Strategic International Securities Inc. (SIS)
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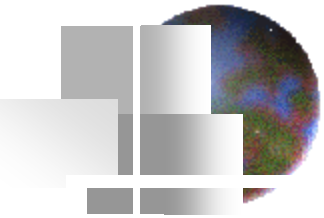

Equity Market Forecasting and Economic Risk

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Equity Market Forecasting and Portfolio Risk

Central Question:

1. Understanding market direction (recession, upturn opportunity costs, downturn non-recession market 10% to 20% corrections) should be a central concern for all portfolio managers.
2. Can we project the S&P 500 six months forward using economic forward looking indicators. We believe we can with a high level of confidence because our approach:

General Principle I: We know that in a down turn or upturn all assets regress to one irrespective of the quality of the company, or the portfolio asset allocation, there is no place to hide.

General Principle II: The markets are driven by revenues & profits (a central component of GDP) with P.E. ratios being a function of expected future growth. **This is where we make our greatest contribution. Critique of most financial research approaches – Total lack of forecasting ability.**

Equity Market Forecasting and Economic Risk

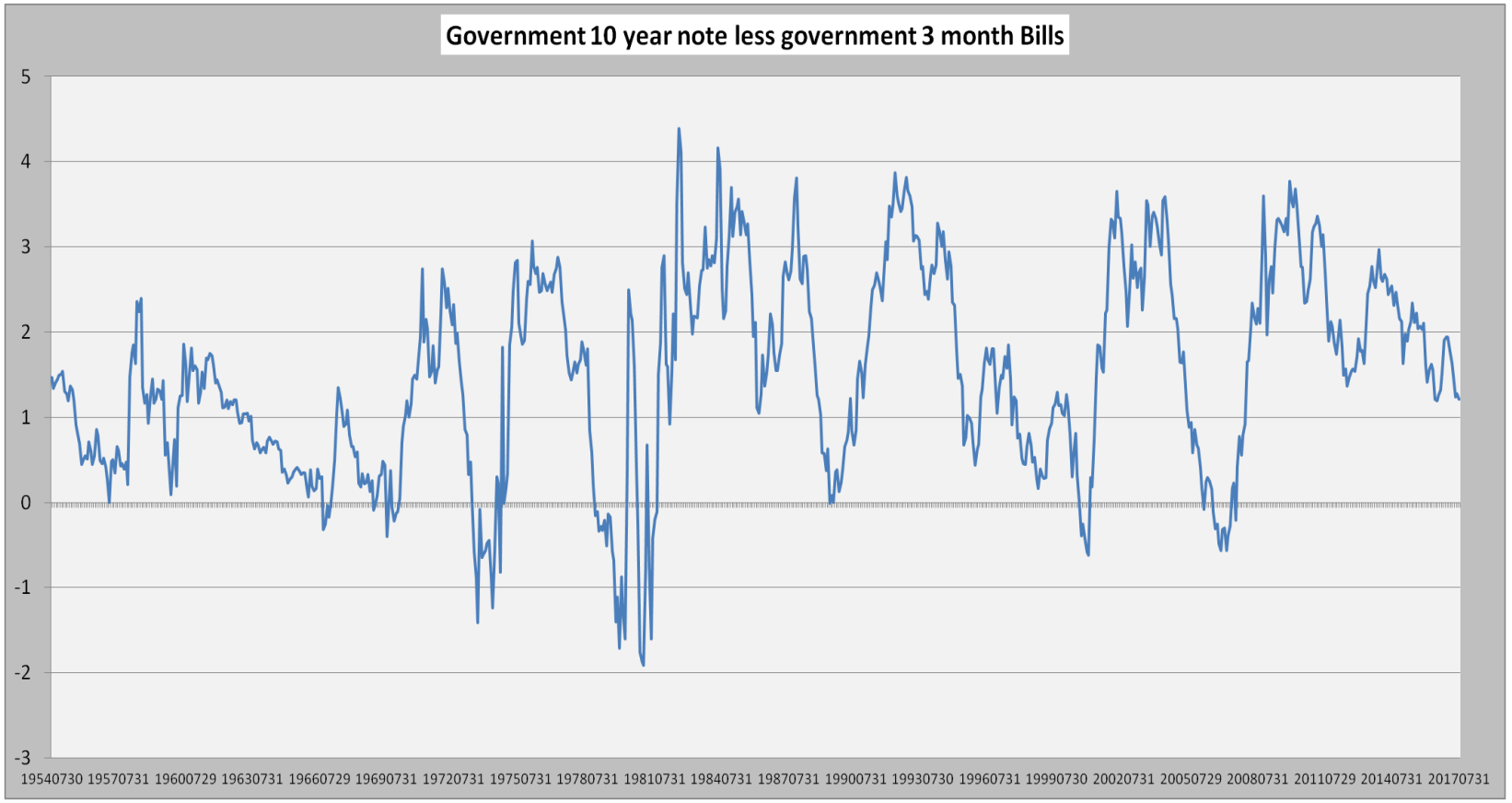
Section I Recession and major Market movement Risk – upside opportunity cost risk & downside 10 to 20% non-recession risk

