

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

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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 many 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

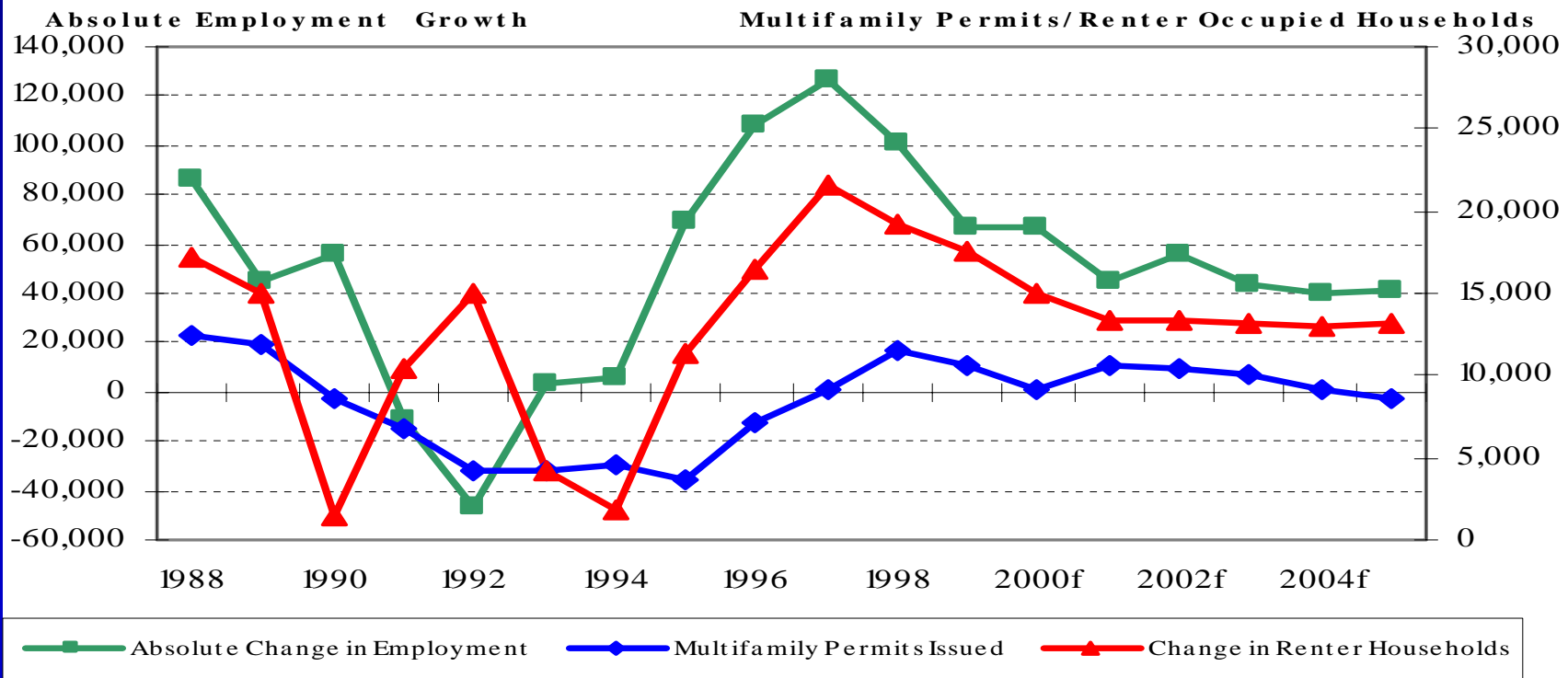
- Employment Demand Shocks: Bay Area, Orange Co., LA, and San Diego
 - High Job Growth
 - High In-Migration
 - High Housing Demand
 - High/Positive Net Absorption
 - Dropping Vacancy Rates
 - Rising Effective Rent Growth
 - Sales Prices Above Replacement
 - New Construction

