

## Down But Not Out:

### The Outlook for Industrial Rent Growth in the U.S.

#### Industrial Rents Are Down 20-30%

U.S. industrial rents are down 20-30% from their 2008 peak and well below levels that support new construction. In some markets, rents are at levels not seen in the last 30 years on a nominal basis and much lower on an inflation-adjusted basis. As such, there is a dearth of new product, as today's rents deter developers from starting new projects.

Given the current landscape, it is easy to conclude that recovery is nowhere in sight. Our research indicates, however, that rents are expected to rise at a far greater rate than inflation.

Rents are very likely to increase in many markets in 2011 and even more broadly in 2012. We set forth the analysis that leads us to this conclusion as well as our thoughts on the possible magnitude of this cyclical recovery.

#### Available Space at an All-Time High

The following research explores the historical relationship between industrial rental growth and industrial market fundamentals (supply and demand), and what this relationship implies for rental growth in the months and years ahead.

Following eight quarters of negative net absorption, national availability reached a historic high of 13.9% at the end of the fourth quarter, and 2009 experienced the worst industrial net absorption on record at a negative 265 million square feet. Encouragingly, the negative trend decelerated over the course of the year, slowing to a negative 38 million square feet in the fourth quarter, and new construction came in at an all-time low of 71 million square feet in 2009, as prohibitively low market rents made construction financially unfeasible.

Despite these challenging head winds, our analysis indicates that not only will demand recover, but it has already begun to do so in some submarkets.

In fact, we may have reached an inflection point in many coastal markets during the fourth quarter, as demand was flat and availability was unchanged at 12.1%.

As we look to a recovery in rental rates, we see it taking shape in two phases. First will be the psychological effect between landlords and customers as they anticipate improving fundamentals. Landlords will subsequently hold firm on rents, while customers will try to lock in longer terms at today's unsustainably low rates. The second phase will be driven by actual improving industrial market fundamentals. As demand gains momentum and availability falls, rents will resume their climb upward, at some point achieving levels consistent with new construction in the market. In many markets this will mean significant near- to medium-term rent growth.

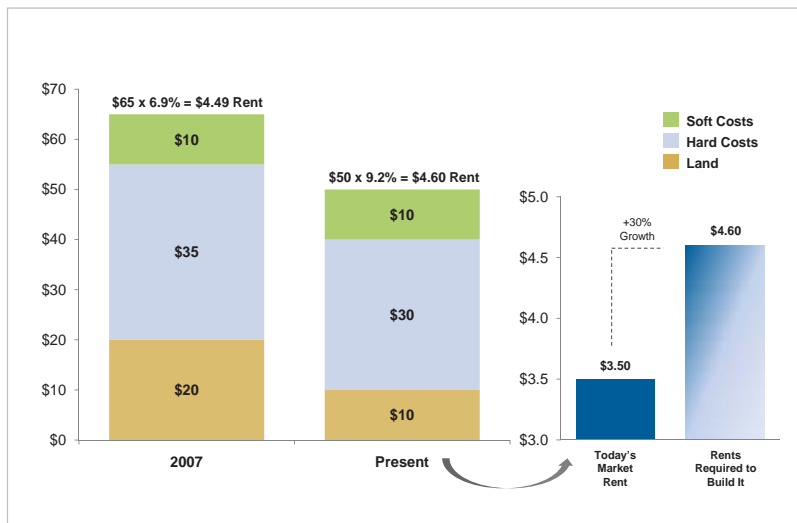
#### New Construction to Resume When Rents Spike

New construction of industrial space will resume when rents are at or nearing replacement-cost-justified rents—the rents required to finance and pay for the profitable construction of a new building. Replacement-cost-justified rents provide a useful gauge to judge rent levels when the market is more normalized. They also serve as the benchmark to the growth trajectory of today's rents.

Replacement costs can generally be broken into four different components: land, hard costs (building materials, labor), soft costs (permitting, design) and the developer's profit. When market rent is too low (or cap rates too high) relative to these costs, developers will not commence with new construction, as new development would result in an economic loss to the developer.

