6	REH	62%	38%	65%	35%	44%	56%		Capital Goods

gg) DRAG cell B2 across to G2 to pull in all correct data

hh) NOW, for the sake of completeness, please populate the final 3 columns H to K

ii) Populate I2 with current date

jj) Populate J2 with current Price Earnings Ratio (P/E found on Yahoo Finance)

kk) Finally, ADD Yield % at Column K

PART 5 NOTES AND FURTHER ACTIONS

File e2, Votes % Comparisons contains the data you need to make BUY, SELL or DO-NOTHING decisions as to shares or assets. These data do two main things: they indicate CROWD BEHAVIOUR as to price patterns and, shows KEY FUNDAMENTALS, P/E and Yield %. If the Crowd percentages show 67% or greater for Yes votes for the trailing 3 months, the asset might be "oversold", putting potential UPWARD pressure on price. If, on the other hand, the asset shows 51% or greater for NO votes for the trailing 3 months, the asset might be entering an "overbought" condition. That is, putting potential DOWNWARD weight on the price.

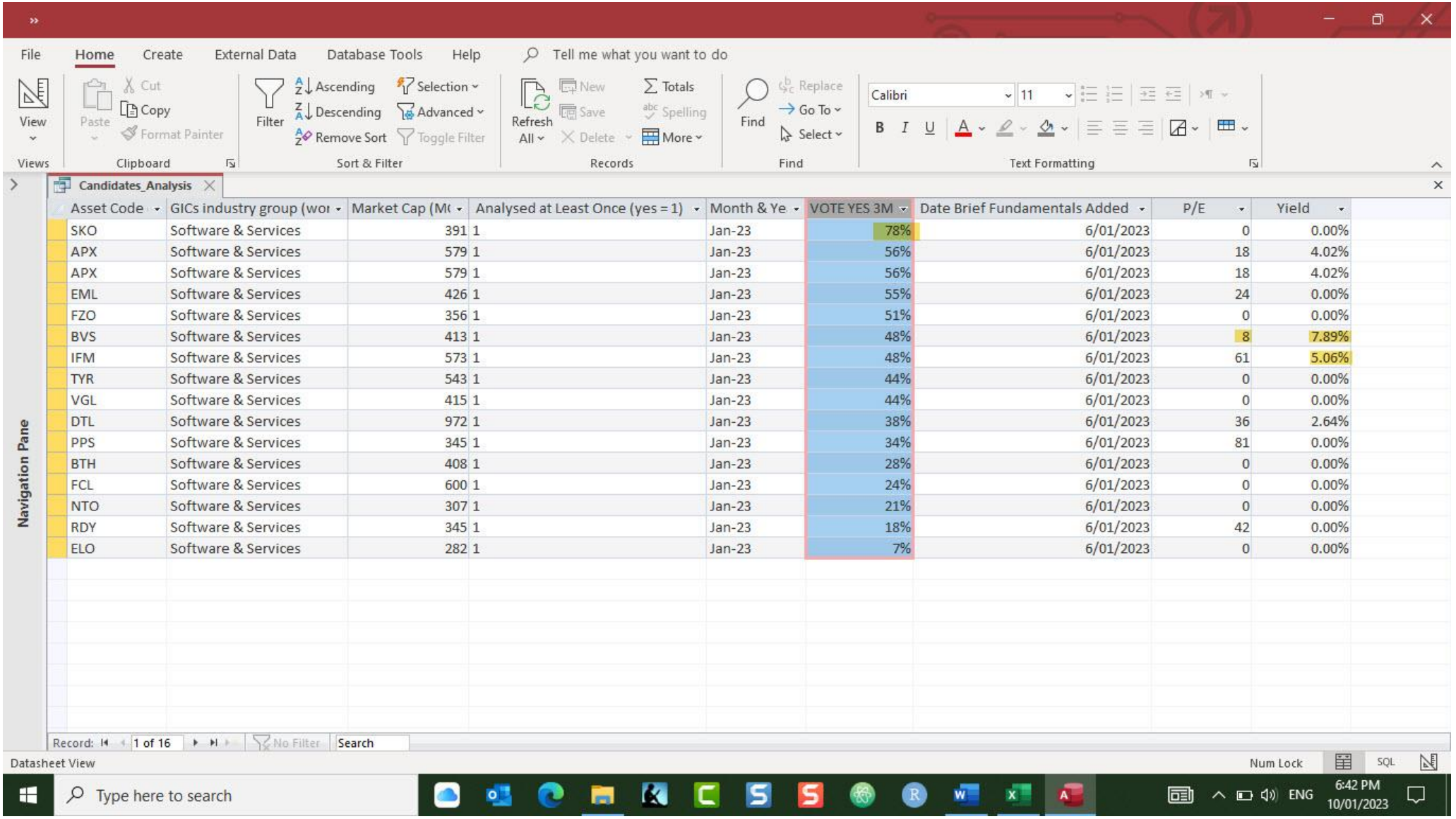
You should consider the Votes for each of the 3 periods: trailing 3 months, trailing 9 months, 3 years.