Metro Area Apartment Cycles and their Trends

Micro Sources of Apartment Cycles

- Employment Demand Shocks

SAN FRANCISCO BAY AREA MULTIFAMILY PERMITS ISSUED AND ABSOLUTE GROWTH IN RENTER OCCUPIED HOUSEHOLDS AND EMPLOYMENT 1988 - 2005



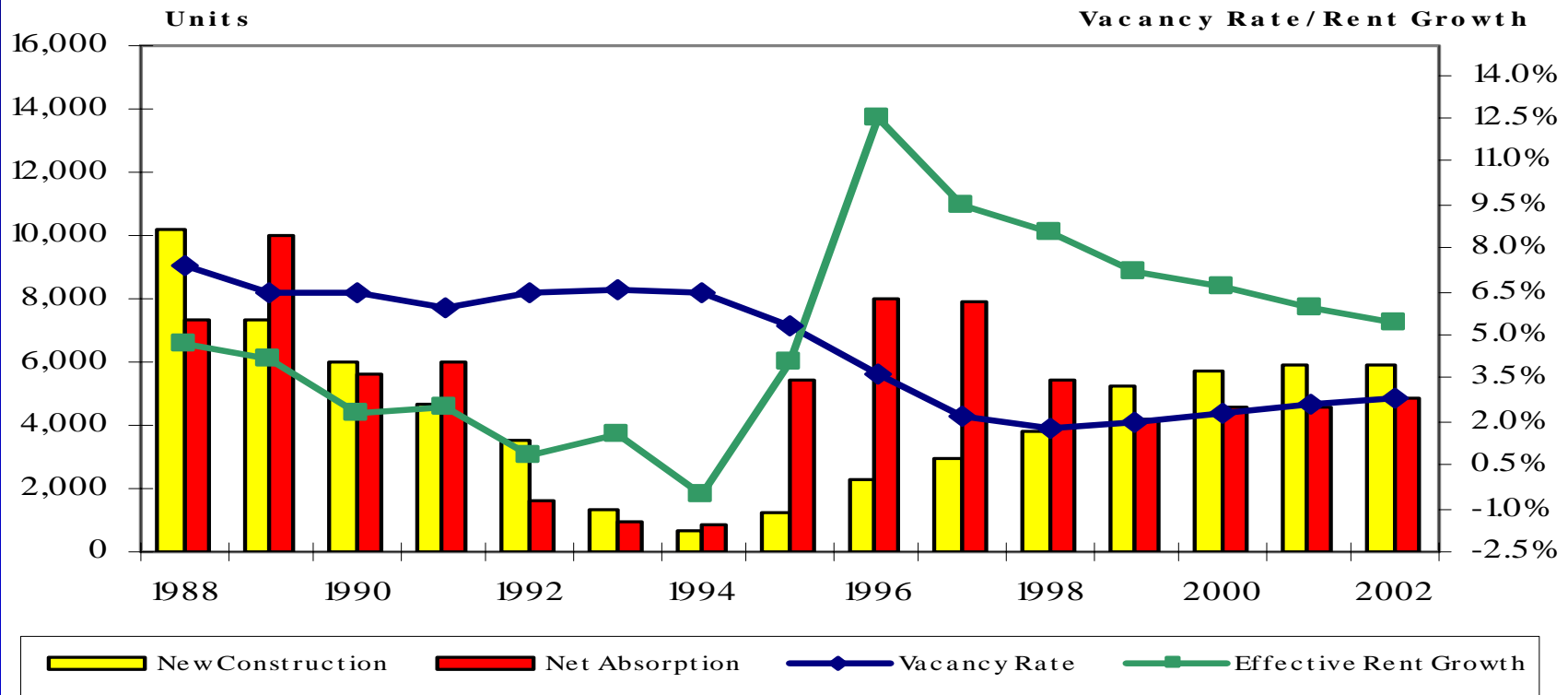
Source: Regional Financial Associates and BRE Properties Research Department.

