Multifamily Apartment Markets in the West:
Metro Area Apartment Cycles and Their Trends

Presented by

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American Real Estate Society
16th Annual ARES Meeting
Santa Barbara, California
Thursday, March 30, 2000

Metro Area Apartment Cycles and their Trends

Outline

This study:

- Introduction
- Macro and Micro Sources of Apartment Cycles
- Apartment Market Assumptions
- Apartment Market Characteristics
- Total Historical Return Comparisons
- Market Risk Comparisons
- Vacancy Rate Comparisons
- Effective Rent Comparisons
- Cycle Comparisons
- Conclusions

Metro Area Apartment Cycles and their Trends

Introduction

Over the past 19 years, Western region apartment markets have gone through may different types of cycles.

Severe Conditions of Over and Undersupply:

- Albuquerque
- Las Vegas
- Phoenix
- Tucson

Metro Area Apartment Cycles and their Trends

Introduction

States of Balance for Long Periods:

- Los Angeles
- Bay Area
- Seattle
- San Diego

Modest Conditions of Over/Under Supply:

- Denver
- Salt Lake City
- Sacramento

Metro Area Apartment Cycles and their Trends

Introduction

This analysis looks at historical apartment market cycles and current and future market conditions in the West, focusing on the top 14 metro areas in regards to population.

Albuquerque	Riverside
Denver	Sacramento
Las Vegas	Salt Lake City
Los Angeles	San Diego
Orange County	Seattle
Phoenix	San Francisco Bay Area
Portland	Tucson

Metro Area Apartment Cycles and their Trends

Macro Sources of Apartment Cycles

- Excessive Land Speculation
- Overbuilding
- Hyper-Inflation
- Depressions
- Recessions
- Banking Crises
- Wars
- Etc.

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Micro Sources of Apartment Cycles

Fundamental sources of apartment market cycles:

- Employment Demand Shocks
- Employment Supply Shocks

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Micro Sources of Apartment Cycles

- Employment Demand Shocks: Bay Area, Orange Co., LA, and San Diego
  - High Job Growth
  - High In-Migration
  - High Housing Demand
  - High/Positive Net Absorption
  - Dropping Vacancy Rates
  - Rising Effective Rent Growth
  - Sales Prices Above Replacement
  - New Construction

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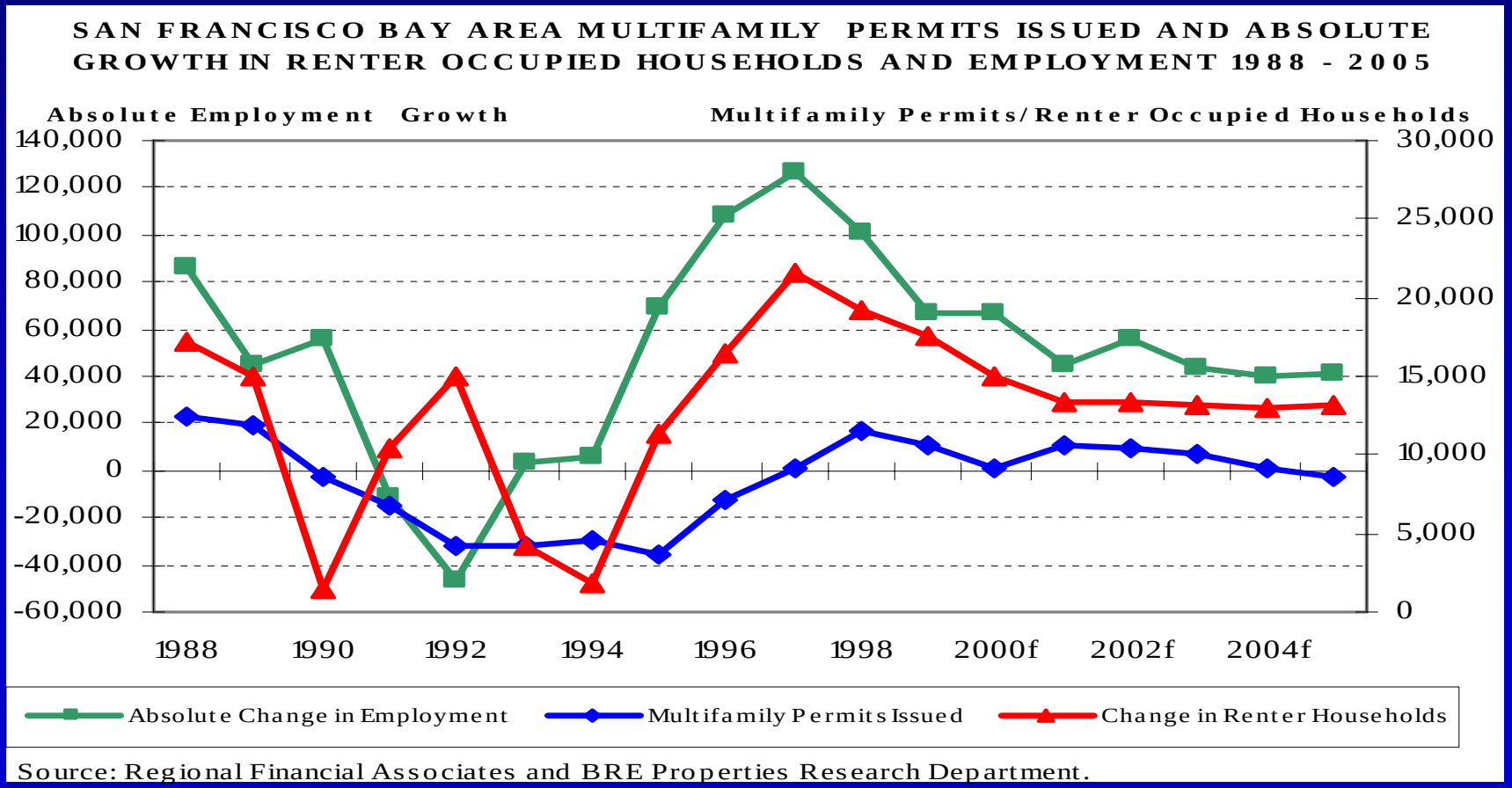
Micro Sources of Apartment Cycles