Equity Market Forecasting and Economic Risk

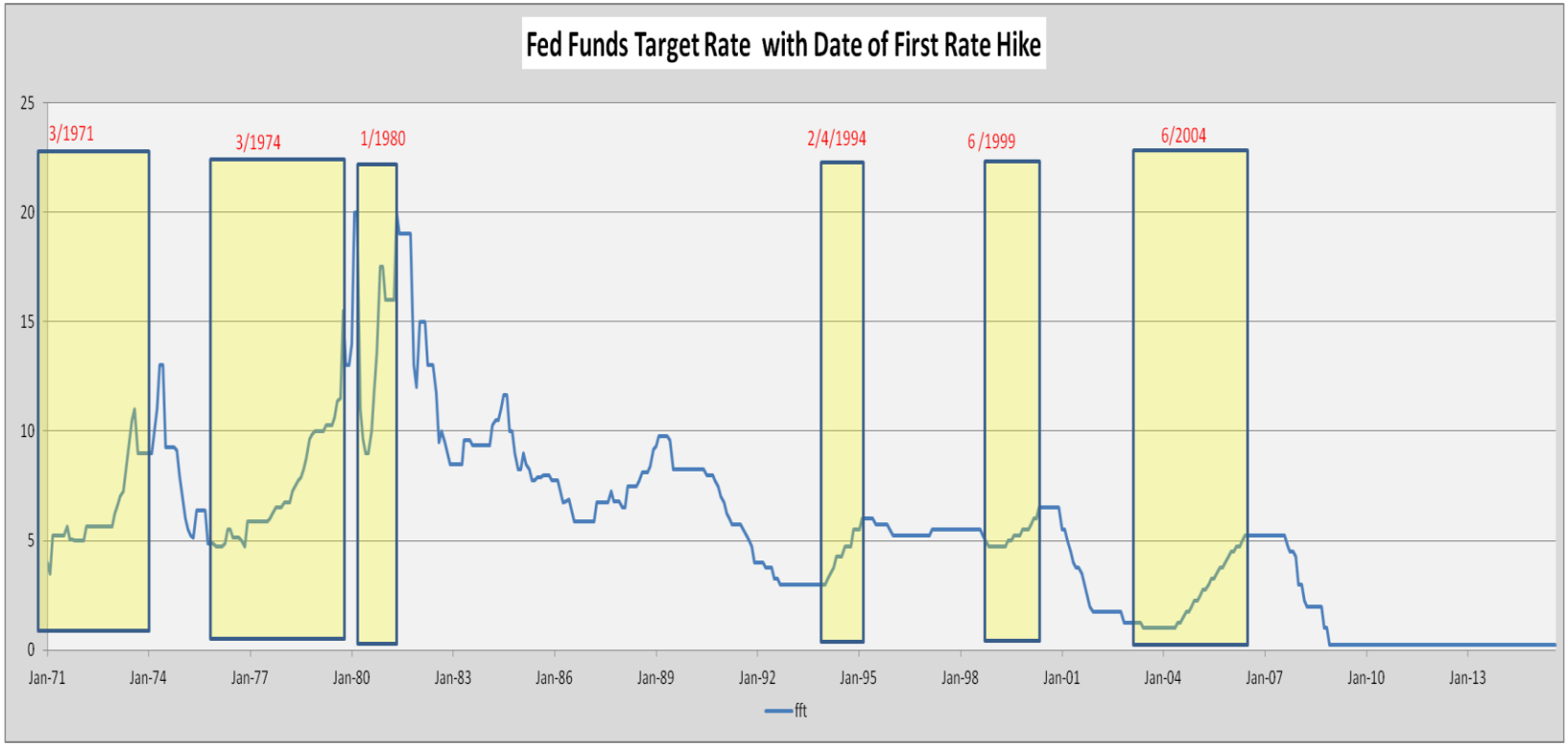
Recession Risk			
Modern Recessions	Major oil Shocks		Inverted Yield Curve
Date	Date	Cause	Date
1969	1969	High rate of Inflation	1969
1973 -1975	1973-4	OPEC Embargo - Yom Kippur War	1973
1980 to 1982	1978-79	Iran Revolution	1979 to 1981
1990 to 1991	1990	First Iraq war	1989
2001			2000
2007	2005-07	China growth Demand	2006

Equity Market Forecasting and Economic Risk

Key point to understand: What drives the 10 year government benchmark note and 3 month bills



Equity Market Forecasting and Economic Risk



Equity Market Forecasting and Economic Risk

Professor James Hamilton who probably is the best economist who studies the impact of oil Shocks on the U.S. economy in a classic 2000 article concluded that:

