

# Reading the Future

Don Gimpel – January 2017

# Here's what we're going to do today ...

- We are going to learn a way of looking at the future of the stock market, the gold market, bond prices and more.
- You are going to learn where to find the raw material numbers that you need as a futurist.
- You are also going to learn a little about time-shifted cross-correlations and how they can be calculated on your computer.
- That's a lot for one session so lets get started ...

# There are two parts to being a futurist ...

- The first part is predicting what is likely to happen.
- The second part is predicting when its likely to happen and that's very difficult. This talk may help with the “when” prediction.

# The Royal Bank of Canada

- Every investor must have an opinion of the market's direction even if he employs an investment advisor. How else could the investor choose and use and retain the advisor unless they were in agreement on this basic issue.
- What we are going to do today is to use the Royal Bank of Canada's macroeconomic projections to build our own vision of where the market is going and why.
- There are some remarkable things about RBC's site: First, it provides two years of quarterly macroeconomic forecasts. Second, every single row of their tables tells an important market story. What we have to do is learn how to read and interpret their stories.

## We're going to try to answer these questions:

- Is the US economy healthy or do we see signs of an oncoming recession?
- Will we continue leaking money through our Balance of Payments.
- What's going to happen to car and new house sales?
- What's likely to happen to the price of Gold?
- What's likely to happen to the stock market and why?
  
- There's more but this is enough to make our point!

# How do we get to RBC's tables?

Start with:

<http://www.rbc.com/economics/economic-reports/index.html>

[http://www.rbc.com/economics/economic-reports/pdf/quarterly-economic-update/fcst\\_dec2016.pdf](http://www.rbc.com/economics/economic-reports/pdf/quarterly-economic-update/fcst_dec2016.pdf)

Under “Forecast Tables,” choose “Economic Forecast Detail – US”

You will see the first table on the next slide ...

## Real growth in the economy (Quarter-over-quarter annualized % change unless otherwise indicated)

	Actuals			Forecast									Actual	Forecast		
	<u>2016</u>			<u>2017</u>				<u>2018</u>				<u>year-over-year % change</u>				
	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Consumer spending	1.6	4.3	2.8	2.4	2.2	2.1	2.5	2.4	2.6	2.4	2.1	2.0	3.2	2.6	2.5	2.4
Durables	-0.6	9.8	11.6	4.5	4.0	3.5	3.1	3.1	3.0	2.7	2.1	2.1	6.9	5.3	5.1	2.8
Non-durables	2.1	5.7	-0.6	2.1	1.8	1.9	2.8	2.8	3.1	2.8	2.2	2.0	2.6	2.4	2.0	2.7
Services	1.9	3.0	2.5	2.2	2.0	2.0	2.3	2.2	2.4	2.2	2.1	2.0	2.8	2.3	2.2	2.2
Government spending	1.6	-1.7	0.2	2.0	1.5	1.2	1.2	1.0	0.6	0.4	0.4	0.4	1.8	0.9	1.1	0.7
Residential investment	7.8	-7.8	-4.4	9.2	6.6	3.8	3.9	4.0	4.5	4.8	5.0	5.2	11.7	4.8	3.7	4.5
Non-residential investment	-3.4	1.0	0.1	2.6	3.3	3.3	4.3	4.4	4.3	3.9	3.1	2.8	2.1	-0.6	2.8	3.9
Non-residential structures	0.1	-2.1	10.1	-1.0	2.1	2.2	4.0	4.5	4.5	3.8	2.9	2.3	-4.4	-3.0	2.6	3.8
Equipment & software	-9.5	-3.0	-4.7	3.3	3.4	3.4	4.8	4.8	4.8	4.3	3.2	2.9	3.5	-2.9	2.2	4.3
Intellectual property	3.8	9.0	1.0	3.9	3.9	3.9	3.8	3.7	3.4	3.3	3.2	3.0	4.8	4.6	3.8	3.5
Final domestic demand	1.2	2.4	1.7	2.6	2.4	2.2	2.5	2.5	2.5	2.3	2.1	1.9	3.1	2.0	2.3	2.4
Exports	-0.7	1.8	10.1	-1.0	1.8	1.8	1.9	2.0	2.9	3.2	3.2	3.2	0.1	0.6	2.3	2.7
Imports	-0.6	0.2	2.1	2.3	5.0	4.0	2.1	2.5	3.1	2.9	3.1	2.5	4.6	0.7	3.1	2.8
Inventories (change in \$b)	40.7	-9.5	7.6	3.0	20.0	30.0	28.0	28.0	25.0	24.8	24.6	24.4	84.0	10.5	26.5	24.7
<b>Real gross domestic product</b>	<b>0.8</b>	<b>1.4</b>	<b>3.2</b>	<b>2.1</b>	<b>2.3</b>	<b>2.1</b>	<b>2.5</b>	<b>2.4</b>	<b>2.4</b>	<b>2.3</b>	<b>2.0</b>	<b>2.0</b>	<b>2.6</b>	<b>1.6</b>	<b>2.3</b>	<b>2.3</b>