It's IMPORTANT to consider Votes next to FUNDAMENTALS. Many companies have weak or non-existent fundamentals. Checking both P/E and Yield % could be a quick and good way to temper or reduce risks associated with over-reliance on Votes data. In general, a P/E of 15 or less is not bad. And a Yield % of 5% or more is OK.

If you don't wish to do the work to produce the analyses files yourself, you can reach out. Can review up to 5 assets for a fee. Or do 1 for free.

If you do the work yourself, after setting up RStudio etc (see above), it should take not more than an 1hr to review 1 company, or Yahoo Finance code (ex BHP.AX). The Excel files act as templates, e1 and e2. And once you use them a few times, you could produce the relevant decision-making output for five companies in 1 to 2 hours. Depending on your proficiency with computers and apps.

As a final note, the data and Excel file templates can be further explored in MS Access. There, it is or would be easy to---for example---pull together data on whole Global Classification Industrial Sector (GICS) industries, potentiating trend spotting, increasing decision effectiveness. As an example, view the MS Access data below, for Software & Services (companies market capitalisation range from 250m to 1B).



Asset Code	GICs industry group (wor	Market Cap (M	Analysed at Least Once (yes = 1)	Month & Ye	VOTE YES 3M	Date Brief Fundamentals Added	P/E	Yield
SKO	Software & Services	391	1	Jan-23	78%	6/01/2023	0	0.00%
APX	Software & Services	579	1	Jan-23	56%	6/01/2023	18	4.02%
APX	Software & Services	579	1	Jan-23	56%	6/01/2023	18	4.02%
EML	Software & Services	426	1	Jan-23	55%	6/01/2023	24	0.00%
FZO	Software & Services	356	1	Jan-23	51%	6/01/2023	0	0.00%
BVS	Software & Services	413	1	Jan-23	48%	6/01/2023	8	7.89%
IFM	Software & Services	573	1	Jan-23	48%	6/01/2023	61	5.06%
TYR	Software & Services	543	1	Jan-23	44%	6/01/2023	0	0.00%
VGL	Software & Services	415	1	Jan-23	44%	6/01/2023	0	0.00%
DTL	Software & Services	972	1	Jan-23	38%	6/01/2023	36	2.64%
PPS	Software & Services	345	1	Jan-23	34%	6/01/2023	81	0.00%
BTH	Software & Services	408	1	Jan-23	28%	6/01/2023	0	0.00%
FCL	Software & Services	600	1	Jan-23	24%	6/01/2023	0	0.00%
NTO	Software & Services	307	1	Jan-23	21%	6/01/2023	0	0.00%
RDY	Software & Services	345	1	Jan-23	18%	6/01/2023	42	0.00%
ELO	Software & Services	282	1	Jan-23	7%	6/01/2023	0	0.00%

B1 is free. Like this Quick Start Guide, B1 gets you going as an analyst. B1 gives you enough info to produce e2 file data, which should be enough for making buy, sell or do-nothing decisions.

B1 focuses on Australian-listed companies where valuation is or had been between 250 million up to 1 billion. B2 has a small cost. It focuses on companies where value is or had been greater than 1 billion. Included is a small case study in which the author applied the Votes percentage system to both buy and subsequently sell BHP.AX at a profit. BHP trailing 3-month data showed 76% Yes Votes, which is greater than 67%. A buy decision was made.

In subsequent months, BHP trailing 3-month data showed NO Votes greater than 51%. Triggering attempts to sell at a profit. Within about 6 months total, BHP was sold at a profit---10% or more---but not more than 20%.

