

THE CPI AND INDEXED LEASES: A NEW DAWN?

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With the advent of high and extremely variable rates of inflation in the U.S. economy, indexed leases have become increasingly more attractive for the protection of both the lessee and lessor. Such leases are tied to some index of inflation with periodic rate adjustments made accordingly.



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One of the most popular and widely referenced measures of inflation at this time is the Consumer Price Index (CPI). Lease escalation tied to the CPI has been recommended as a valid technique in protecting the lessor's and lessee's interest in a long-term lease.¹ However, due to criticism about the ability of the CPI to measure inflation accurately, the "all-urban" CPI index has been revised by the Bureau of Labor Statistics (BLS) as of January 1983.

The all-urban CPI represents the purchases of about 80 percent of the population; the "workers" CPI, to which most wage escalation is tied, will not incorporate the same change until 1985. The basic revision involves the homeownership component of the CPI which has tended, for various reasons, to overstate inflation for the past several years. The revised index uses market rents to supplant the old method of calculating homeownership costs—house prices, interest payments, insurance, taxes, and repairs.

The concept of lease indexation has been around for some time. The major feature of this technique is to protect the real value of a landlord's return against inflation. When a lease allows escalation of rents for such things as operating costs related to fuel and taxes, a "partial" indexation to the CPI may prove beneficial to provide an add-on to escalations. The arrangement of a partial CPI clause with a pass-through of operating and tax cost increases has become quite common. The degree of CPI indexation can be negotiated by the lessor and lessee relative to their bargaining strength. The question arising from the CPI change is: Will this new CPI be an accurate reflection of actual price increases in the economy and thus be appropriate for rental rate adjustments in multiyear indexed or partial indexed leases?

To answer this question, some of the major problems associated with the old CPI are cited, followed by an explanation of the revised CPI. Finally, several alternatives to the CPI are offered, which may be more ap-

appropriate gauges of inflation and thus better suited to indexed lease rent escalations. Specifically, the need for a localized measure of inflation is pointed out for a fair evaluation of rental adjustments.

The "Old" CPI

The CPI uses a fixed-market basket of goods and services to measure average price changes over time. It is designed to measure inflation on a national scale. As such, prices for food, shelter, energy and other goods and services are collected in 85 urban areas throughout the country. The index is constructed using a weighted average of all prices collected. The actual weights were derived in a governmental survey on consumer expenditures in the 1970 to 1971 period and are changed to a relative weight according to relative price changes among items.² Separate indexes are also calculated for four major regions and 28 local areas.³

The main criticism of the CPI is that it does not accurately measure inflation, that is, losses in purchasing power of the dollar. Two reasons most often advanced for this inaccurate measurement are: 1) The CPI does not allow fully for substitution of comparable goods when the price of one rises faster than the other,⁴ which is a problem common to any Laspeyres type index such as the CPI,⁵ and therefore, it is not of major concern here; 2) The homeownership portion of the old CPI has overstated for a variety of reasons the true inflationary rate of the late 1970s and early 1980s.

The homeownership portion of the old CPI consisted of the cost of homes purchased, interest payments, taxes, insurance, and repairs. Again, the weights involved were determined in the early 1970s period when approximately six percent of all households purchased houses. However, the relative weights have increased dramatically. By December 1981, the homeownership component accounted for over 26 percent of the relative weights of the entire index,⁶ and was by far the most important component of the old CPI. In fact, due to increasing house prices and interest rates, it is estimated that this portion alone accounted for a third of the increase in the CPI for the period 1979 to 1981.⁷

One problem with the old method for calculating the homeownership component of the index is that capital gains or price appreciation accruing to homeowners was not taken into account.⁸ If houses do appreciate in price, this tends to lower the effective cost of the house over the period of ownership. In other words, houses are purchased to provide shelter and as an investment. The CPI measures only the costs of the shelter and does not consider the benefits of investment.

The omission of price appreciation was not the only factor that caused the homeownership component to overstate inflation. The deductibility of interest in mortgage payments was also not considered.⁹ Again, if the tax shelter effect were taken into account, the effective cost of homeownership would decline.

It is important to note the difficulties involved in estimating the costs of homeownership. The benefits derived from both the investment in the house and the tax shelter are neither constant for individual homeowners nor over a period of time. Efforts to measure user costs for shelter have been attempted by both the BLS¹⁰ and others.¹¹ However, most of these experimental measurements have been found to be extremely complex and costly, and thus not suitable as inputs into the CPI.

Other criticisms of the way in which homeownership costs are measured exist. While not necessarily addressing the overstatement of inflation, they do call into question the reliability of the homeownership component to measure costs accurately.

One criticism is that the old CPI used the interest cost that accrues during the first half of the life of the mortgage as a current expenditure. The reasoning behind this was that the average house is supposedly sold and refinanced with a new mortgage approximately halfway through maturity.¹² From an intuitive perspective, it seems inappropriate to consider these interest payments as a current expenditure since they are extended over the life of the mortgage. The selection of the first half of the interest payments was somewhat arbitrary, too.