Exhibit 1 depicts the costs of constructing a new building in 2007 relative to today, with the primary difference being reflected in lower land costs. While land sales comps have been relatively scarce in recent quarters, for ease of illustration we assumed that land prices have fallen by 50% from the peak in 2007. We also assume hard costs are down approximately 15%, reflecting lower material and labor costs. While construction costs are down, cap rates have

Exhibit 1:  
Market Rents Well Below Replacement-Cost-Justified Rents<sup>(1)</sup>



risen by nearly 200 basis points from sub 6%. With a cap rate of 6, developers could have built to a yield of 6.9% in 2007, generating a 15% profit margin. In order to generate the same profit with today's cap rates, developers would need to build to a yield of more than 9%. Interestingly, the required rent today is very similar to what it was nearly three years ago, given the falling costs and increasing cap rates (\$65 cost x 6.9% = \$4.49 in 2007, relative to \$50 cost x 9.2% = \$4.60 required rent today). However, as discussed, market rents are down substantially. In this example, market rents today are about \$3.50 per foot, and would therefore need to increase by more than 30% to reach a level that justifies construction.

This means that most rational developers would not build until rents, costs and yields made economic sense (or were moving decisively in that direction). It is important to note that today's replacement costs will likely begin to grow again over the coming years, thereby increasing even further the rents required to build.

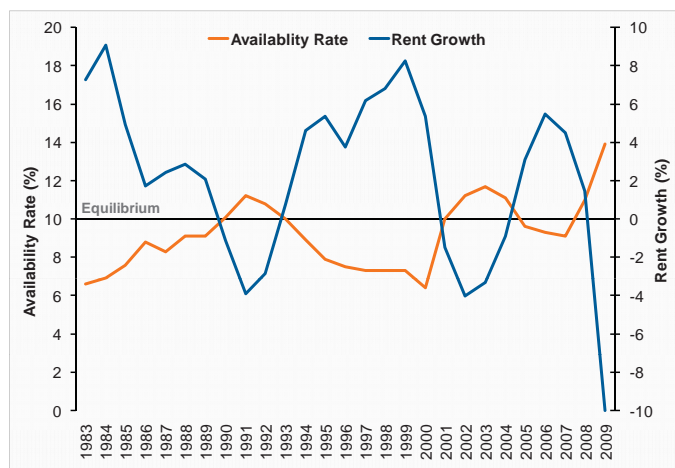
### Equilibrium Disturbed by Dramatic Shift in Demand

Deviations from equilibrium through variations in supply or demand generally result in a disconnect between prices, which eventually re-converge to equilibrium. As we apply this relationship to industrial real estate, the metrics are the availability rate, defined as the total space available for lease (vacancy + sublet), and rents.

Exhibit 2 illustrates the relationship between industrial space availability and the change in market rent over several cycles. As expected, there is a strong inverse correlation of -0.89, indicating that when supply (availability) is high, rent growth is muted or even decreasing, and conversely, when supply is relatively tight, rents grow smartly.

An interesting point to note is that at an availability rate of approximately 10%, rent growth is close to zero; this is also defined as the equilibrium availability rate, where supply and demand are in relative balance. In this example, an availability rate of 10% is consistent with a vacancy rate of about 8%, with the difference being mainly sublet and space marketed as available, but currently occupied (and eventually renewed, in many cases). However, the average industrial lease term is five to six years, and in any given year, about 20% of the rental market will come up for renewal. Of this 20%, 60-70% will typically renew with existing landlords, as their current buildings are deemed sufficient, and to avoid the disruption and cost associated with moving. This leaves about 35% of those tenants up for renewal that will need to relocate. This 35% every five years (x 20%) is the equivalent of a 6-7% vacancy rate that is needed as the absolute minimum (frictional vacancy rate) to serve the ebbs and flows of the industrial market.

Exhibit 2:  
Rent Growth and Availability<sup>(2)</sup>



<sup>(1)</sup> AMB Property Corporation

<sup>(2)</sup> CBRE Econometric Advisors, AMB Property Corporation



On top of this minimum vacancy rate, we must account for the inclusion of the marketing of functionally obsolete space. For example, we have seen cases where very old, multistory brick factories have been marketed as available even though most of these facilities would never lease because they are functionally obsolete for industrial users today. The inclusion of this nonleasable product in the pool of available space leads to a minimum required vacancy of about 7-8.5%, which equates to an availability rate of about 10%. Below this rate the market will not have enough space to function properly and rents will grow to levels that would generate new construction to satisfy this unmet demand.