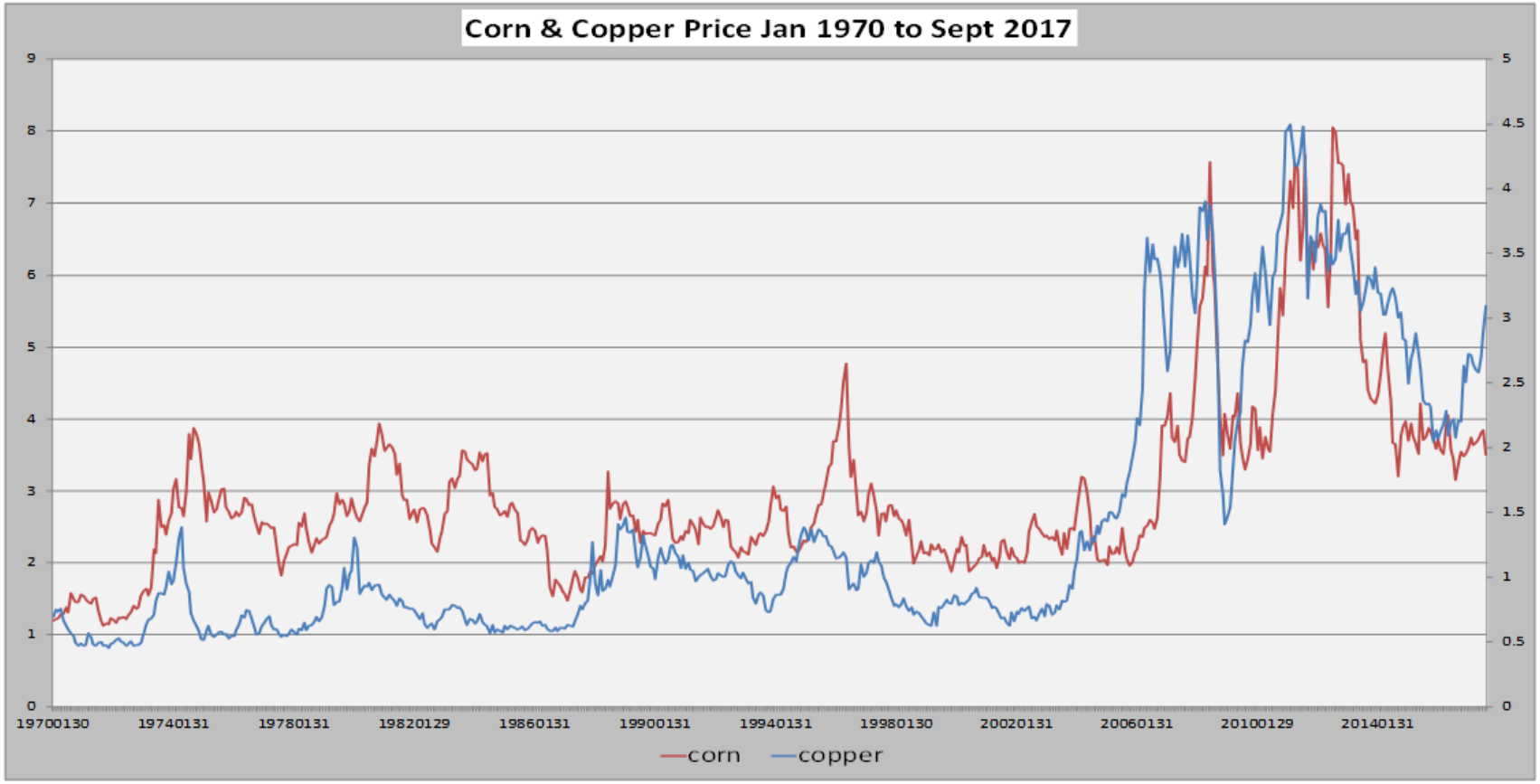
> *"Given the abundant evidence that exogenous disruptions in petroleum supplies lead on to predict lower GDP, the natural conclusion is that the disruption s are an important in causing economic downturns. The evidence suggests that oil shocks matter because they disrupt certain categories of spending by consumers and firms.*

Equity Market Forecasting and Economic Risk

Historically the Fed causing most recessions is very well known fact. Bernanke is an academic article written in 1997 prior to him being on the Federal Reserve Board in any capacity written with Gertler, and Watson summarized that article in a response to a critique of their influential article in 1997, where in 2004 they wrote:

> *The goal of BGW was to show that the magnitude and shape of the economy's response to a particular exogenous shock will typically depend critically on how monetary policy makers choose to react to the shock. As a consequence, we argued that assessments of the importance of monetary policy for real activity should take into account the systematic portion of policy (i.e., the policy rule) as well as the unsystematic component (i.e., monetary policy shocks.) The specific type of exogenous shock that we considered in BGW was a sharp increase in the price of oil, of the magnitude observed during several episodes in the 1970s. Using a modified VAR framework, we considered counterfactual scenarios in which monetary policy (represented by the level of the federal funds rate) does not respond to an oil price shock. We found that the adverse effects of an oil price shock on output are reduced considerably when the endogenous response of the funds rate is "shut off." Indeed, our point estimates suggested that the endogenous response of monetary policy accounted for virtually all the negative impact of the oil shock on output (though, as we discuss in the paper, there is considerable sampling uncertainty about the true response).*(BGW April 2004, Oil Shocks and aggregate Macroeconomic Behavior: The Role of Monetary Policy in the Journal of Money, Credit and Banking)

Equity Market Forecasting and Economic Risk



Equity Market Forecasting and Economic Risk

Commodity Prices	%Δ Y/Y
Energy	
Energy all	8.60%
Metals	
Copper	18.20%
Iron & Steel	9.50%
Aluminum	9.50%
Lumber	7.20%
Grains	
Corn	(-11.4%)
Wheat	(-20.6%)
Livestock	
Cattle	(-6.8%)
Hogs	(-8.9%)
Chickens	(-14.3%)
Turkeys	(-3.6%)