Metro Area Apartment Cycles and their Trends

Micro Sources of Apartment Cycles

- Employment Demand Shocks

SAN FRANCISCO BAY AREA NEW CONSTRUCTION, NET ABSORPTION, VACANCY RATES AND RENT GROWTH 1988 - 2002



Source: RealData, RealFacts, REIS Reports, MP/F Research, and BRE Properties Research.

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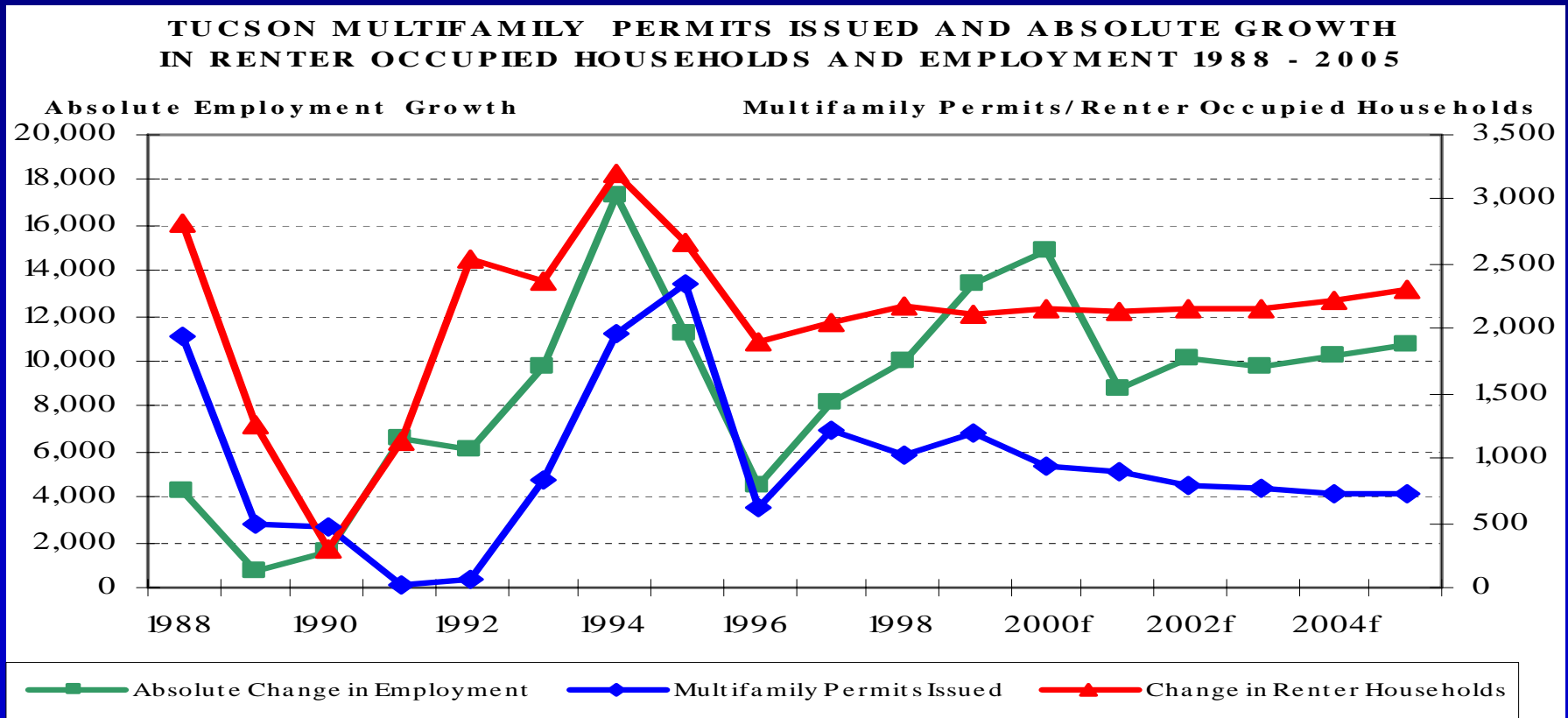
Micro Sources of Apartment Cycles