# What do you see?

This table is remarkable in that it provides:

- 8 quarterly projections
- The last 3 quarters data
- The year over annual percent change for the next changes for the next two years.
- Every single row is meaningful ... lets start at the bottom with the real GDP which tells us a lot about our economic health

# Example 1: GDP and the Economies Health

		• 2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP	2.1	<b>2.3</b>	<b>2.1</b>	<b>2.5</b>	<b>2.4</b>	<b>2.4</b>	<b>2.3</b>	<b>2.0</b>	<b>2.0</b>

- First of all, the data is in annualized real quarterly percent returns.
- I see a two year period of steady but anemic economic growth.
- There is no sign of a recession which is defined by two successive negative quarterly growth.
- Over the years we've averaged out at around 3% per year of real growth so the result here is a little disappointing.
- Higher GDP can lead to the economies overheating. No sign here.
- The US is the world's economic Godzilla. Let me tell you a story ...

# You have to know a few things about the GDP ...

Its composed of 4 major contributors – Production, Housing, Government and Balance of Payments.

Of the four, Production is by far the largest contributor and it can be easily tracked by readily available indexes:

1. Retail Sales ... increasing
2. New Factory Orders ... OK but anemic
3. Employment ... help wanted, openings, hires, separations
4. Change in Inventory
5. New hiring ... already at full employment, problem with inflation
6. Supplier Deliveries
7. Production ... OK but look for Capacity Utilization for inflation
8. Factory Shipments ...

You can find these and more in Barron's and if you track them you can see the wave go through this cycle.

Of Manufacturing, the Tables contain projections for:

- Durable Goods
- Non-durables
- Services
- Inventory Changes
- Productivity
- Motor Vehicle Sales

## Example 2: Trade Balance

- Projected change in Exports and Imports are provided to the end of 2018.

	• 2017				2018				
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Exports:	-1.0	<b>1.8</b>	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>2.9</b>	<b>3.2</b>	<b>3.2</b>	<b>3.2</b>
Imports:	2.3	<b>5.0</b>	<b>4.0</b>	<b>2.1</b>	<b>2.5</b>	<b>3.1</b>	<b>2.9</b>	<b>3.1</b>	<b>2.5</b>

Both exports and imports are expected to see continuous growth with imports growing faster in 2017 but export growth will exceed import growth in the last 3 quarters of 2018.

This is good for the economy and the market.

# Another table ...

## Other indicators (Year-over-year % change unless otherwise indicated)

Business and labour																
Productivity	0.1	-0.3	0.0	0.8	1.3	1.7	1.2	1.4	1.4	1.5	1.5	1.4	0.8	0.1	1.4	1.5
Pre-tax corporate profits	-6.6	-4.3	2.8	10.6	7.7	9.0	3.1	2.9	2.9	2.7	2.7	2.4	-3.0	0.4	5.6	2.7
Unemployment rate (%)*	4.9	4.9	4.9	4.7	4.7	4.7	4.6	4.6	4.5	4.5	4.4	4.4	5.3	4.9	4.7	4.5
Inflation																
Headline CPI	1.1	1.0	1.1	1.8	2.5	2.4	2.6	2.2	2.1	2.1	2.2	2.2	0.1	1.3	2.4	2.2
Core CPI	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	1.8	2.2	2.0	2.1
External trade																
Current account balance (\$b)	-527	-473	-437	-475	-497	-509	-515	-522	-530	-536	-543	-546	-463	-478	-511	-539
% of GDP	-2.9	-2.6	-2.4	-2.5	-2.6	-2.6	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.6	-2.6	-2.6	-2.7
Housing starts (000s)*	1151	1159	1145	1180	1190	1202	1218	1236	1257	1279	1302	1327	1108	1159	1212	1291
Motor vehicle sales (millions, saar)*	17.3	17.1	17.5	17.8	17.9	18.0	18.1	18.2	18.2	18.3	18.3	18.4	17.4	17.4	18.1	18.3

