WORLD ECONOMIC OUTLOOK – FINANCIAL MARKETS, WORLD SCENARIO & COVID ORIGIN

HUGHES ECONOMICS – August 2021

The current review below restates probabilities for Financial Markets outcomes, the World Economic Order focusing on the US versus China, the possibility of another depression and origins of the Covid-19 virus.

WORLD FINANCIAL MARKETS

As stated previously, three possible scenarios are proposed for the next 3 months:

1. **TINA**: There is no alternative, and the Dow rises significantly to 40,000+.
2. **BB**: Bubble bursts and Dow corrects to 30,000- or 10%+ correction.
3. **SQ**: Status Quo with no major moves for the Dow around 35,000.

Probability calculations below for the above scenarios are explained in *Structuring Probability Assessments* available at: doi: https://doi.org/10.17265/1537-1506/2020.05.003 or on this website.

TABLE 1: PROBABILITIES ON FINANCIAL MARKETS

Event	Pairwise Judgment	Compound Likelihood	Probability	Percent Probability
TINA	1.00	1.00	1/4 = 0.25	25
BB	1.00	1.00 X 1.00 = 1.00	1/4 = 0.25	25
SQ	2.00	1.00 x 2.00 = 2.00	2/4 = 0.50	50
TOTALS		**4.00**	**1.00**	**100**

Some analysts foresee a bubble bursting and a large correction (**BB**). Others see significant continued growth (**TINA**). The most likely outcome in our view is that we are in uncharted territory with a 50% chance of marginal moves around a Dow of 35,000. As of 30th July, the Dow is at 35,085.

WORLD ECONOMIC ORDER

To restate all the possibilities, we have, in increasing order of likelihood:

1. **China**: China overtakes the US as world leader or Chinese hegemony.
2. **Cold War 2**: The US and China compete for world leadership with major ramifications for some countries.
3. **USA**: The US continues as world leader with China relegated to second place for the foreseeable future.

Current probabilities are detailed below:

TABLE 2: PROBABILITIES ON THE WORLD ECONONOMIC ORDER

Event	Pairwise Judgment	Compound Likelihood	Probability	Percent Probability
China	1.00	1.00	1/61 = 0.016	2
Cold War 2	10.00	1.0 x 10.00 = 10.00	10/61 = 0.164	16
USA	5.00	10.00 x 5.00 = 50.00	50/61 = 0.820	82
TOTALS		**61.00**	**1.000**	**100**

In the latest *Project Syndicate* newsletter of July 18, Minxin Pei writes "Paranoia, bullying instincts, and contempt for property rights are deeply imbedded in the CPC's collective psyche, predisposing the Chinese government to self-destructive policies, regardless of well-intentioned advice or even evidence of their harmful consequences. And over-centralization of power under strongman rule in China today has made self-correction almost impossible" (CPC = Communist Party of China). This underlies the 2% probability for the **China** scenario above. But, of course, the CPC could change its spots in the future?

WORLD FINANCIAL STATE

Scenarios in order of increasing likelihood are as follows:

D or Depression: High inflation and continued Covid induce policy mistakes, higher interest rates and a global financial collapse.
MB or Mild Boom: Low interest rates, no major upsets allow markets to rise steadily for the next 6 months for 10%+ gains.
MR or Mild Recession: Unemployment rises with hospitality and other sectors remaining subdued with Covid-19 still a threat.
SQ or Status Quo: All markets steady with no major problems apart from continued but containable Covid flare-ups

Probabilities for these scenarios are detailed below:

TABLE 3: PROBABILITIES ON WORLD SCENARIOS FOR THE NEXT 6 MONTHS

Event	Pairwise Judgment	Compound Likelihood	Probability	Percent Probability
D	1.00	1.00	1.00/7.7 = 0.130	13
MB	1.00	1.00 x 1.00 = 1.00	1.00/7.7 = 0.130	13
MR	1.90	1.00 x 1.90 = 1.90	1.90/7.7 = 0.247	25
SQ	2.00	1.90 x 2.00 = 3.80	3.80/7.7 = 0.493	49
TOTALS		**7.70**	**1.000**	**100**

Earlier in July, we added the fourth category of **Depression** to possible world scenarios. *The Economist* of 10th July writes "Such apocalyptic outcomes are possible , but not likely". Success or failure with the virus vaccination programs and other developments such as "long covid" are factors that must be taken into account. Developing economies such as India seems to be having trouble containing the virus. Above, we assign the **D** scenario a 13% chance, which is still significant in our view with the same likelihood as **Mild Boom.** The **SQ** scenario is, however, seen as almost a 50% chance to continue. The IMF projects 6% world growth for 2021 and 4.9% for 2022.