Equity Market Forecasting and Economic Risk

International Manufacturing PMI	Sept 2017	Aug 2017	July 2017	June 2017	May 2017	April 2017	Mar 2017	Feb 2017
Global PMI	53.2	53.2	52.7	52.6	52.6	52.8	53.0	52.9
Canada	55.0	54.6	55.5	54.7	55.1	55.9	55.5	54.7
United States -(Chicago)	65.2	58.9	58.9	65.7	59.4	58.3	57.7	57.4
United States (ISM)	60.8	58.8	56.3	57.8	54.9	54.8	57.2	57.7
United States (Markit)	53.1	53.0	52.8	52.0	52.7	52.8	53.3	54.2
Total	59.7	56.9	56.0	58.5	55.7	55.3	56.1	56.4
Brazil	50.9	50.9	50.0	50.5	52.0	50.1	49.6	46.9
Mexico	52.8	52.2	51.2	52.3	51.2	50.7	51.5	50.6
Total	51.9	51.6	50.6	51.4	51.6	50.4	50.6	48.8
EuroZone	58.2	57.4	56.6	58.5	57.0	56.7	56.2	55.4
Austria	59.4	61.1	60.0	60.7	58.0	58.1	56.8	57.2
Czech Republic	56.6	54.9	55.3	56.4	56.4	57.5	57.5	57.6
France	56.0	55.8	54.9	54.8	53.8	55.1	53.3	52.2
Germany	60.6	59.3	58.1	59.6	59.5	58.2	58.3	56.8
Greece	52.8	52.2	50.5	50.5	49.6	48.2	46.7	47.7
Ireland	55.4	56.1	54.6	56.0	55.9	55.0	53.6	53.8
Italy	56.3	56.3	55.1	55.2	55.1	56.2	55.7	55.0
Netherlands	60.0	59.7	58.9	58.6	57.6	57.8	57.8	58.3
Poland	52.5	52.5	52.3	53.1	52.7	54.1	53.5	54.2
Russia	51.9	51.6	52.7	50.3	52.4	50.8	52.4	52.5
Spain	54.3	52.4	54.0	54.7	55.4	54.5	53.9	54.8
Turkey	53.5	55.3	53.6	54.7	53.5	51.7	52.3	49.7
United Kingdom	55.9	56.9	55.3	54.3	56.7	57.3	54.2	54.6
Total	56.0	55.8	55.1	55.5	55.3	55.1	54.4	54.3
China Caixin	51.0	51.6	51.1	50.4	49.6	50.3	51.2	51.7
Japan	52.9	52.2	52.1	52.4	53.1	52.7	52.9	53.3
India	51.2	51.2	47.9	50.9	51.6	52.5	52.5	50.7

Equity Market Forecasting and Economic Risk

Sept 2017 PMI Summary

Eurozone - record high at 58.1
Germany - 77 month high
Netherlands 79 month high
Austria just off 77 month high
Italy unchanged from 77 month high last month
France 77 month high
Greece 111 month high

Last month **China** was at a 37 month high this month the reading was down slightly
Brazil was at a solid 7 month high
Mexico was at a 16 month high from the March 2016 lows
Canada was at a very solid 55.0 at the top of the range since the March 2016 lows when commodity prices began to recover.

Equity Market Forecasting and Economic Risk

Opportunity Cost Risk:

Risk considerations should not be limited to Recession risk alone but should also include opportunity cost risk.

Examples of recent opportunity cost risks:

1. 2009 when the markets surged coming out of the recession
2. 2010 when the markets rose over 50% in a 2 year period following QE
3. 2014 to March 2016 – QE tapper, oil price collapse, Option adjust Spread blow out
4. March 2016 to November 2016 – Commodity sector recovery
5. November 2016 to present – Trump reflation trade

The remainder of this presentation will focus on the SISR model that was developed to help managers with both recession risk and opportunity cost risk.

Equity Market Forecasting and Economic Risk

Section II: Market Direction & the SISR LMI Macro Model

The SISR –LMI Macro Model

Central Question Direction of the Market (given that all assets regress to 1 in either up or down markets

Dominant forecasting Approach –GDP as Dependent Variable

SISR –LMI – S&P 500 as Dependent Variable

Conference board –LEI
ECRI
OECD
IMF

Central Focus:
Country GDP

SISR-LMI Method

1. Use S&P 500 as the dependent variable not GDP .
2. Do stepwise regression on all economic variables
3. Create factor weightings with 6 month forward
4. Use coefficient weighting to project the expected forward level for the S&P 500 based on the significant variables and best fit from the stepwise regression.

Influences:
Friedman: "Money and Market cycles"
Friedman student: Beryl Sprinkel: "Money and stock Prices"

Influence II:
APT factor models

A Framework For International Investing

There are two theoretical Frameworks for deriving national income and possibly forecasting it. The more intuitive approach for the markets is the Income expenditure Approach.

The **Income Expenditure Approach** focusing on breaking down the GDP components GDP = C + I +G + (Ex –IM). This focuses on sectors of the economy and has the advantage of being good at looking at how different policy choices may impact the U.S. economy.

The **Quantity Theory Approach** which is central to the SISR-LMI (Leading market indicator) model essentially ignores sector effects, fiscal policy distortions and redistribution of wealth to both individuals and economic sectors. The advantage here is the focus on changes on money supply, which has a 6 month lag effect to it full impact on the economy, where: M=kPy or money is a ratio of National Income. **At full employment** ΔM leads to higher prices.

A Framework For International Investing

Table 1. Estimated Monthly Sales for Retail and Food Services, by Kind of Business

(Total sales estimates are shown in millions of dollars and are based on data from the Advance Monthly Retail Trade Survey, Monthly Retail Trade Survey, and administrative records.)

