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Market Cycle Analysis

Physical Cycle

Demand, Supply and Vacancy affect Rental Growth
Market Cycle Quadrants

Phase 1 - Recovery
- Declining Vacancy
- No New Construction

Phase 2 - Expansion
- Declining Vacancy
- New Construction
- More Completions

Phase 3 - Hypersupply
- Demand/Supply Equilibrium Point
- Increasing Vacancy
- New Construction

Phase 4 - Recession
- New Construction
- More Completions

Long Term Vacancy Average

Time

Occupancy
Physical Market Cycle Characteristics

- **Negative Rental Growth**
  - Below Inflation
  - Rents Rise Rapidly Toward New Construction Levels

- **High Rent Growth in Tight Market**
  - Positive But Declining Rent Growth
  - Cost Feasible New Construction Rents

- **Demand/Supply Equilibrium**
  - Long Term Average Occupancy

- **Below Inflation & Negative Rent Growth**

**Time**

**Occupancy**
Historic National Office Rental Growth

30 Year Cycle - Periods 1968-1997

Long Term Average Occupancy

Occupancy

Time

-3.0%
0.3%
2.7%
1.7%
4.0%
6.7%
6.4%
10.5%
11.0%
10.0%
6.1%
3.3%
1.6%
-1.0%
-1.5%

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Office Market Cycle Analysis
3rd Quarter, 2005

Source: Mueller, 2005
Multifamily Market Cycle Analysis
3rd Quarter, 2005

Source: Mueller, 2005
Retail Market Cycle Analysis
3rd Quarter, 2005

LT Average Occupancy

Source: Mueller, 2005
2000s Cycle

**Demand**

- Globalization - creates stable U.S. economy
- Job Growth out of Technology Change
- 2.4 million population growth **per year** for 10 years
- Baby boomers at “highest income earning” years
  - second home market wave
- Echo boom children – college, first job, & renting
- Aging population not a major factor till 2014
- Employment growth - determines demand - WHEN
2000s Cycle

Change in 20-29 Year Old Age Cohort

Source: National Center for Health Statistics and Legg Mason estimates
Government Stimulus Working?

Top Federal Budget Deficits Since 1932

Source: U.S. Census Bureau, Office of Management & Budget
2000s Cycle
Supply Constraint

• Public Markets make R.E. Capital markets efficient
  • Economically driven capital - low spec construction
  • Research watchdogs
• Constrained Supply (economically driven capital)
  • construction labor harder to find
  • materials costs increasing
  • infrastructure problems constrain growth
• Feedback loop keeps demand and supply in better balance
  • greater transparency
  • Faster reaction to demand slowdown
Office Market Cycle FORECAST
3rd Quarter, 2006 Estimates

Source: Mueller, 2005
Industrial Market Cycle FORECAST
3rd Quarter, 2006 Estimates

LT Average Occupancy

Source: Mueller, 2005

Industrial

Denver Industrial

Occupancy Rent Growth

Rent Growth

3% 91%

5% 93%
Multifamily Market Cycle FORECAST
3rd Quarter, 2006  Estimates

Source: Mueller, 2005
Retail Market Cycle FORECAST
3rd Quarter, 2006 Estimates

Source: Mueller, 2005
Hotel Market Cycle FORECAST
3rd Quarter, 2006  Estimates

Source: Mueller, 2005
Real Estate
Financial Cycles
Capital Flows
Affect Prices
Market Cycle Capital Flow Impact

Capital Flows to Existing Properties

Cost Feasible Rents Reached

Hyper Supply

Total Capital Flow Cycle

Property Market Cycle

LT Occupancy Avg.

Capital Flows to New Construction
National Office Physical Market Cycle vs Financial Cycle - New Permit Values

Source: BEA, CB Commercial, Mueller
Flow of Funds Commercial Mortgages
All Sectors (1976 - 2001)

Source: Federal Reserve
Property Prices Strong

Historic Cap Rates

Source: Real Estate Research Corporation - Chicago
Property Prices Strong

Historic Cap Rates

Source: Real Estate Research Corporation - Chicago
Transaction Pricing

Q4 2005 Cap Rates

Source: Real Capital Analytics, New York

www.rcanalytics.com
Where is U.S. Real Estate $ Capital Coming From

Source: Real Capital Analytics, New York
Reduce Bond Allocation to Minimum Level as Rates Rise

10yr Treasury Yield

Avg. Return '50 - '80 = 3.9%

Avg. Return '80 - '02 = 9.2%

Avg. LT Yield = 6.65%

Avg. Return '50 - '70 = 1.9%
Economic Forecast

• US weathered high oil $ & disasters
• Improving economy should raise interest rates
• BUT
• Harvard Study by Barro
  – Threat of Geo-Political Risk
  – Drives the risk free rate down (flight to safety)
  – US or Israel bombs Iran – risk up in last month
28 Year Compound Annual Returns and Standard Deviation of Annual Returns

Source: National Association of Real Estate Investment Trusts, Ibbotson Associates, NASDAQ.

Notes: *

^-Price appreciation only.
30 Year Compound Annual Returns and Standard Deviation of Annual Returns

Compound Annual Total Returns: 1972-2002

Standard Deviation of Annual Returns: 1972-2002

Source: National Association of Real Estate Investment Trusts, Ibbotson Associates, NASDAQ.
Notes: *-NCREIF Series begins January 1979. ^-Price appreciation only.
Risk = How Much Loss

25 Year Index Return Comparisons

1981-2005
1 Standard Deviation = 68% Confidence

10% Target Return

Actual Loss

Sources: NCREIF, SLH Corp Bond Index, NAREIT, S&P, Frank Russell, NASDAQ
REITs exhibit the most consistent performance of all Indices.

Return Performance Volatility through 2005

Sources: NASDAQ, Frank Russell, Dow Jones, S&P, NAREIT
For an electronic copy of the Real Estate Market Cycle Monitor

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