- Employment Demand Shocks



Source: Regional Financial Associates and BRE Properties Research Department.

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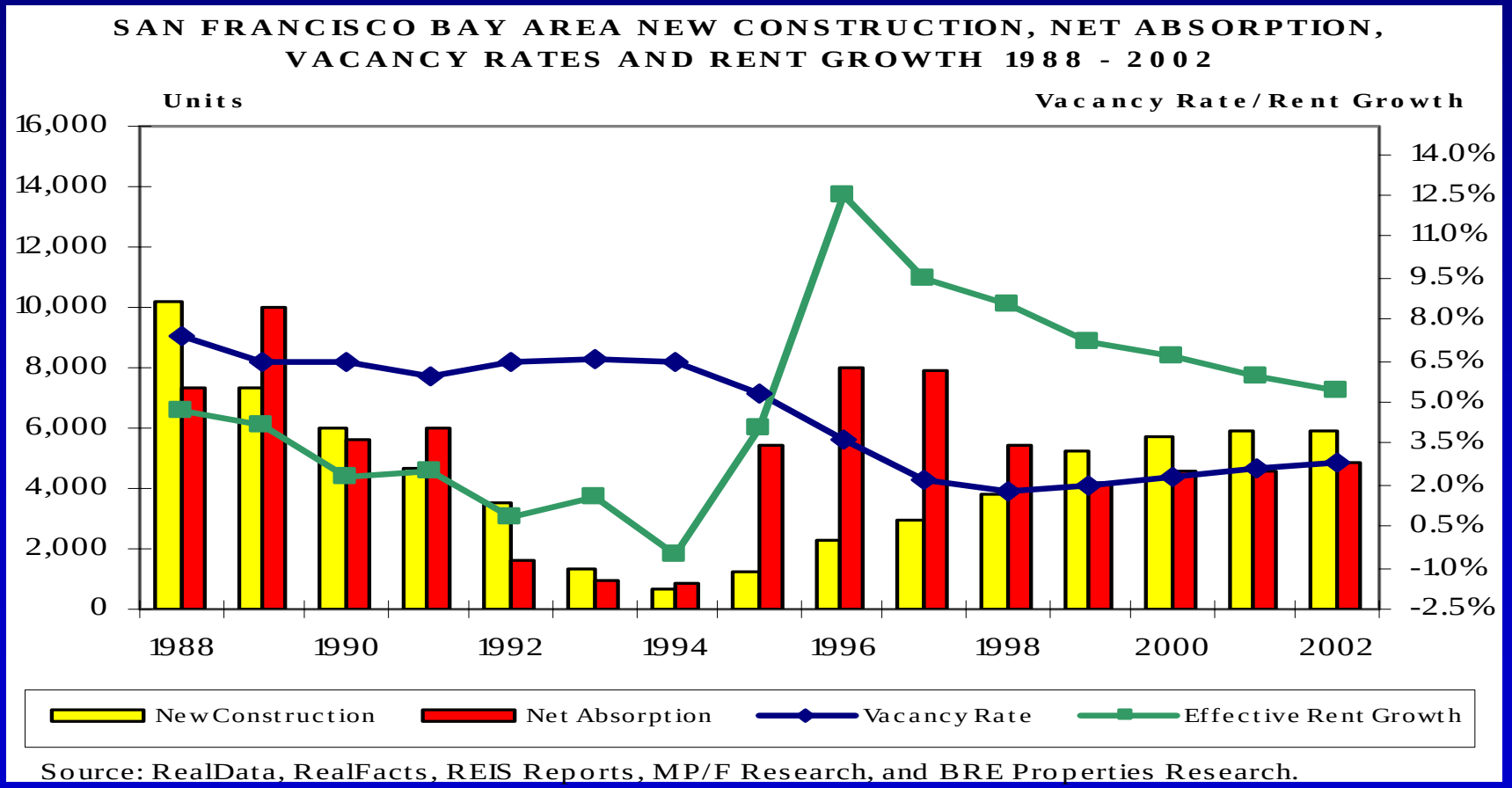
Micro Sources of Apartment Cycles