NAICS[1] code	Kind of Business	Not Adjusted							Adjusted[2]				
		8 Month Total		2017			2016		2017			2016	
		2017	% Chg 2016	Aug.[3] (a)	Jul. (p)	Jun. (r)	Aug.	Jul.	Aug.[3] (a)	Jul. (p)	Jun. (r)	Aug. (r)	Jul. (r)
	Retail & food services, total	3,742,569	3.8	489,851	476,699	483,261	473,169	463,245	474,841	475,830	474,488	460,244	459,744
	Total (excl. motor vehicle & parts)	2,949,775	3.7	384,711	374,337	380,443	369,961	364,485	377,993	377,407	376,043	364,789	364,969
	Retail	3,290,526	3.9	432,745	419,479	425,838	417,702	406,853	418,244	419,400	418,025	404,943	404,835
	GAFO[4]	(*)	(*)	(*)	102,536	102,988	106,629	102,144	(*)	106,270	106,172	104,682	104,960
441	**Motor vehicle & parts dealers**	792,794	3.9	105,140	102,362	102,818	103,208	98,760	96,848	98,423	98,445	95,455	94,775
4411, 4412	Auto & other motor veh. dealers	732,691	4.3	97,184	94,778	94,991	95,198	91,198	89,488	90,958	91,075	87,983	87,354
44111	New car dealers	(*)	(*)	(*)	77,859	76,540	79,744	76,002	(NA)	(NA)	(NA)	(NA)	(NA)
4413	Auto parts, acc. & tire stores	(*)	(*)	(*)	7,584	7,827	8,010	7,562	(NA)	(NA)	(NA)	(NA)	(NA)
442	**Furniture & home furn. stores**	73,896	4.0	10,073	9,405	9,572	9,513	9,124	9,630	9,587	9,639	9,138	9,188
4421	Furniture stores	(*)	(*)	(*)	4,924	4,939	4,958	4,863	(NA)	(NA)	(NA)	(NA)	(NA)
4422	Home furnishings stores	(*)	(*)	(*)	4,481	4,633	4,555	4,261	(NA)	(NA)	(NA)	(NA)	(NA)
443	**Electronics & appliance stores**	59,723	-1.8	7,851	7,436	7,625	8,122	7,655	7,932	7,991	8,069	8,221	8,177
44311, 13	Appl., T.V. & camera	(*)	(*)	(*)	5,578	5,726	6,302	5,947	(*)	5,823	5,921	6,178	6,163
44312	Computer & software stores	(*)	(*)	(*)	(S)	(S)	(S)	(S)	(*)	(S)	(S)	(S)	(S)
444	**Building material & garden eq. & supplies dealers**	253,290	7.1	32,530	32,652	36,288	30,078	30,194	31,121	31,274	30,986	28,950	28,966
4441	Building mat. & sup. dealers	(*)	(*)	(*)	28,509	30,948	26,967	26,873	(*)	26,972	26,888	25,345	25,376
445	**Food & beverage stores**	471,131	1.9	60,273	60,587	59,636	58,607	59,897	59,595	59,433	59,310	58,360	58,201
4451	Grocery stores	422,140	1.7	53,843	53,951	53,107	52,414	53,385	53,152	52,997	52,895	52,153	51,981
4453	Beer, wine & liquor stores	(*)	(*)	(*)	4,729	4,606	4,421	4,692	(*)	4,512	4,494	4,390	4,402
446	**Health & personal care stores**	217,938	0.0	28,017	26,683	27,551	27,922	26,564	27,685	27,651	27,606	27,536	27,527
44611	Pharmacies & drug stores	(*)	(*)	(*)	21,989	22,691	22,994	22,158	(*)	22,669	22,782	22,744	22,890
447	**Gasoline stations**	297,804	8.1	39,593	38,477	38,648	37,157	38,162	36,626	35,726	35,985	34,437	35,172
448	**Clothing & clothing accessories stores**	161,056	0.5	22,589	20,698	20,427	22,248	20,487	21,620	21,831	21,726	21,499	21,369
44811	Men's clothing stores	(*)	(*)	(*)	677	783	680	640	(*)	762	773	726	713
44812	Women's clothing stores	(*)	(*)	(*)	3,081	3,211	3,343	3,095	(*)	3,342	3,331	3,390	3,328
44814	Family clothing stores	(*)	(*)	(*)	8,476	8,141	8,545	8,430	(NA)	(NA)	(NA)	(NA)	(NA)
4482	Shoe stores	(*)	(*)	(*)	2,921	2,709	3,834	3,008	(*)	2,962	2,977	3,033	3,017