# Example 3: More comments about Manufacturing & Car Sales

- Manufacturing is the largest contributor to the GDP
- Motor Vehicle sales is the largest contributor to Manufacturing.
- Did you see what they projected in the last row of the table? Car sales are expected to be up about 5% over the next two years. No bad news here.

	• 2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Car Sales Millions	17.9	18.0	18.1	18.2	18.2	18.3	18.3	18.4

It looks like Car Sales will be up 5% over the next two years. No bad news here either.

# Example 4: The Housing Industry ...

The housing industry is easy to track .

1. Consumer Disposable Income
2. Traffic of Prospective Buyers ... the Lookey- Loo Index
3. New Housing Permits
4. New Housing Starts
5. Housing Completions
6. Housing Sales

		• 2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Res. Inv.	9.2	6.6	3.8	3.9	4.0	4.5	4.8	5.0	5.2

What's not to like about this!

All of this data and more can be found in Barron's weekly or you can get it on the Internet from the National Association of Home Builders, NAHB.com .

## Example 5: Are there any gold bugs in the audience?

- The tables can also tell you what is likely to happen to the price of gold! Did you miss it?
- Take a look at labor productivity in the second table.

	• 2017				2018				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Product.	0.8	1.3	1.7	1.2	1.4	1.4	1.5	1.5	1.4

- Labor Productivity is the Output per Man Hour.
- When it goes up it means that the value of the dollar goes up and that means that the price of gold goes down (after a delay).

# Productivity is the driver for the price of gold.

- This is what we mean by a driver. A drives B in a block diagram when changes in A are followed by changes in B.
- These changes do not necessarily happen immediately. There is often a delay and you can calculate the delay easily with Lotus 123 or Excel if you have a table of the variables against time. (See last page.)
- What this means is that the cross-correlation might be low with no time shift but it might be quite high if you take time into account.
- There is one important thing you have to remember and that is **“Correlation is not necessarily causation.”** Such situations occur frequently in medical research.