- Employment Demand Shocks



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Micro Sources of Apartment Cycles

- Employment Supply Shocks: Albuquerque, Las Vegas, Tucson
  - Low Job Growth
  - Low In-Migration
  - Low Housing Demand
  - Low/Negative Net Absorption
  - Rising Vacancy Rates
  - Falling Effective Rent Growth
  - Sales Prices Below Replacement
  - No New Construction

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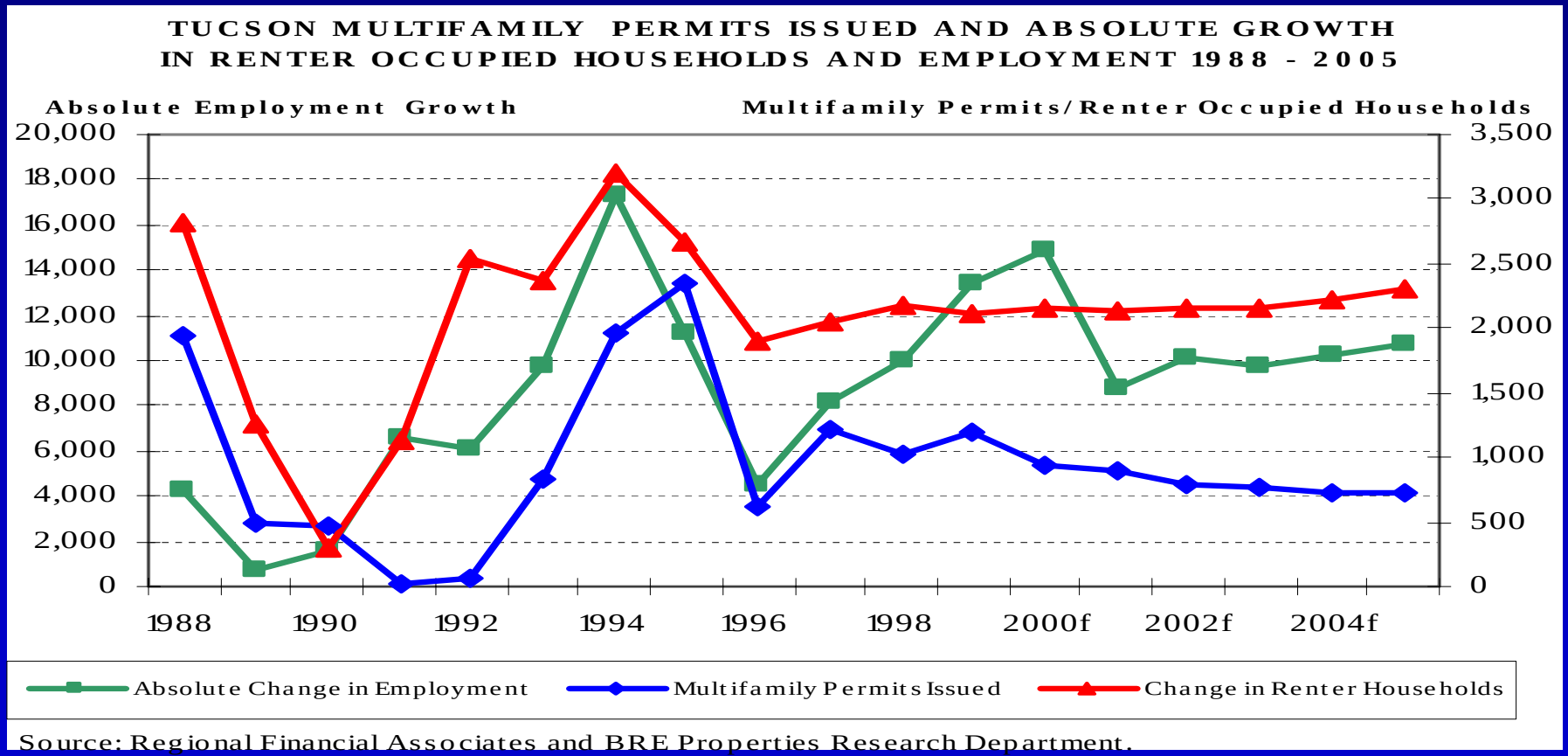
Micro Sources of Apartment Cycles