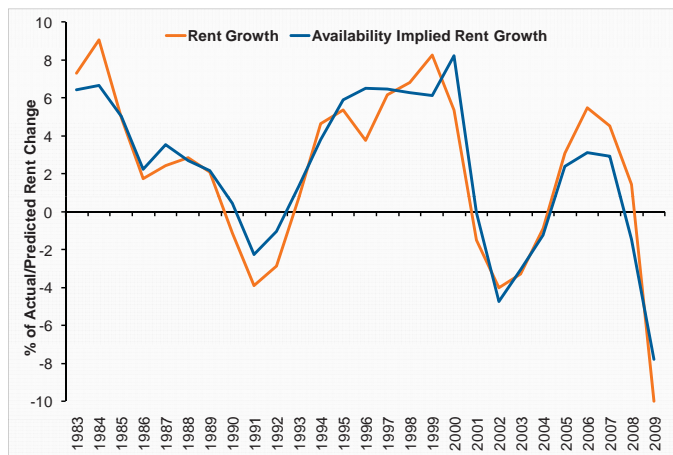
In addition to this minimum amount of available space required, the market must also expand to accommodate growth in the economy and demand for new industrial space. Historically, each 3% annual growth in GDP creates approximately 2% additional industrial space requirements. While the frictional vacancy rate is relatively constant across markets, the levels of obsolescence and expected new supply and demand vary dramatically by market. For example, demand has already begun to stabilize in several of the U.S. coastal markets and, as in past recoveries, we would expect these markets to lead the current one. However, most of these same markets are relatively supply constrained due to a combination of geographic, political and economic factors. In fact, these markets are actually shrinking, as there is virtually no new construction and obsolescence continues to shrink the pool of functional space by about 1-2% per year. As demand continues to recover, these markets will likely see a more extended rental growth trajectory, as there would likely be very little new supply coming on line to temper rental growth. Lower-growth, less-dynamic markets take longer to recover, and those that are less supply constrained see a more competitive pricing environment as soon as new space is warranted by rental growth. When the equilibrium or minimum vacancy rate level is achieved, rents will likely be near replacement cost and they will certainly rise before this level is met.

To build our forecast of rental growth, we used a regressive analysis of availability and rent growth, as illustrated in Exhibit 3. Our findings indicate that availability historically has explained 80% of the variation in rent growth over the last 15 years. The strength of this correlation ( $R^2$ ) varies by market and submarket and generally ranges from 0.7-0.9.

<sup>(2)</sup> CBRE Econometric Advisors, AMB Property Corporation

<sup>(3)</sup> Rent growth = 21.8% - (2.1% x Availability Rate)

Exhibit 3:  
Actual and Predicted Rent Growth<sup>(2)(3)</sup>



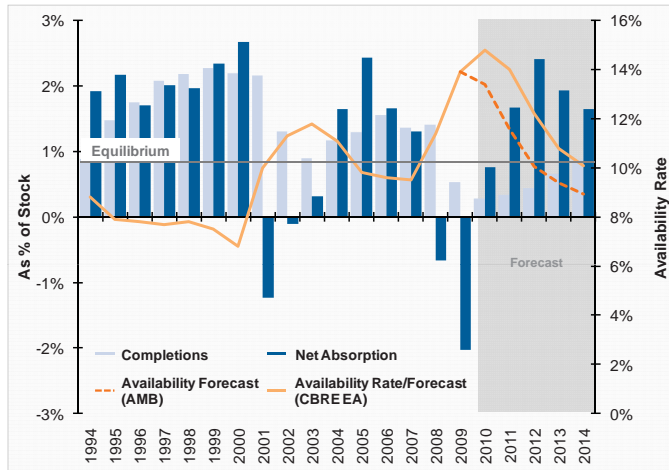
## Principal Drivers of Demand in Strong Recovery

As AMB's industrial real estate demand model recently illustrated, production, trade and inventories are the principal drivers of demand for industrial real estate, together explaining more than 80% of the variation in historical demand. As such, the respective forecasts for these leading indicators can be used to estimate the future magnitude and timing of demand for industrial real estate.

When we analyze these variables in conjunction with the pipeline of new construction and estimates of new supply, we can forecast the availability rate for the U.S. and individual markets and submarkets. We are able to estimate various scenarios for the timing of their return to equilibrium, and with the availability/rent growth model discussed above, we can forecast various scenarios for the size and timing of potential rental rate changes.

With 2009 experiencing the first contraction in global GDP and the steepest decline in global trade, demand for industrial space hit a record low. However, the current trend and consensus outlook for trade and production, when input into the AMB trade and production model, imply the U.S. and the world should realize more than 100 million square feet and 500 million square feet of net absorption in 2010 and even more in 2011.

