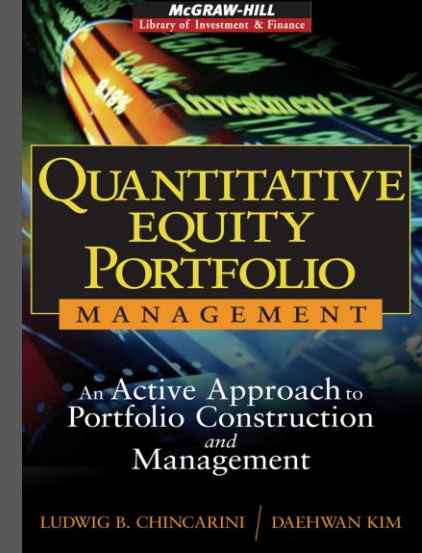


The Alternatives to Alternatives

Speaking Notes
April 5, 2016



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University of San Francisco
United States Commodity Funds

**CANTOR FITZGERALD - INVESTMENT REVOLUTION: THE FUTURE OF
INVESTING AND RISK MANAGEMENT
APRIL 5, 2016**

- Thank you for coming. Thanks to Cantor Fitzgerald, Lori McKnight, and United States Commodity Funds.



1. How do you invest in oil?

Notes

- a. Buy oil companies or oil company ETFs.*
- b. Buy oil futures or oil futures ETFs.*

Which one is better?

- 1. What do you mean by better?*
- 2. Benefits/Drawbacks to each*

2. Benefits and Drawbacks to Oil Investing

Table 5: Summary Statistics from Oil Investing ETFs

	IYE	XOP	OIL	DBO	USO	USL
Investment Period: January 08, 2007 - December 31, 2015						
Mean	5.22	5.86	-12.60	-6.22	-10.16	.
S.D.	30.60	39.81	36.04	30.78	34.61	.
Sharpe	0.15	0.13	-0.37	-0.22	-0.31	.
Excess BM1	8.69	9.33	-9.13	-2.75	-6.69	.
Excess BM2	10.98	11.63	-6.83	-0.45	-4.40	.
T.E. 1	33.81	36.37	16.66	20.39	16.59	.
T.E. 2	32.73	35.26	13.46	17.75	13.51	.
β_1	0.69	0.56	0.97	1.08	1.01	.
β_2	0.69	0.56	0.98	1.09	1.02	.
nobs	2261	2261	2261	2261	2261	.

Notes

1. *Buying more than oil with oil companies (management, oil hedging, different cycle) and doesn't track well.*
2. *Oil futures – contango and market crowding cause drag, but tracks movements best.*

3. Oil Investing – Negative Returns when Spot Oil has Positive Returns – Come again?

Notes

a. Relationship between spot and futures

$$F_{t,T} = S_t e^{(c-y)(T-t)}$$

b. Contango and Backwardation

c. Normal Contango and Normal Backwardation

d. Where is the risk premium?