- Employment Supply Shocks



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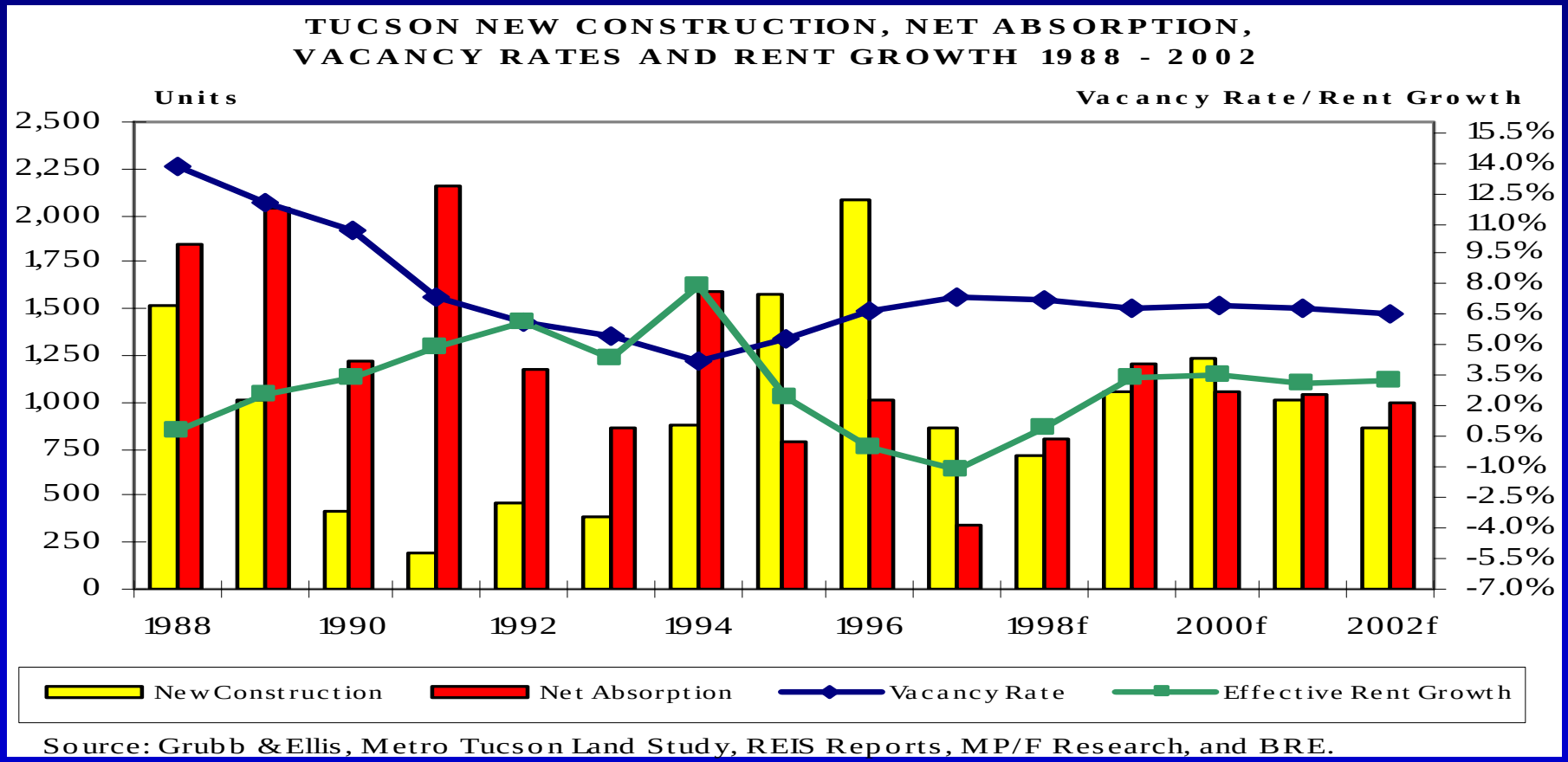
Micro Sources of Apartment Cycles

- Employment Supply Shocks



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Apartment Cycle Assumptions

- Markets are self correcting
- Capital flows and construction continue (contract) to the point were sales prices drop (rise) below (above) cost of construction.
- Apartment markets run risk of oversupply in short run, but in long run reach equilibrium.
- Markets remain in balance until next employment shock.
- On average, markets are in balance at a 5% stabilized vacancy rate.
- In equilibrium, effective rents growth at local inflation rate.