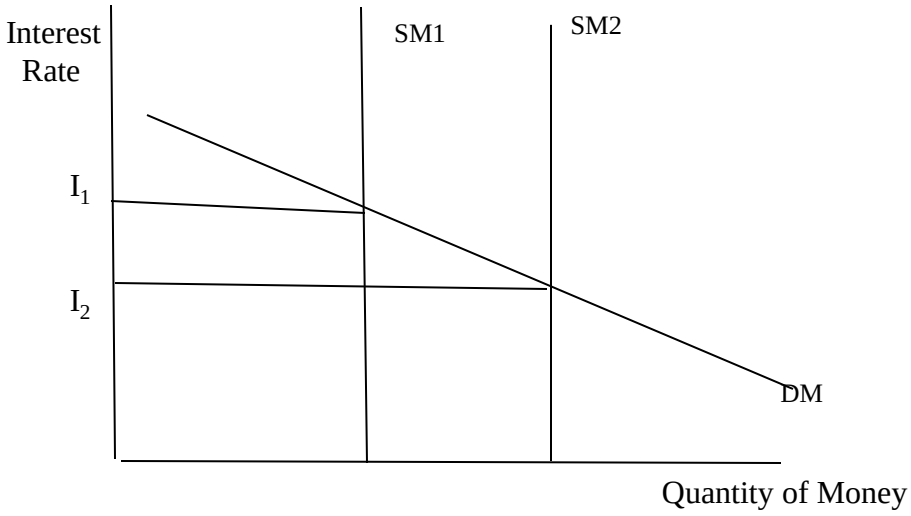
A Framework For International Investing

Table 1. Durable Goods Manufacturers' Shipments and New Orders [1]

[Estimates are shown in millions of dollars and are based on data from the Manufacturers' Shipments, Inventories, and Orders Survey.]

Item	Seasonally Adjusted						Not Seasonally Adjusted					
	Monthly			Percent Change			Monthly			Year to Date		
	Aug 2017 [2]	Jul 2017 [r]	Jun 2017	Jul - Aug [2]	Jun - Jul [r]	May - Jun	Aug 2017 [2]	Jul 2017 [r]	Aug 2016	2017	2016	Percent Change 2017/2016
DURABLE GOODS												
Total:												
Shipments	237,199	236,513	236,311	0.3	0.1	0.0	249,200	216,232	238,237	1,875,350	1,814,814	3.3
New Orders [4]	232,798	228,910	245,705	1.7	-6.8	6.4	235,596	208,815	224,377	1,843,684	1,755,654	5.0
Excluding transportation:												
Shipments	158,881	157,675	157,569	0.8	0.1	0.3	166,296	151,153	157,336	1,253,520	1,196,252	4.8
New Orders [4]	155,425	155,137	153,944	0.2	0.8	0.0	159,071	148,047	150,152	1,234,447	1,171,926	5.3
Excluding defense:												
Shipments	224,823	224,213	224,266	0.3	0.0	0.1	236,834	205,460	226,865	1,780,755	1,726,410	3.1
New Orders [4]	220,070	215,249	233,645	2.2	-7.9	6.4	225,273	197,797	214,327	1,752,277	1,671,128	4.9
Manufacturing with unfilled orders:												
Shipments	166,919	167,249	166,404	-0.2	0.5	0.0	174,556	153,788	165,419	1,318,738	1,263,109	4.4
New Orders	166,979	163,976	180,446	1.8	-9.1	9.1	165,612	150,808	156,337	1,321,691	1,236,012	6.9
Primary metals:												
Shipments	19,637	19,310	19,277	1.7	0.2	-0.6	20,899	18,455	18,675	156,615	141,942	10.3
New Orders	19,636	19,583	19,483	0.3	0.5	0.4	20,394	18,854	18,050	157,806	142,485	10.8
Fabricated metal products:												
Shipments	32,048	31,805	31,922	0.8	-0.4	0.1	34,624	30,679	32,225	253,812	236,905	7.1
New Orders	32,540	32,679	32,389	-0.4	0.9	0.1	34,324	31,650	31,216	260,402	239,313	8.8
Machinery:												
Shipments	31,433	31,088	31,074	1.1	0.0	0.5	31,654	29,156	29,580	247,714	239,534	3.4
New Orders	31,863	31,782	31,796	0.3	0.0	0.5	31,884	29,846	29,921	252,957	237,848	6.4
Computers and electronic products [4]:												
Shipments	27,072	26,875	26,603	0.7	1.0	0.7	27,309	25,245	26,381	207,130	198,402	4.4
New Orders	22,818	22,532	22,013	1.3	2.4	-0.2	21,543	20,700	20,704	173,660	169,812	2.3
Computers and related products:												
Shipments	2,029	2,066	1,933	-1.8	6.9	-1.0	1,813	1,732	1,809	15,040	15,230	-1.2
New Orders	2,059	2,107	1,976	-2.3	6.6	1.2	1,843	1,773	1,811	15,237	15,227	0.1
Communications equipment:												
Shipments	2,907	2,940	2,969	-1.1	-1.0	-0.6	2,749	2,597	2,864	22,690	22,186	2.3
New Orders	3,161	3,039	3,052	4.0	-0.4	1.4	2,717	2,640	2,617	24,122	23,728	1.7
Electrical equipment, appliances, and components:												
Shipments	9,958	9,989	10,153	-0.3	-1.6	0.9	10,506	9,478	10,494	79,686	78,392	1.7
New Orders	9,858	9,868	9,700	-0.1	1.7	-4.7	10,249	8,912	10,530	80,018	80,239	-0.3
Transportation equipment:												
Shipments	78,318	78,838	78,742	-0.7	0.1	-0.6	82,904	65,079	80,901	621,830	618,562	0.5
New Orders	77,373	73,773	91,761	4.9	-19.6	19.1	76,525	60,768	74,225	609,237	583,728	4.4
Motor vehicles and parts:												
Shipments	54,209	53,184	54,128	1.9	-1.7	-0.8	58,932	43,199	57,478	432,452	428,383	0.9
New Orders	53,886	53,100	54,261	1.5	-2.1	-0.8	58,739	43,063	58,204	432,851	427,123	1.3
Nondefense aircraft and parts:												
Shipments	11,507	12,999	12,033	-11.5	8.0	0.7	11,419	11,114	11,468	90,933	94,879	-4.2
New Orders	10,521	7,267	25,123	44.8	-71.1	129.2	7,002	7,103	4,287	82,032	66,600	23.2
Defense aircraft and parts:												
Shipments	4,067	4,065	4,107	0.0	-1.0	0.5	4,033	3,317	3,883	30,422	29,906	1.7
New Orders	4,108	5,429	3,725	-24.3	45.7	5.6	2,823	4,355	3,728	32,194	32,010	0.6