# One last table on Interest Rates

	Actual							Forecast					Actual	Forecast	
	15Q1	15Q2	15Q3	15Q4	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	2015	2016	2017
<b>Canada</b>															
Overnight	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Three-month	0.55	0.58	0.43	0.51	0.45	0.49	0.53	0.50	0.50	0.50	0.55	0.60	0.51	0.50	0.60
Two-year	0.50	0.48	0.52	0.48	0.54	0.52	0.52	0.80	0.75	0.80	0.85	0.90	0.48	0.80	0.90
Five-year	0.77	0.82	0.80	0.73	0.67	0.57	0.62	1.15	1.05	1.30	1.55	1.75	0.73	1.15	1.75
10-year	1.36	1.69	1.43	1.40	1.23	1.06	1.00	1.80	1.70	1.90	2.15	2.30	1.40	1.80	2.30
30-year	1.98	2.31	2.20	2.15	2.00	1.72	1.66	2.35	2.30	2.40	2.60	2.80	2.15	2.35	2.80
Yield curve (10s-2s)	86	121	91	92	69	54	48	100	95	110	130	140	92	100	140
<b>United States</b>															
Fed funds*	0.25	0.25	0.25	0.50	0.50	0.50	0.50	0.75	0.75	1.00	1.00	1.25	0.50	0.75	1.25
Three-month	0.03	0.01	0.00	0.16	0.21	0.26	0.29	0.50	0.50	0.75	0.85	1.00	0.16	0.50	1.00
Two-year	0.56	0.64	0.64	1.06	0.73	0.58	0.77	1.25	1.20	1.40	1.60	1.75	1.06	1.25	1.75
Five-year	1.37	1.63	1.37	1.76	1.21	1.01	1.14	2.00	1.90	2.10	2.25	2.35	1.76	2.00	2.35