Metro Area Apartment Cycles and their Trends

Apartment Market Characteristics

Metro areas in the West can be put into two groupings:

- Supply-Constrained
- Supply-Unconstrained

Metro Area Apartment Cycles and their Trends

Apartment Market Characteristics

Supply-Constrained:

- Urban
- High barriers to development
- Lack of developable Land
- Complex/Difficult Entitlement Processes
- Strict Environmental Regulations

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Apartment Market Characteristics

Supply-Unconstrained:

- Suburban
- Low barriers to development
- Abundance of developable Land
- Easy Entitlement Processes
- Lack of Environmental Regulations

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Apartment Market Characteristics

Supply Constrained	Supply Unconstrained
Los Angeles	Albuquerque
Orange Co.	Las Vegas
San Francisco Bay Area	Phoenix
Seattle	Tucson
San Diego	Riverside
Portland	Sacramento
Salt Lake City	Denver

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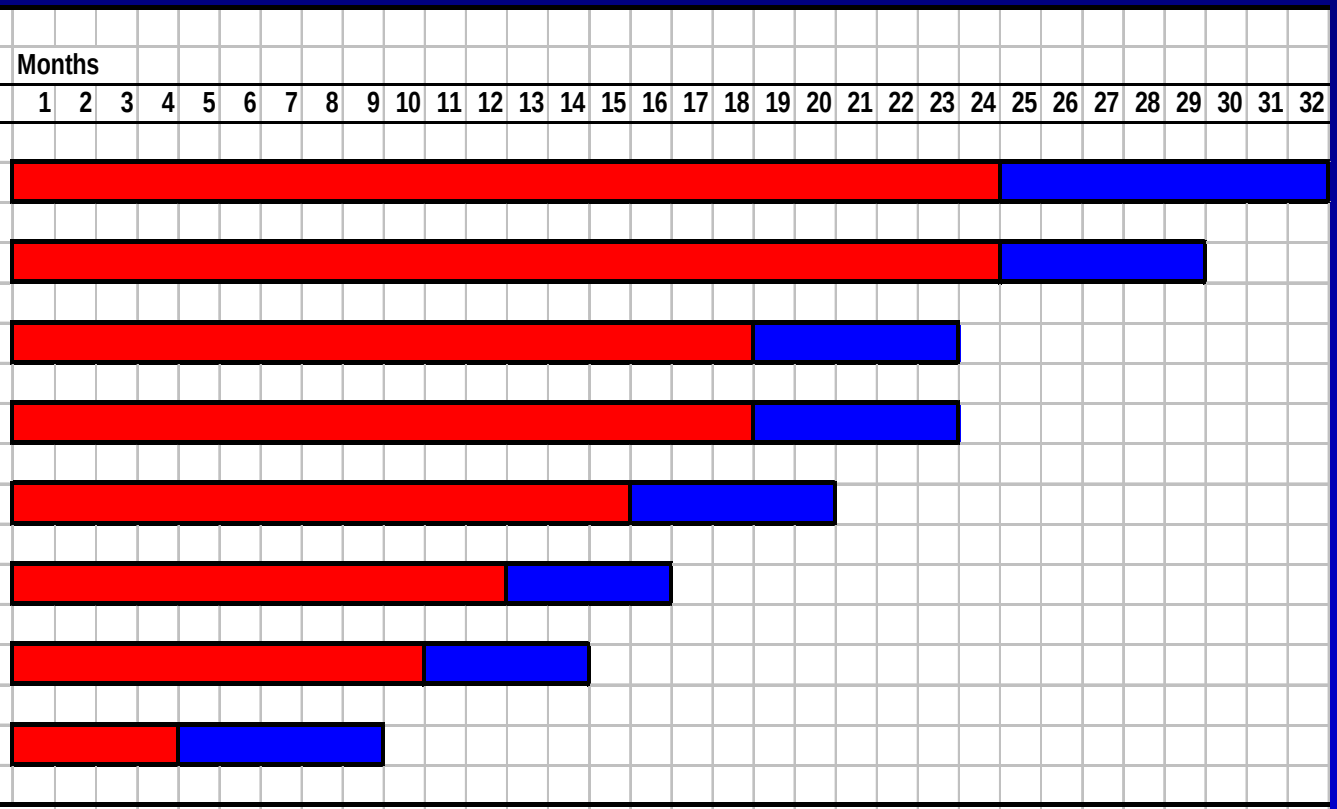
Apartment Market Characteristics

Market	Zining/ Council Approval	Building Permit
Seattle	20 to 24	6 to 10
San Diego	24	4 to 6
San Francisco	12 to 18	4 to 6
Los Angeles	18	4 to 6
Portland	12 to 18	4 to 6
Salt Lake City	8 to 14	3 to 4
Denver	10	3 to 4
Phoenix	3 to 4	4 to 5



Notes: These are for sites requireing zoning changes.

Sources: BRE Properties Development and Research Departments, 1999.

Metro Area Apartment Cycles and their Trends

Total Historical Return Comparison

Supply-constrained markets are less likely to become oversupplied in the short-term, are less volatile, and provide higher real rates of return over the long run.