Basic Framework differences between the Quantity Theory and Income Expenditure Approach – Short Run (LM curve)



Key Points

1. Higher Money Supply lower interest rate
2. Quantity Theory no framework for understanding allocation or Income
3. Income expenditure approach best on allocation of Income with no focus on money supply
4. Quantity theory better on Inflation and interest rates
5. Quantity Theory fiscal policy is not important, all it does is cause a distortion in income distribution.

Quantity or Monetary Theory Approach

$Y = M*T$

$\Delta M = \Delta \prod + \Delta g$

$\Delta \prod = \Delta M - \Delta g$

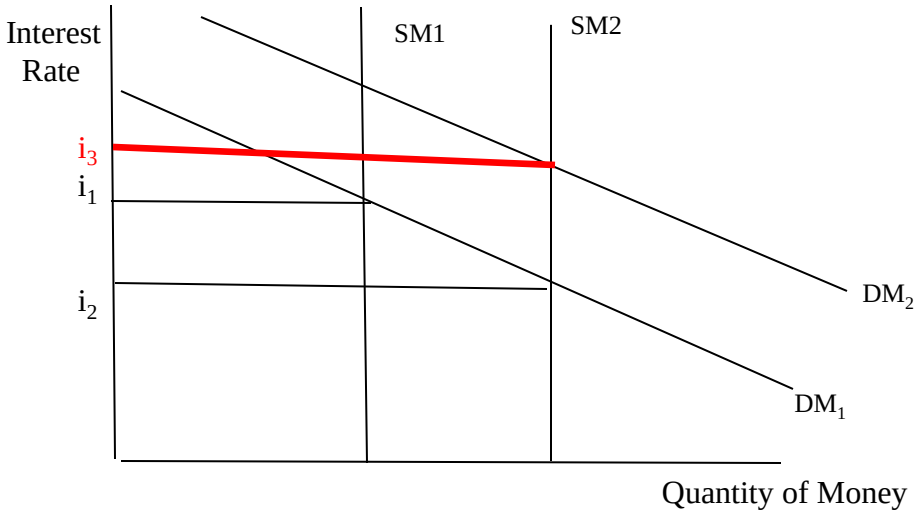
$\Delta i_t = f(\prod_t + D_{mt})$

Income Expenditure Approach

$GDP = C + I + G + EX$

$Y = GDP$

Basic Framework Long Run (LM curve)



Key Issues:

1. How Long is the Lag Effect on a Δ M (6 to 9 months)
2. The Output Gap (Difference between potential and actual GDP): how to increase GDP or Y
3. Understanding Fiscal and exogenous events (Income & Expenditure approach only

Quantity or Monetary Theory Approach

$Y = M*T$

$\Delta M = \Delta \prod + \Delta g$

$\Delta \prod = \Delta M - \Delta g$

$\Delta i_t = f(\prod_t + D_{mt})$

Income Expenditure Approach

$GDP = C + I + G + EX$

$Y = GDP$

A Framework For International Investing

Milton Friedman in 1988 wrote a fairly obscure article titled: “Money and the stock market” this followed his much better work “Money and the Business Cycle.” from the early 1960’s.

In those articles Friedman argued that with a lag of 6 to 9 months the stock market will follow the growth rate of M2. Part of this work was based on his now classic work with Anna Schwartz on money supply and the great depression.

The Logic for Friedman was that if the change in money supply affects the economy with a 6 to 9 month lag, and the assumption made above that the stock market is a reflection of the economy, then money supply should lead the markets.

A Framework For International Investing

Since most individuals likely believe the S&P and most indices are driven by revenues & profits with P.E. ratios a function of expected growth, and **if:**

1. We have national income which is a proxy for revenues, and
2. We know that money supply leads changes in national income with a 6 to 9 month lag.

Then:

Can we forecast the markets 6 months forward?

We believe we can.

The Macro Indicators as Graded by Briefing.com

Grading the Indicators

Indicator	Grade	Indicator	Grade
Non Farm Payrolls	A	Personal Income	C+
Unemployment Rate	A	Initial Claims	C+
Hours Worked	A	New Home Sales	C+
Retail Sales	A-	Imports & Expert Prices	C+
CPI	B+	International Trade Balance	C+
GDP	B	Existing Home Sales	C
ISM Manufacturing	B	Auto Sales	C-
ISM Services	B	Business Inventories	C-
Chicago PMI	B	Productivity & Costs	D+
Philadelphia Fed.	B	Factory Orders	D+
Durable Goods	B	Atlanta Fed	D+
Confidence Conference Board	B-	Richmond Fed	D
Michigan Confidence	B-	Construction Spending	D
Housing Starts & Permits	B-	Leading Indicators	D-
Industrial Production	B-	Wholesale Inventories	D-
PPI	B-	Consumer Credit	D-

Intellectual History of Macro Model

Almost every morning there is some Macro data that is reported by either the Government or other major data providing institutions.