10-year	1.94	2.35	2.06	2.27	1.78	1.49	1.60	2.55	2.45	2.60	2.75	2.85	2.27	2.55	2.85
30-year	2.54	3.11	2.87	3.01	2.61	2.30	2.32	3.15	3.10	3.15	3.25	3.35	3.01	3.15	3.35
Yield curve (10s-2s)	138	171	142	121	105	91	83	130	125	120	115	110	121	130	110
<b>Yield spreads</b>															
Three-month T-bills	0.52	0.57	0.43	0.35	0.24	0.23	0.24	0.00	0.00	-0.25	-0.30	-0.40	0.35	0.00	-0.40
Two-year	-0.06	-0.16	-0.12	-0.58	-0.19	-0.06	-0.25	-0.45	-0.45	-0.60	-0.75	-0.85	-0.58	-0.45	-0.85
Five-year	-0.60	-0.81	-0.57	-1.03	-0.54	-0.44	-0.52	-0.85	-0.85	-0.80	-0.70	-0.60	-1.03	-0.85	-0.60
10-year	-0.58	-0.66	-0.63	-0.87	-0.61	-0.58	-0.66	-0.75	-0.70	-0.60	-0.55	-0.55	-0.87	-0.75	-0.55
30-year	-0.56	-0.80	-0.67	-0.86	-0.61	-0.58	-0.66	-0.80	-0.80	-0.75	-0.65	-0.55	-0.86	-0.80	-0.55

# Interest rate changes will have an impact ...

- The Fed Funds Rate is expected to go from 0.5 to 1.25 in 2017.
- This rise will force ST interest rates up and after a short lag, will impact corporate profits and the market.
- LT Bond rates are expected to hold steady in the range 3.10 to 3.35%.

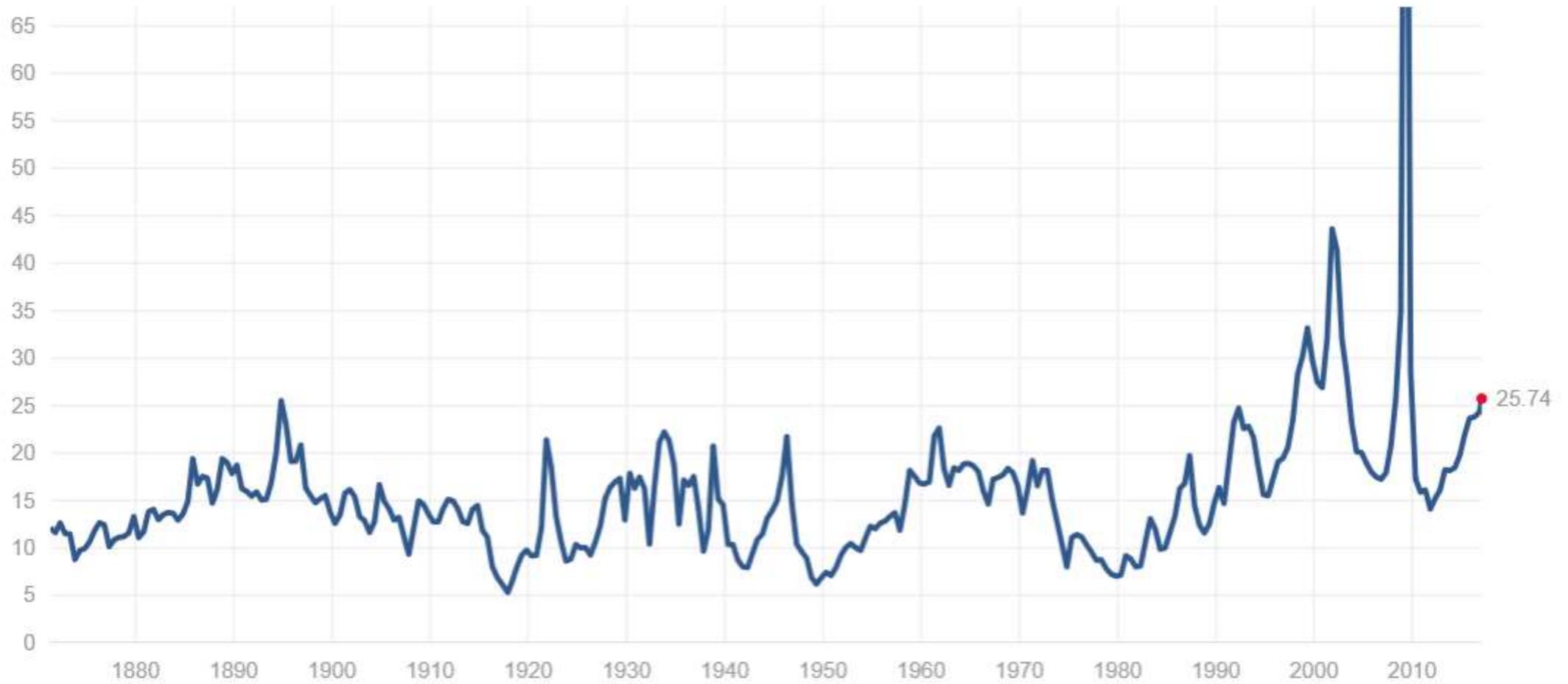
# What does any of this stuff have to do with my making money?