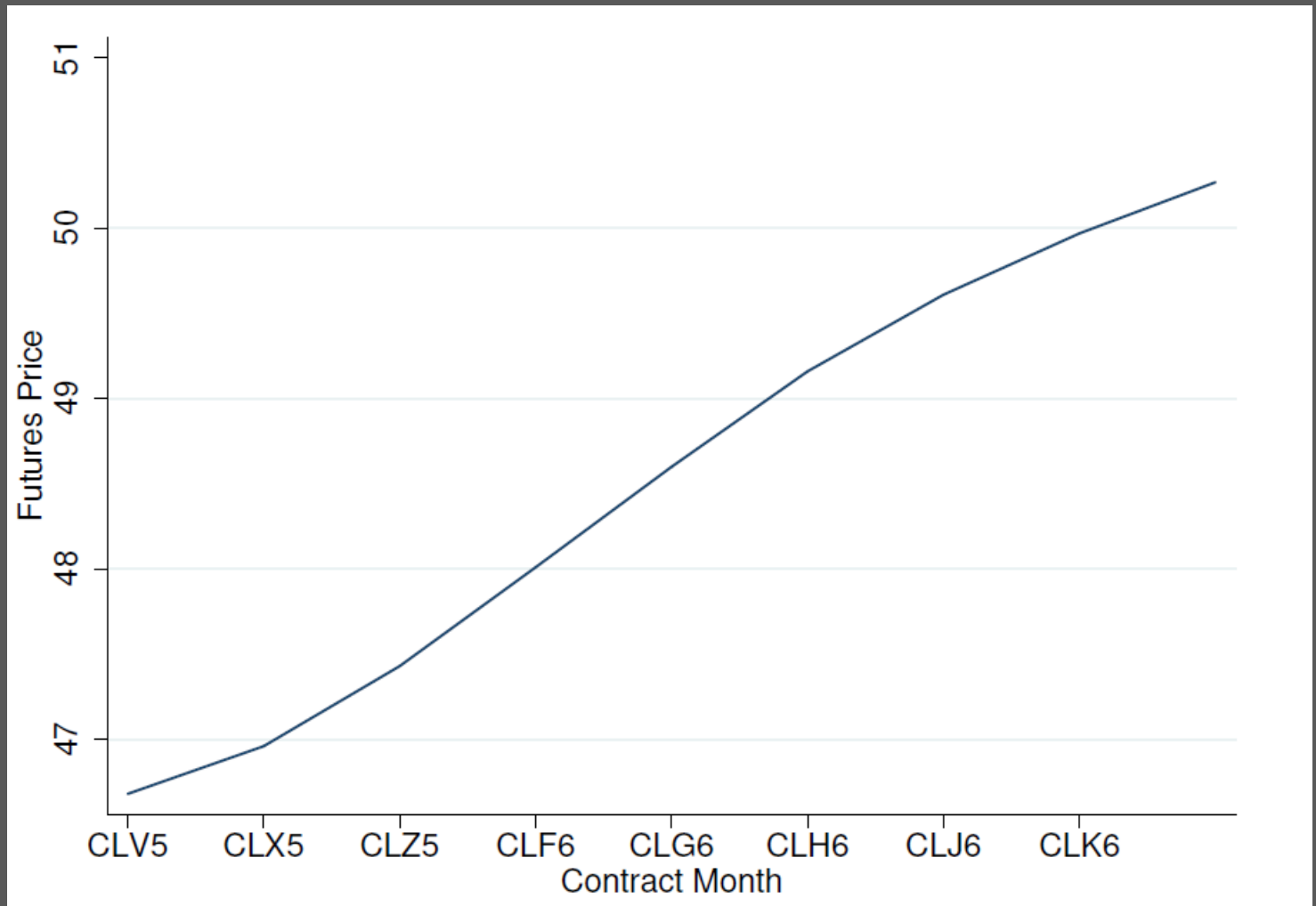
$$E(S_T) > F_{t,T}$$

$$E(S_T) < F_{t,T}$$

Simple Example: Contango is 2% ($(F-S)/F = 0.02$). Oil increases by 0.5%, oil futures strategy loses 0.5%.

3. Oil Investing – Negative Returns when Spot Oil has Positive Returns – Come again?

Notes



3. Oil Investing – Negative Returns when Spot Oil has Positive Returns – Come again?

Notes

Table 3: Cumulative Returns from Futures Rolling

Strategy	Futures Investing					Spot	New Benchmarks	
	“Roll”	“Spot”	Futures	Cash	Fut & Cash		BM1	BM2
Investment Period: 1994 - December 2015								
Fut1Roll0	-170.39	344.05	173.67	74.72	350.42	143.48	-89.90	173.67
Fut2Roll0	-426.14	568.66	142.51	74.72	299.51	143.48	-89.90	173.67
Fut3Roll0	-480.62	712.04	231.42	74.72	448.01	143.48	-89.90	173.67

Oh my!