The **Macro Model:**

There are approximately 100 major economic indicators which are reported either weekly or monthly, with several other financial indicators like various specific interest rates, and the yield curve spread

Briefing.com as seen in the prior slide has graded these indicators with grades of A to D- based on their assessments of the importance of each of these indicators to the markets.

Problem with simple grading system: All that can be said is that the important indicators have been good, or an important indicator was not good, and a less important indicator was weak: without being able to say what that really means.

The SISR macro model addresses this issue, by running an econometric macro model on all these indicators, and determining on a stepwise basis, which are the indicators that add value to our understanding of future expected market returns.

The SISR Macro Model Key Variable

Beginning with all 32 indicators and using some addition financial metrics we ran a stepwise regression using the 6 month change in the S&P 500 moved forward by 6 months to create the dependent variable.

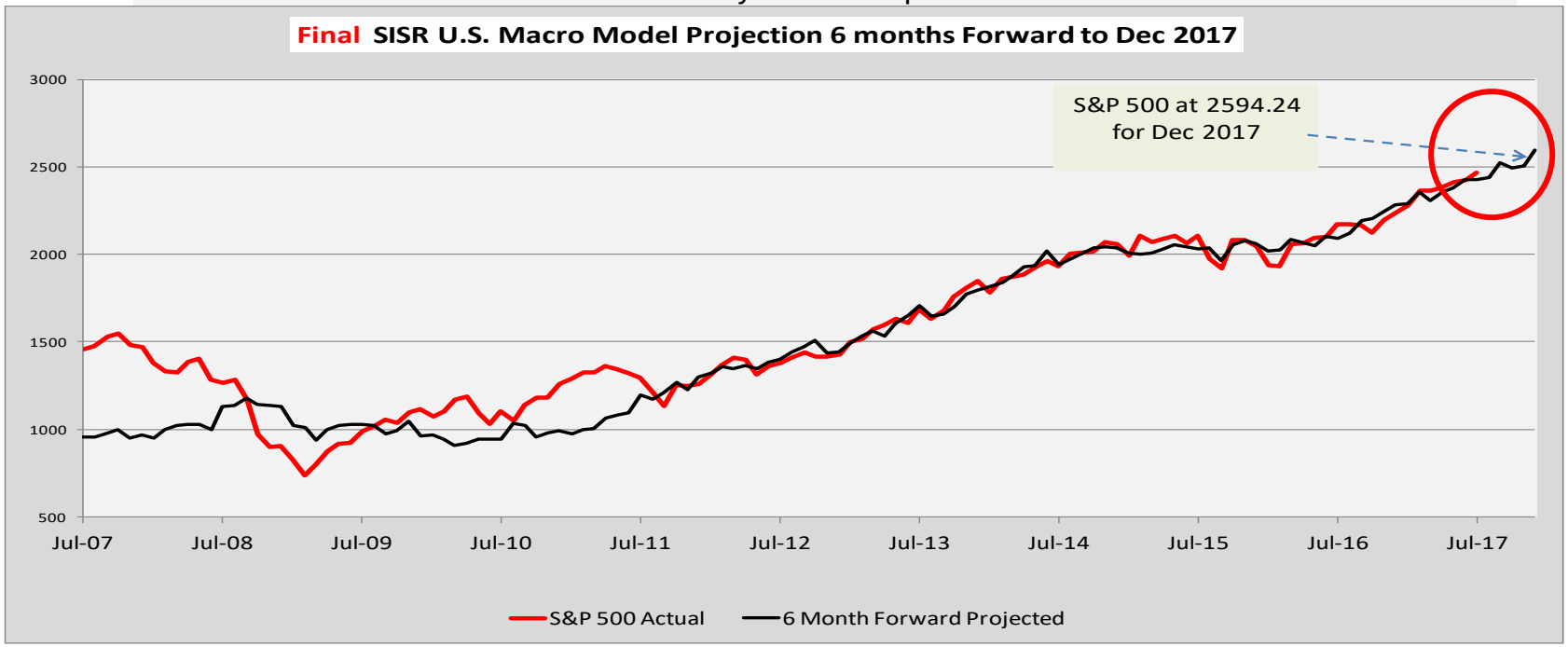
The following elements survived the stepwise regression. These indicators deviate from what the Briefing grading system would recognize as the most important data points.

1. M2 – graded D- (an old critical component of the LEI)
2. 10 year note minus the 2 year Benchmark bond – Graded D- (a critical component of the LEI)
3. Bank Lending total –not graded
4. Trade weighted dollar – not graded
5. Initial Claims - Graded C+
6. Personal Income – Graded C+
7. Personal Expenditures –not graded
8. S&P 500 EPS trailing 12M–not graded (better fit than forward EPS)

The SISR-LMI Macro Forecasting Model has 4 central components from the LEI leading economic indicator index: initial claims, M2, the 10 year FF spread, and Manufacturing new orders, and 2 two components from their coincident index: personal income and Expenditures. This should not be a complete surprise, because the LEI series is an important indicator**, despite its D- grade by Briefing.**

Current S&P 500 Projection Six Month Forward

Model for Projected Returns and Six Month Forward S&P 500 Expected Return
January 2000 to Sept 2017



Source: SISR, proprietary model

Current 10 year Government Bond Projection Six Month Forward