Supply-unconstrained markets are more likely to become oversupplied in the short-term, are more volatile, and provide high nominal returns in the short run, but lower real rates of return in the long run.

Metro Area Apartment Cycles and their Trends

Total Historical Return Comparison

Long-Run Total Apartment Returns			
Metro	**Rank**	**Average Return ***	**Market Type**
San Francisco Bay	**1**	14.7%	Constrained
Salt Lake City	**2**	14.4%	Constrained
Denver	**3**	13.7%	Un-Constrained
Seattle	**4**	13.1%	Constrained
Los Angeles	**5**	12.9%	Constrained
Pheonix	**6**	12.7%	Un-Constrained
Tucson	**7**	12.7%	Un-Constrained
San Diego	**8**	12.4%	Constrained
Sacramento	**9**	12.0%	Un-Constrained
Orange County	**10**	11.5%	Constrained
Riverside	**11**	10.9%	Un-Constrained
Portland	**12**	10.8%	Constrained
Albuquerque	**13**	9.0%	Un-Constrained
Las Vegas	**14**	8.0%	Un-Constrained

Source: Real rates of return were calculated by BRE Properties Research Department using date provided by the National Real Estate Index.

*Average annualized returns were calculated on a quarterly basis for years 1986-1998, except (Albuquerque 1996-1998),

(Las Vegas, Salt Lake City, San Francisco 1990-1998), (Portland 1989-1998).

Note: Total real rates return were calculated using the year over year change in price per square foot plus the annualized income returns represented by the current cap rate, minus an average inflation rate of 3.0% per year.

Metro Area Apartment Cycles and their Trends

Risk Comparisons

Supply-constrained markets tend to be less volatile or less risky than unconstrained markets in the long run.

Supply-unconstrained markets tend to experience more volatility in vacancy rates and are more likely to experience extreme over and under supply conditions.

Metro Area Apartment Cycles and their Trends

Risk Comparisons

MAGNITUDE OF APARTMENT CYCLES IN THE WEST

MEASURED BY VACANCY RATES SPREADS

Metro Area	1981 - 1998 High	1981 - 1998 Low	1981 - 1998 High-Low Spread
Supply Constrained Markets			
Orange County	5.5%	2.0%	**3.5%**
Seattle	7.0%	3.0%	**4.0%**
Los Angeles	6.5%	2.0%	**4.5%**
San Francisco Bay Area	7.0%	2.5%	**4.5%**
San Diego	7.5%	2.0%	**5.5%**
Portland	8.5%	2.0%	**6.5%**
Salt Lake City	16.0%	3.0%	**13.0%**
Average for Supply-Constrained	**8.3%**	**2.4%**	**5.9%**
Supply-Unconstrained Markets			
Denver	13.9%	2.8%	**11.1%**
Tucson	15.0%	4.0%	**11.0%**
Phoenix	15.7%	5.5%	**10.2%**
Albuquerque	11.7%	3.2%	**8.5%**
Las Vegas	8.5%	2.7%	**5.8%**
Riverside	10.0%	5.5%	**4.5%**
Sacramento	7.0%	2.5%	**4.5%**
Average for Supply-Unconstrained	**11.7%**	**3.7%**	**7.9%**