- 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

Metro Area Apartment Cycles and their Trends

Micro Sources of Apartment Cycles

- Employment Supply Shocks

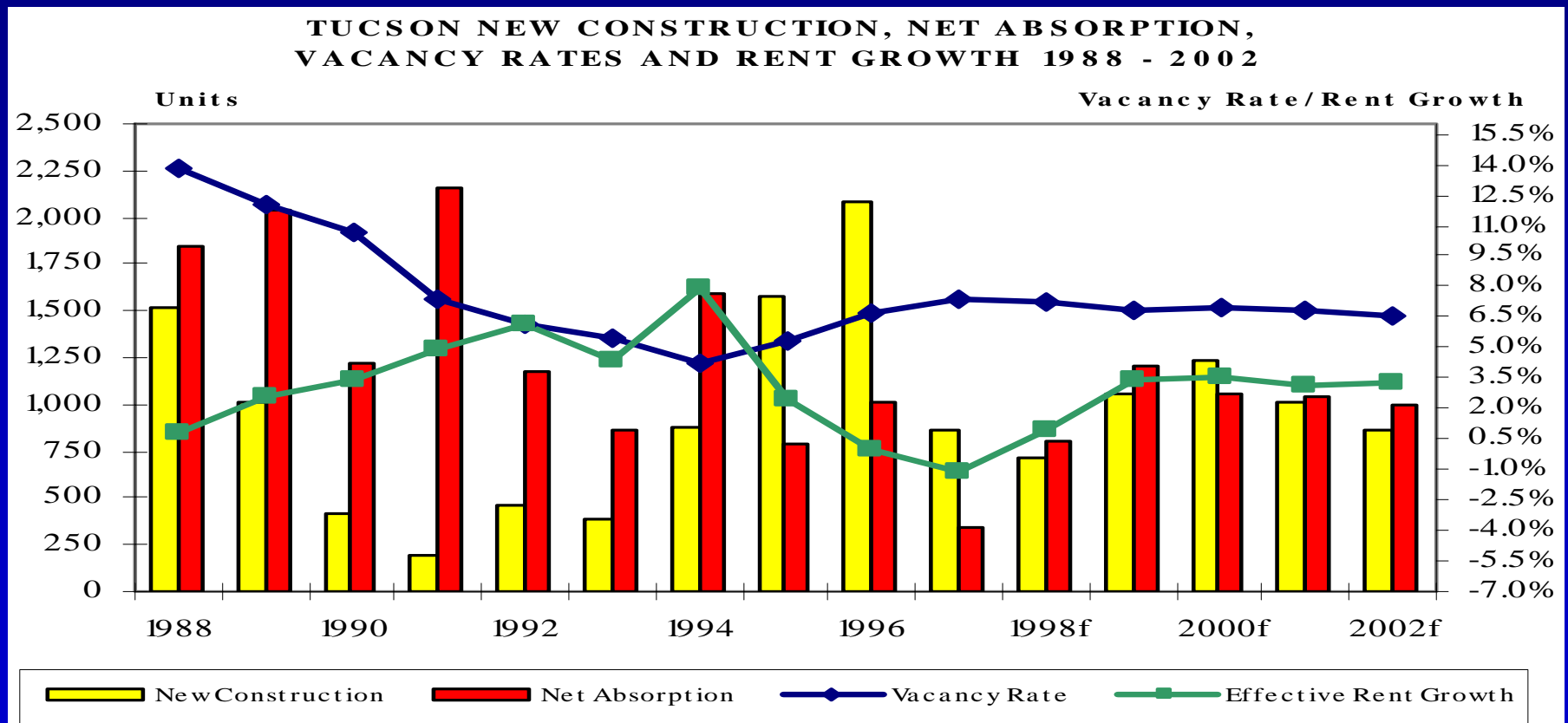


Source: Regional Financial Associates and BRE Properties Research Department.

Metro Area Apartment Cycles and their Trends

Micro Sources of Apartment Cycles

- Employment Supply Shocks



Source: Grubb & Ellis, Metro Tucson Land Study, REIS Reports, MP/F Research, and BRE.