- You may have noticed that many of the line items in the table contribute to Corporate Profitability and there is even one row dedicated to Pre-tax Corporate Profitability.

		2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Corp. Prof.	10.6	7.7	9.0	3.1	2.9	2.9	2.7	2.7	2.4

- If you look at the second RBC table, you will note that Corporate Pre-Tax profitability is up from the past year and it is steady.
- You know that the Price-Earnings ratio is pretty well time stationary because it depends on the intrinsic nature of each company. Increasing Earnings means that the market price is going up and that's the bottom line.

# S&P 500 P/E Ratio stability

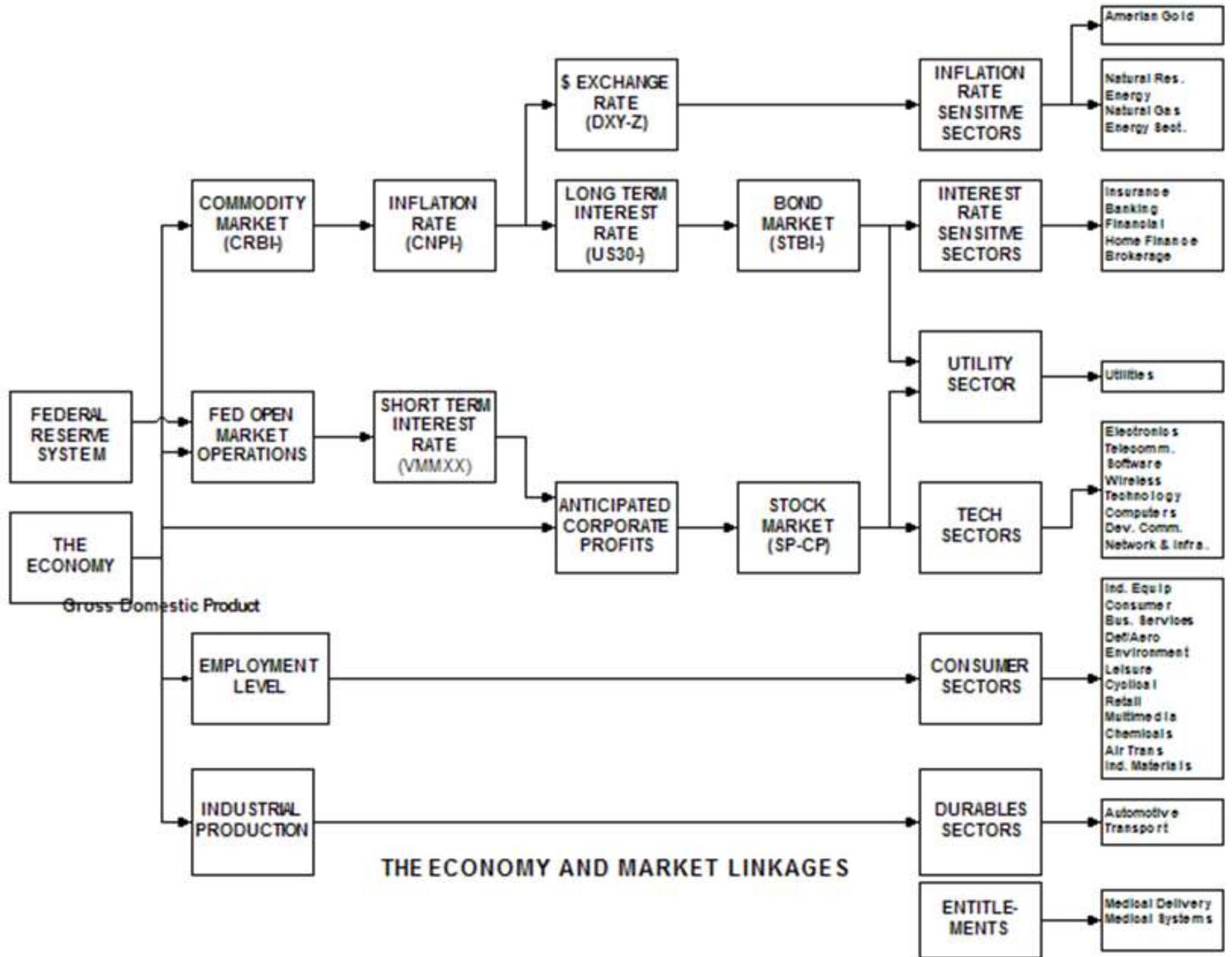


## Earnings drives the market ...

- Market prices and Corporate Earnings are related but the question is to what degree.
- To get the answer we can go to [WisdomTree.com](http://WisdomTree.com) (Jeremy Siegal) and look at the cross-correlations to the S&P 500 of two of their funds:
- EZM WisdomTree MidCap Earnings: 93.4%
- EPS WisdomTree Earnings 500: 98.1
- These very high correlations are what allows us to assert that Corporate Earnings drives Market Prices.
- What about RBCs Projections? Are they worth using?

# Tis only my opinion ...

- Adams Smith made the observation centuries ago that everybody would be better off if they did what they do best.
- In the 1970's an 80's, there were major discussions about what kind of businesses would be best for our country and it was generally agreed that we should be in the businesses of the future and not those of the past and they made their business decisions accordingly.
- In the computer business, we walked away from memory chips which had become a commodity but we stayed dominant in central processors and we still are the leaders by far. We made the right choice.
- Any attempt by our government to restrict trade will ultimately lower our Standard of Living.
- We never did solve the problem of what to do with those people who just can't contribute in an advanced society. I don't think entitlements are the answer but what is?



## If you would like to learn more ...

- There are dozens if not hundreds of simple econometric rules that provide a deep insight into what is likely to happen in the market. (When Capacity Utilization goes above 84%, expect inflation.) (If you want to know how manufacturing is doing, try the Chicago Fed's CFNAI Indicator ... it tells a complete story.)
- Though not currently active (tracking the market), this site is an indicator treasure house. It lists about 70 of the most useful, tells you how to interpret indicator data, and ranks their importance and impact. Try: <http://www.BullAndBearWise.com>  
At one time, when it was being supported, the site also Bullish/Bearish opinion.

# Examples of time-shifted correlations ...

Indicator	Cross-Correlation		Rsqr	
	Value	Weeks	Value	Weeks
New Housing Starts	0.85	113	0.78	99
Producer Price Index	-0.88	31	0.77	38
Leading Economic Indicators	0.93	25	0.72	24
Prices	-0.82	41	0.68	41
Personal Income	-0.70	89	0.63	75
Fed Funds Rate	0.93	33	0.73	10
Productivity	-0.81	30	0.65	30

# Here's the trick ...

For Lotus, 123 C leads B

Cross Correlation = +@CORREL(B\$369..B\$625,C369..C625)

Rsq = +@RSQ(B\$369..B\$625,C369..C625)

For Excel, Range 2 leads Range 1

Cross Correlation = CORREL((\$Range1,Range2)

Rsq = RSQ(\$Range1,Range2)