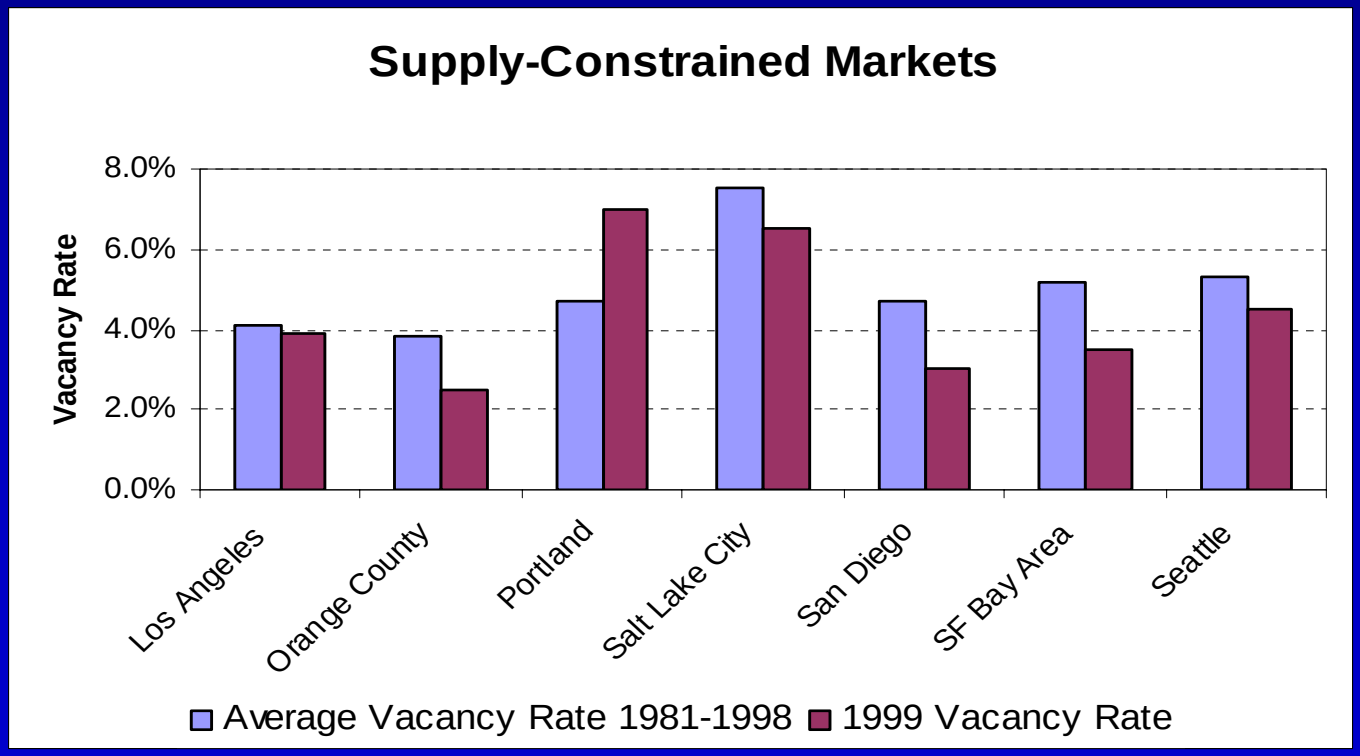
Sources: MP/F Research, RealFacts, RealSource, REIS Reports, Marcus & Millichap, Clayton-Fillmore, ULI, and BRE Properties Research Department.

Cycle Risk is measured by the spread between the metro area's highest and lowest vacancy rate over time.

Metro Area Apartment Cycles and their Trends

Vacancy Rate Comparisons

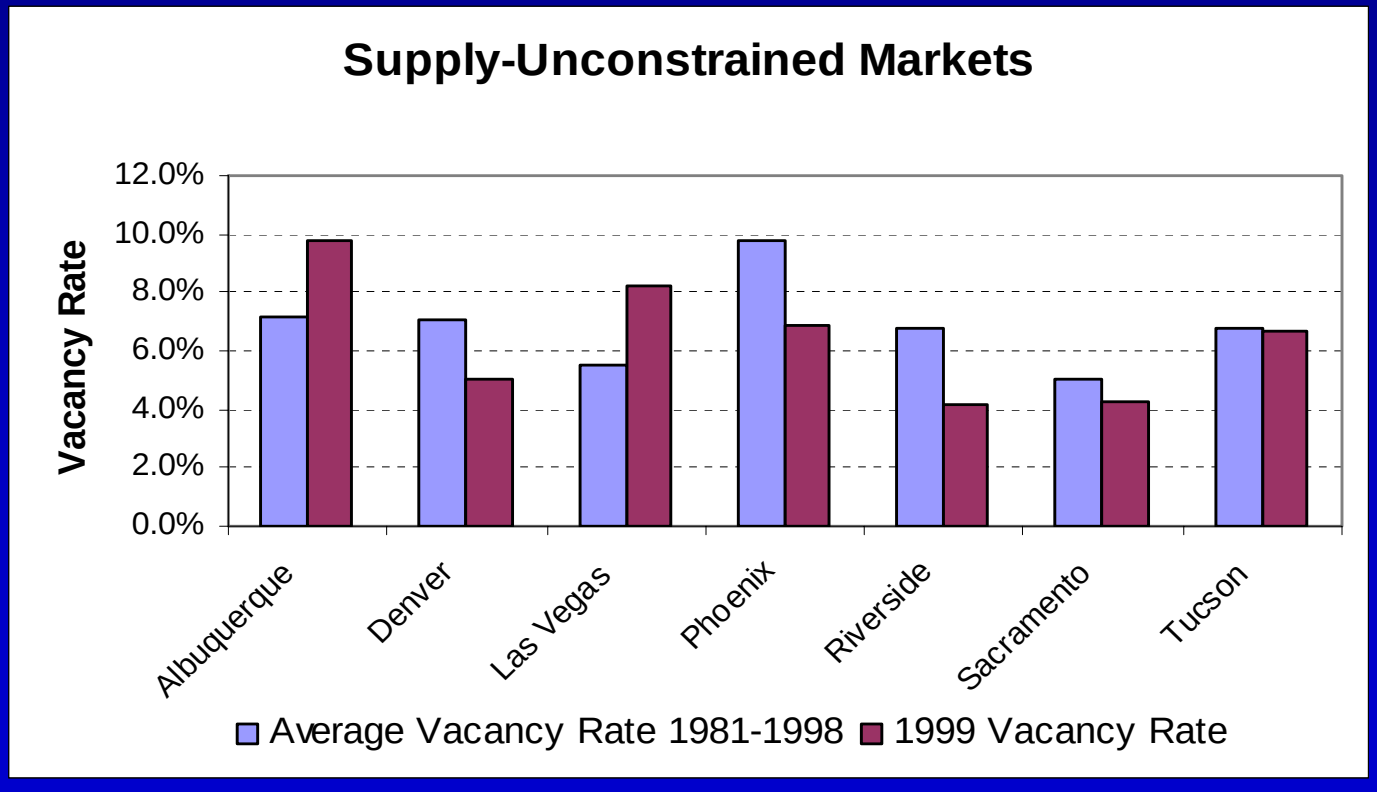
Most **Supply-constrained markets** currently have significantly lower vacancy rates than their long-term average, indicating above inflation rent growth.