Metro Area Apartment Cycles and their Trends

Apartment Cycle Assumptions

- Markets are self correcting
- Capital flows and construction continue (contract) to the point where 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 grow 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

Metro Area Apartment Cycles and their Trends

Apartment Market Characteristics

Supply-Unconstrained:

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

Metro Area Apartment Cycles and their Trends

Apartment Market Characteristics

Supply Constrained

Los Angeles

Orange Co.

San Francisco Bay Area

Seattle

San Diego

Portland

Salt Lake City

Supply Unconstrained

Albuquerque

Las Vegas

Phoenix

Tucson

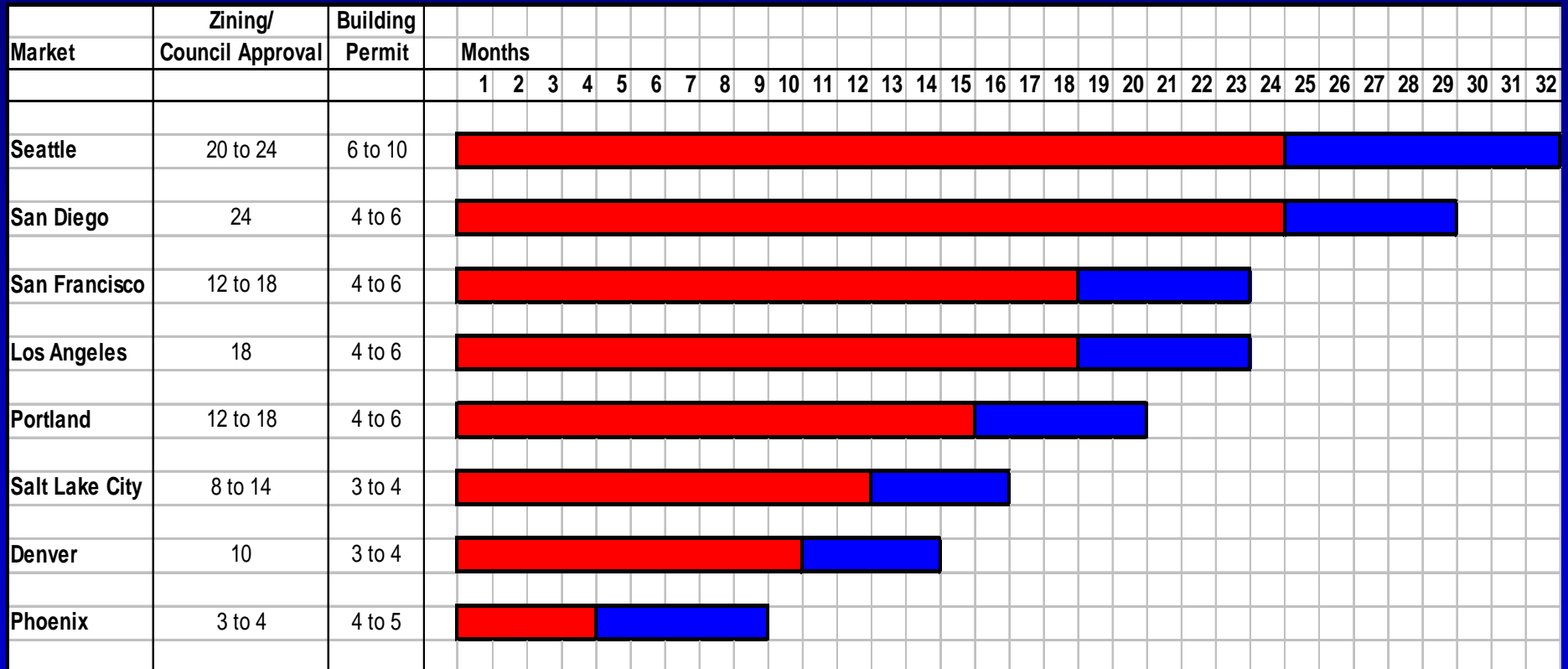
Riverside

Sacramento

Denver

Metro Area Apartment Cycles and their Trends

Apartment Market Characteristics



Notes: These are for sites requiring 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 data 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