ORIGIN OF THE COVID-19 VIRUS

The origin of the Covid-19 virus is still undetermined. Three possible hypotheses concerning its origin are considered here ranked by increasing likelihood:

1. NonCh - The virus originated outside of China (Non-Chinese) and is the least likely hypothesis.
2. WuMkt - The virus emerged naturally (animal to human) from a Wuhan wet-market.
3. WuLab -The virus initially escaped from a Chinese laboratory in Wuhan (Wuhan Lab Escape) and is most likely.

If the virus originated in China, hypotheses 2 and 3 above are the only possibilities we consider although other Chinese origins are possible with the Wuhan wet-market an "amplifying phenomenon". The Wuhan wet-market is commonly understood as being the most likely origin of the virus, but recent investigations have increased the likelihood of a lab escape which we agree with. Pairwise judgments and resulting probabilities could vary depending on the decision-maker's (DMs) judgments. Many people believe that the virus emerged almost certainly in China. We examine possible judgments below starting with a Chinese origin as "10 times" more likely than a Non-Chinese alternative (or NonCh). The two China origin hypotheses are initially judged to be equally likely with WuLab seen as "more likely" in a sensitivity analysis in Table 5. The routine calculations are shown in Table 4.

TABLE 4: PROBABIILITIES OF COVID-19 VIRUS ORIGIN

Virus Origin	Pairwise Value	Compound Likelihood	Probability	Percent Probability[#]
NonCh	1.00 (base value)	1.00	1/21 = 0.048	5
WuMkt	10.00 (10 x more likely)	1.00 x 10 .0 = 10.00	10/21 = 0.476	48
WuLab	1.00 (equally likely)	10.00 x 1.0 = 10.00	10/21 = 0.476	48
		21.00	**1.000**	**101**

[#]Percentage probabilities may not add to 100 due to rounding

Note that these initial calculations can be considered to show a 95% Chinese origin possibility. In the sensitivity analysis of Table 5 below we show how the "10 times" more likely judgment affects the calculations. Then we show how the probabilities change if WuLab is a little more likely (25% "more likely") than a naturally occurring origin from animals to humans at the Wuhan wet-market (WuMkt). The Table 4 calculations are reproduced in the first line of Table 5.

TABLE 5: PROBABILITIES ON VIRUS ORIGIN FOR VARYING PAIRWISE JUDGMENTS

Scenario	Pairwise Values	Probabilities[#]			Percent Probabilities[#]		
		NonCh	WuMkt	WuLab	NonCh	WuMkt	WuLab
China Origin 10 times ML*	1, 10, 1	.048	.476	.476	5	48	48
China Origin 5 times ML	1, 5, 1	.091	.455	.455	9	46	46
China Origin 7.5 times ML	1, 7.5, 1	.063	.469	.469	6	47	47
WuLab ML than WuMkt	1, 5, 1.25	.082	.408	.510	8	41	51
As above but 7.5 times ML	1, 7.5, 1.25	.056	.420	.524	6	42	52

*ML = more likely #Probabilities may not add to 1.0 or 100 due to rounding

In summary we can conclude that a Non-Chinese origin probability is in the 5 – 9% range, a Wuhan wet-market origin in the low to high 40% range, and a Wuhan Lab Escape in a high 40% to low 50% range. These values define the "ballpark" for a final probability distribution assessment which could be the last line in Table 5. Another point to note is that whether we take a large "more likely" difference to be 5 or 10 times "more likely" does not materially alter the resulting probabilities. This is reassuring since it would be hard to accurately estimate exactly how many times one event is "more likely" than another when the difference is large, say in the 4+ range. This means an average value such as 7.5 times (i.e., between 5 and 10 times) "more likely" will get the DM into the right "ballpark" for the final probability assessment. Note that ordering the scenarios in terms of likelihood initially means estimates of the "more likely" values between adjacent events would typically be minimal values in the 1^+ to 2 range (e.g., 1.25 in Table 5). This makes for less demanding judgments by the DM. Of course, some comparisons of events later in the ordering may require pairwise values of 2 or more on occasion. And all routine calculations as shown in Table 4 above are very simple allowing a sensitivity analysis on likelihoods for differing pairwise values (Table 5) to be easily undertaken. A good review of the lab leak hypothesis is given in the journal ***Nature*** at doi: https://doi.org/10.1038/d41586-021-01529-3.