Metro Area Apartment Cycles and their Trends

Vacancy Rate Comparisons

Most **Supply-unconstrained markets** currently have lower vacancy rates then their long-term average, indicating above inflation rent growth in the short run.



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Effective Rent Comparisons

Supply-constrained markets are projected to have higher effective rent growth and lower vacancy rates than unconstrained markets over the next three years.

Effective Rent Growth Rankings

Rank	Metro	Effective Rent Growth 1999-2001	Average Vacancy Rate 1999-2001	Market Type*
1	Los Angeles	6.0%	3.6%	SC
2	Orange County	5.7%	2.8%	SC
3	San Diego	5.2%	3.4%	SC
4	San Francisco Bay	4.3%	4.3%	SC
5	Denver	4.2%	5.2%	SU
6	Sacramento	4.0%	4.8%	SU
7	Riverside	3.8%	4.3%	SU
8	Seattle	3.8%	5.5%	SC
9	Tucson	2.7%	6.6%	SU
10	Salt Lake City	2.5%	6.0%	SC
11	Pheonix	2.3%	7.0%	SU
12	Portland	-0.5%	6.5%	SC
13	Las Vegas	-0.8%	7.4%	SU
14	Albuquerque	-2.2%	9.3%	SU

* Market Types: SC - Supply Constrained Markets, SU - Supply-Unconstrained Markets.

Source: MP/F Research, RealFacts, RealSource, REIS Reports, Marcus & Millichap, Clayton-Fillmore, ULI, and BRE Properties Research Department.

Metro Area Apartment Cycles and their Trends

Cycle Comparisons

Apartment vacancy rate cycles are measured by their peaks (high vacancy rates) and troughs (low vacancy rates) over time.

Metro Area Apartment Cycles and their Trends

Cycle Comparisons

	Supply Constrained	Supply Unconstrained
Peak-to-Peak	12 years	11 years
Trough-to-Trough	13 years	11 years
Peak-to-Trough	7 years	4 years
Trough-to-Peak	7 years	7 years

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Cycle Comparisons

	Los Angeles	Las Vegas
Peak-to-Peak	(1993-2008) 15 years	(1991-1999) 8 years
Trough-to-Trough	(2000-2017) 17 years	(1994-2003) 9 years
Peak-to-Trough	(1993-2000) 7 years	(1999-2003) 4 years
Trough-to-Peak	(2000-2008) 8 years	(1994-1999) 5 years

Metro Area Apartment Cycles and their Trends

Cycle Comparisons

Supply-constrained markets:

- Experience longer periods of time between cycles, limiting the risk of becoming oversupplied, thus adding to their stability.

- Takes longer to go from a high vacancy rate phase to a low vacancy rate phase of the cycle, thus mitigating boom-bust periods and volatility in effective rent growth.

Metro Area Apartment Cycles and their Trends

CONCLUSION

- In 1970 and 1980s, Western markets went through cycles together, in 1990s and 2000s, will go though cycles independently with less risk of overbuilding.
- Supply-constrained markets tend to be more stable over the long run and experience longer and shallower cycles.
- Supply-constrained markets to outperform unconstrained markets, most supply-unconstrained markets to see above inflation rent growth.
- Vacancy rate spreads narrowed in majority of unconstrained markets due to higher levels of bank regulation (CAMEL) and larger role of public markets (REITs/CMBS) in allocating development capital.

Metro Area Apartment Cycles and their Trends

CONCLUSION

- Building a Western focused portfolio of constrained and unconstrained markets provide geographical and economic diversification, and high total returns over the long run with out having to go national.

- As apartment sector moves from private to public ownership, as capital markets play a larger role in allocating development capital, unconstrained markets will take on supply-constrained market characteristics.

- This, in the long run, should smooth out cycles of severe over and undersupply, extending cycles, and provide higher risk-adjusted rates of return.