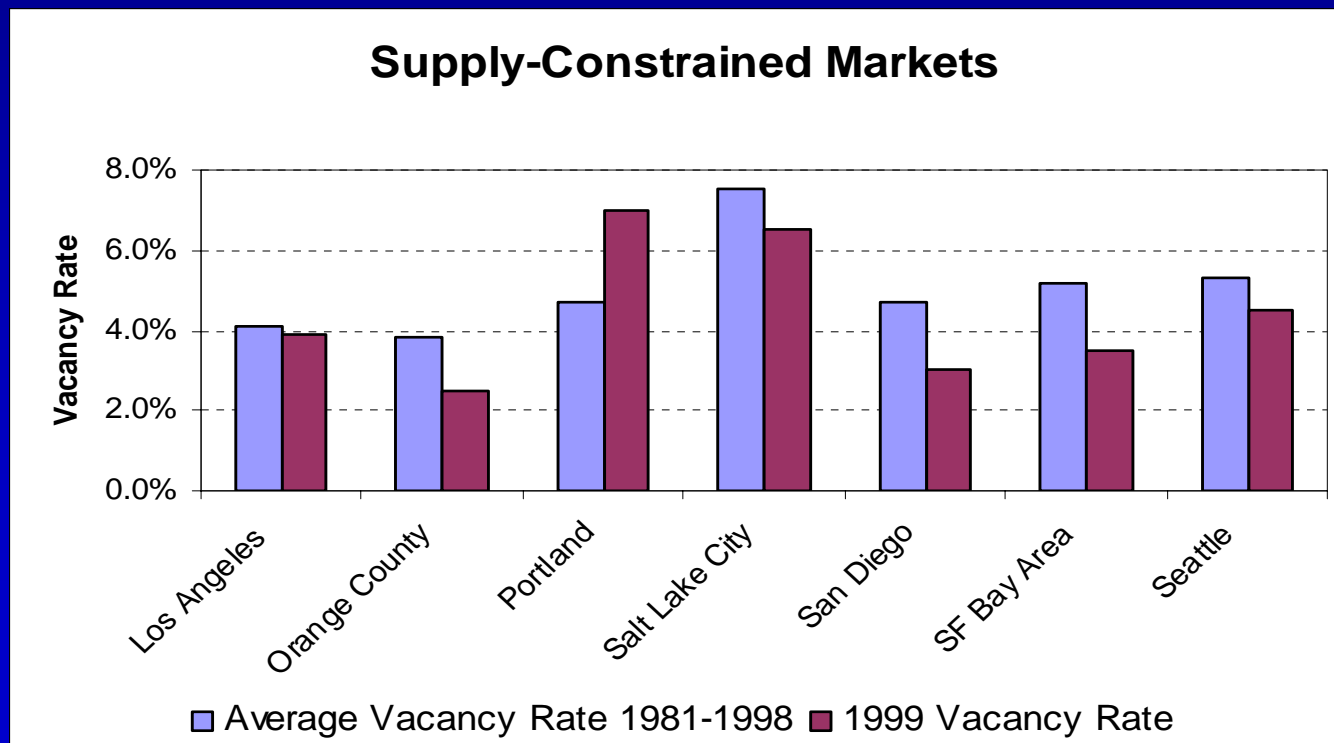
| MAGNITUDE OF APARTMENT CYCLES IN THE WEST | | | |
|---|-----------------------------|----------------------------|--|
| MEASURED BY VACANCY RATES SPREADS | | | |
| Metro Area | 1981 - 1998 High | 1981 - 1998 Low | 1981 - 1998 High-Low Spread |
| Supply Constrained Markets | | | |
| Orange County | 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