4. Asset Allocation with Commodities

Notes

- a. Research has shown that both OIL and GOLD is important for an asset allocation that provides sufficient real returns.*
- b. When a broad basket of commodities is available, it may be more important than any individual commodity in your asset allocation.*
- c. In severe inflationary crises, the importance of commodities, in particular oil, may be more important.*

4. Asset Allocation with Commodities

Notes

EXHIBIT 8

U.S. Investment Allocation with Average 4.5% Real Return

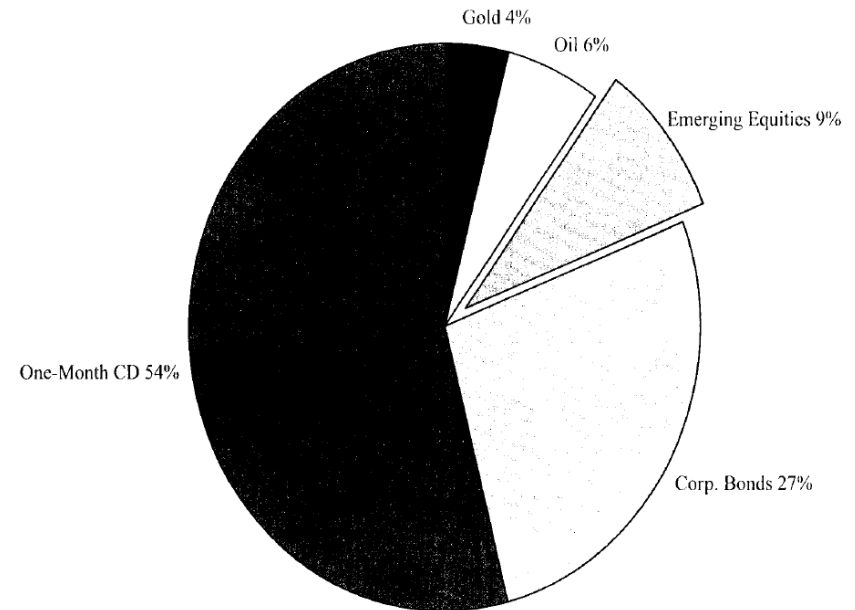


EXHIBIT 7

Optimal Portfolios in Inflationary and Deflationary Episodes

Start	End	Equity Index	Equities		Commodities				Cash		Bonds	Real Estate
			Emerging Equities	World Equities	Oil	Silver	Gold	Wheat	One-Month CD	T-Bill	World Bonds	REIT
Inflationary Periods												
1916:08	1920:10	16.57	—	—	63.33	20.10	0	—	—	0	—	—
1946:06	1948:07	0	0	0	0	18.21	18.02	63.77	—	0	0	—
1973:05	1982:06	0	10.54	0	9.28	0	0	0	61.72	0	0	17.57
Deflationary Periods												
1920:11	1922:09	0	—	—	18.31	2.92	78.75	—	—	0	—	—
1930:09	1933:05	0	0	7.14	23.11	0	0	0	—	32.09	37.66	—

Note: In-sample optimal portfolios created over specific historical period that coincides with either high inflation or deflation.

References

1. Chincarini, Ludwig B., Love, John, Ngim, Andy, and Nguyen, Robert. "Understanding Oil Investing," Unpublished Manuscript.
2. Bruno, Sal and Ludwig B. Chincarini. A Multi-Asset Approach to Inflation Hedging for a US Investor, *Journal of Portfolio Management*, Spring 2011.

Open Discussion

Thank you

- Dr. Ludwig Chincarini , CFA
- University of San Francisco
- United States Commodity Funds

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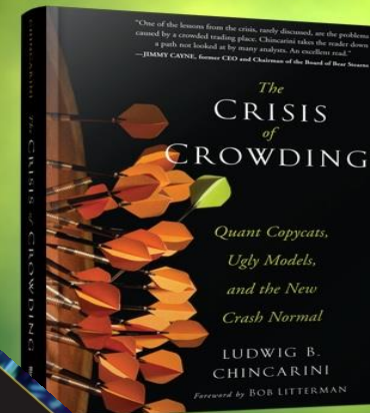
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