Exhibit 4:  
Outlook for Trade, Production and Inventories Drives Availability<sup>(4)</sup>



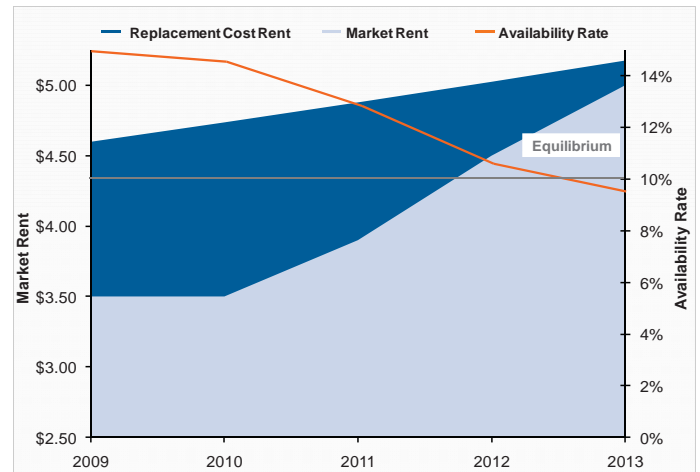
### Return to Rental Growth by 2011

If the current consensus estimates and forecasts for production and trade are realized, our model implies the overall U.S. market would likely see rental rate growth as early as 2011, with equilibrium reached by 2012.

Exhibit 5 demonstrates how the availability projection from current levels toward equilibrium is likely to move rents. We know from the model in Exhibit 3 that the availability rate and rental growth are closely correlated. As the U.S. market moves toward 10% over the next two years, rents can be expected to reach levels necessary to support new construction. In the data depicted in Exhibit 5, rents will grow by more than 30% over the next three to four years. Accounting for the estimated obsolescence flow of 1-2% per year<sup>(5)</sup> would bring equilibrium sooner than implied by our model.

AMB has developed replacement cost, forecast, equilibrium and rent growth models for markets and submarkets globally. The rent growth trajectory varies by market and submarket, affected by the spread of current rent to replacement-cost-justified rent, the level of availability relative to equilibrium and the forecast of demand and supply. As mentioned, the coastal markets have likely hit an inflection point in terms of demand and there is virtually no new supply being constructed.

Exhibit 5:  
Market Rent Relative to Replacement Costs as Fundamentals Change<sup>(6)</sup>



### Conclusion: Long-Term Outlook is Promising

The leading indicators of demand for industrial real estate, such as production and trade, are clearly rebounding and the outlook for these indicators for 2010 and beyond is even stronger. We expect that these improving economic conditions will fuel recovery in demand, starting in the infill markets. The consensus forecast for global trade and production suggests that more than 500 million square feet of demand could be realized globally in the next few years, driving the availability rate to equilibrium levels in 2012.

All of this should drive market rent increases to levels necessary to support new construction requiring several double-digit spikes in the coming years. Our analysis of replacement-cost-justified rents and market fundamentals implies a projected return to more sustainable rental growth rates into 2012 and beyond.

<sup>(4)</sup> CBRE Econometric Advisors, AMB Property Corporation

<sup>(5)</sup> Obsolescence flow is not quantified or removed from the stock estimates by third party data providers (e.g. CBRE-Econometric Advisors)

<sup>(6)</sup> AMB Property Corporation



## About the Author

David C. Twist is vice president, Research for AMB Property Corporation, responsible for the company's global research initiatives. Twist has been in real estate related research since 1990. He is a member of the National Association of Industrial & Office Properties (NAIOP) and the CFA Institute. Twist received a Bachelor's degree in Quantitative Economics from the University of California, San Diego.

## AMB Property Corporation®

AMB Property Corporation® is a leading owner, operator and developer of global industrial real estate, focused on major hub and gateway distribution markets in the Americas, Europe and Asia. As of December 31, 2009, AMB owned, or had investments in, on a consolidated basis or through unconsolidated joint ventures, properties and development projects expected to total approximately 155.1 million square feet (14.4 million square meters) in 47 markets within 14 countries. AMB invests in properties located predominantly in the infill submarkets of its targeted markets. The company's portfolio comprises High Throughput Distribution® facilities—industrial properties built for speed and located near airports, seaports and ground transportation systems.

### AMB Property Corporation®

Pier 1, Bay 1  
San Francisco, CA 94111  
United States  
Main: +1 415 394 9000  
[www.amb.com](http://www.amb.com)