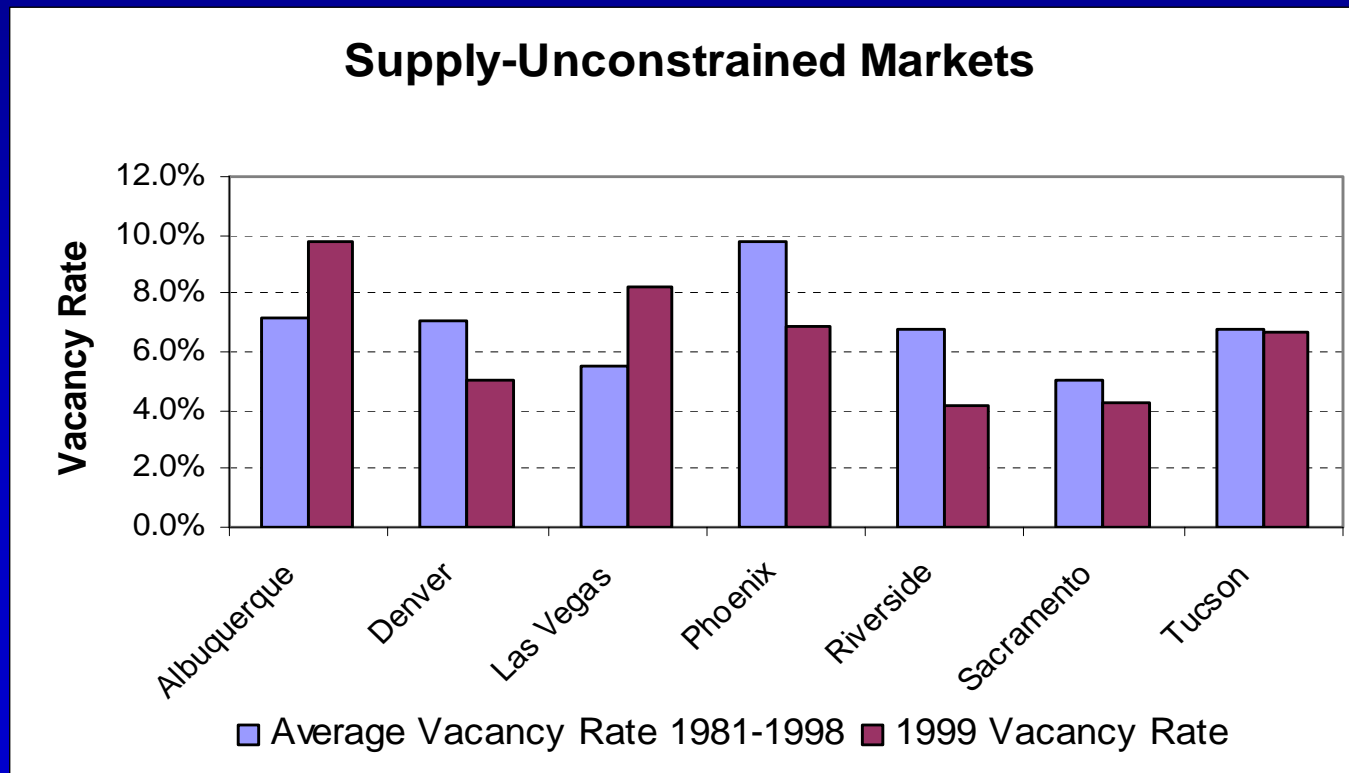
Most **Supply-constrained markets** currently have significantly lower vacancy rates than their long-term average, indicating above inflation rent growth.



Metro Area Apartment Cycles and their Trends

Vacancy Rate Comparisons

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



Metro Area Apartment Cycles and their Trends

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 | | Average Vacancy Rate | |
| | | 1999-2001 | | 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 | Phoenix | 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

| | <u>Supply Constrained</u> | <u>Supply Unconstrained</u> |
|------------------|---------------------------|-----------------------------|
| 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 |

Metro Area Apartment Cycles and their Trends

Cycle Comparisons

| | <u>Los Angeles</u> | <u>Las Vegas</u> |
|------------------|-------------------------|------------------------|
| 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 through 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.