B1 and B2 are similar in structure and content. Yet B2 points at price patterns for larger entities. B2 includes more screenshots from MS Access as you might want to explore setting up your own database.

Video tutorials or demos may well be produced. The idea will be to make it easy for you to get and use high-quality info for decision-making purposes. And, if you prefer an audio modality, that in time, will be considered.

Any feedback or suggestions can be emailed to anthonybrticevic@gmail.com. We can also talk about review as a service via email or LinkedIn.

PART 6 GLOSSARY (15 VOTES TOOLS & 2 BRIEF FUNDAMENTALS)

15 VOTES TOOLS (SOURCE INVESTOPEDIA)

- Votes Too l#1 (bbtr) Bollinger Bands BB(20,2) Trading Strategy Bollinger Bands®: What They Are, and What They Tell Investors (investopedia.com)

- Votes Tool #2 (sartr) Parabolic Stop And Reverse SAR(0.02,0.2) Trading Strategy Parabolic SAR Indicator: Definition, Formula, Trading Strategies (investopedia.com)

- Votes Tool #3 (adxtr) Average Directional Movement Index ADX(14) Trading Strategy https://www.investopedia.com/terms/d/dmi.asp

- Votes Tool #4 (ccitr) Commodity Channel Index CCI(20,0.015) Trading Strategy https://www.investopedia.com/terms/c/commoditychannelindex.asp

- Votes Tool #5 (smacdtr) Moving Averages Covergence/Divergence MACD(12,26,9) Trading Strategies
- # Signal and Centerline Crossover Trading Strategies https://www.investopedia.com/terms/m/macd.asp

- Votes Tool #6 (cmacdtr) Moving Averages Covergence/Divergence MACD(12,26,9) Trading Strategies

- # Signal and Centerline Crossover Trading Strategies https://www.investopedia.com/articles/forex/05/macddiverge.asp

- Votes Tool #7 (roctr) Rate Of Change ROC(21) Trading Strategy https://www.investopedia.com/terms/r/rateofchange.asp

- Votes Tool #8 (rsitr) Relative Strength Index RSI(14) Trading Strategy https://www.investopedia.com/terms/r/rsi.asp

- Votes Tool #9 (smitr) Stochastic Momentum Index SMI(13,2,25,9) Trading Strategy https://www.investopedia.com/terms/s/stochasticoscillator.asp

- Votes Tool #10 (wprtr) Williams %R(14) Trading Strategy https://www.investopedia.com/terms/w/williamsr.asp

- Votes Tool #11 (ccismatr) Commodity Channel Index CCI(20,0.015) and Simple Moving Average SMA(5) Trading Strategy. Combine Simple Moving Average https://www.investopedia.com/terms/s/sma.asp with https://www.investopedia.com/terms/c/commoditychannelindex.asp

- Votes Tool #12 (rocsmatr) Rate Of Change ROC(21) and Simple Moving Average SMA(5) Trading Strategy. Combine Simple Moving Average https://www.investopedia.com/terms/s/sma.asp with https://www.investopedia.com/terms/r/rateofchange.asp

- Votes Tool #13 (rsismatr) Relative Strength Index RSI(14) and Simple Moving Average SMA(5) Trading Strategy. Combine Simple Moving Average https://www.investopedia.com/terms/s/sma.asp with https://www.investopedia.com/terms/r/rsi.asp

- Votes Tool #14 (smismatr) Stochastic Momentum Index SMI(13,2,25,9) and Simple Moving Average SMA(5) Trading Strategy. Combine Simple Moving Average https://www.investopedia.com/terms/s/sma.asp with https://www.investopedia.com/terms/s/stochasticoscillator.asp

- Votes Tool #15 (wprsmatr) Williams %R(14) and Simple Moving Average SMA(5) Trading Strategy. Combine Simple Moving Average https://www.investopedia.com/terms/s/sma.asp with https://www.investopedia.com/terms/w/williamsr.asp

2 BRIEF FUNDAMENTALS (SOURCE YAHOO FINANCE)

- Price Earnings Ratio (P/E) https://finance.yahoo.com/news/ratio-analysis-price-earnings-ratio-163359357.html

- Yield https://finance.yahoo.com/news/calculate-dividend-yield-192351901.html