The index has also been criticized for using a constrained sample. Only FHA mortgages were utilized in constructing the CPI input. Due to FHA restrictions, many newer, more expensive homes were deleted from the sample. It is questionable as to whether the FHA sample is truly indicative of the general changes in home costs over time.¹³ But the shortcomings of the old CPI housing component have been recognized, and a change in this component became effective in January 1983.

Revised CPI

Due to the problems identified in the previous section, the BLS has revised its measure of homeownership costs. The old method involved the costs associated with owning a home. The revised measure is referred to as a rental equivalence approach. The basic distinction is that the rental equivalence approach measures the cost of purchasing shelter rather than the costs associated with purchasing a house or asset.

The sample is not limited to individuals who rent housing; in actuality, it excludes them and consists of families who owned homes in the base period. The prices used to compute the index will be implied rents or what it would cost the homeowner to rent a house similar to the one he or she owned. The weights come from the early 1970s survey period and will decrease the homeownership component to about 14 percent of the index, as compared to the current 26 percent.¹⁴

As previously discussed, the old CPI index probably overstated inflation, especially during the period of 1979 to 1981. This was due mainly to rising home prices and mortgage interest rates and the inability of

the index to properly measure effective housing costs. The question still remains as to how well the revised index will perform. There is still some debate as to how well rental costs approximate homeownership costs. A comparison of the two indexes shown in Table 1 indicates that the revised index showed lower inflation rates for the period 1977 to 1981. However, for 1982, the revised index showed a greater rate of inflation than the old index,¹⁵ probably caused by a levelling off of house prices while rental prices continued to climb.

TABLE 1
Comparison of Old and Revised
Consumer Price Indexes⁶

	"All-Urban" CPI	Revised CPI
1970	5.5	4.5
1971	3.4	3.5
1972	3.4	3.3
1973	8.8	8.5
1974	12.2	11.1
1975	7.0	6.6
1976	4.8	5.1
1977	6.8	6.3
1978	9.0	7.9
1979	13.3	10.8
1980	12.4	10.8
1981	8.9	8.5
1982	3.9	5.0

All indexes based on December to December changes, where Revised CPI is the X1 experimental measure calculated by the BLS.

It is not possible to determine which CPI index will have higher inflation rates in the future, since this depends on the behavior of the relative prices of the items in each index. It is conceivable that the revised CPI index will indicate higher inflation than the old CPI index. The decrease in the homeownership component of the revised index is compensated for by increased weights of food, energy, and other goods and services, which could well increase in the future while housing costs and mortgage rates decrease or level off. However, this would not necessarily indicate that the old index is better than the revised index. The purpose of the revision is to provide a more accurate index of inflation. While the rental equivalence approach might not be a perfect solution, it seems to be a viable alternative in that it eliminates some of the discrepancies discussed previously.

A Comparison Of Alternative Indexes

The annual percentage changes in selected local CPIs for the 1970 to 1982 period are compared in Table 2 which includes the old CPI, and local CPIs for Atlanta, Houston, and Pittsburgh. It is interesting to note the wide divergence among the indexes over the thirteen-year period, suggesting that inflation impacts separate areas of the country at different times and with varying magnitudes.¹⁶ This could explain some of the skepticism

surrounding the CPI. Consider the 1979 to 1980 period. The old CPI dropped from a high of 13.3 percent to a 12.4 percent change in inflation. However, the rates for both Atlanta and Pittsburgh increased to highs of 15.7 percent and 14.3 percent respectively in 1980. Individuals and firms in areas such as these would find it hard to believe that inflation dropped in 1980 while this was the very year that localized inflation increases reached their highest point.

The CPI cannot be criticized as a measure of national inflation. Indeed, the revised CPI should provide a relatively good measure of inflation on a nationwide basis, which is its intended purpose. But it is likely that the CPI has been relied on too heavily, and is thus misused for some purposes.

One of these could well be the indexed lease. Between two different metropolitan areas, there are two areas of divergence. The first is the base level of rent. In one particular year, commercial office space, for instance, could lease for \$10 per square foot in one area and \$15 per square foot in another. There may also be a different rate at which these rents should be escalated, as seen in Table 2.

TABLE 2
Comparison of Regional Indexes³

	"All-Urban" CPI	Atlanta CPI	Houston CPI	Pittsburgh CPI
1970	5.5	5.5	4.3	6.0
1971	3.4	3.4	3.3	3.4
1972	3.4	3.4	3.2	3.2
1973	8.8	8.8	9.4	9.5
1974	12.2	12.2	14.6	10.8
1975	7.0	6.6	8.1	6.3
1976	4.8	3.5	6.6	5.4
1977	6.8	7.3	6.9	6.9
1978	9.0	7.8	12.8	12.0
1979	13.3	12.3	13.2	11.7
1980	12.4	15.7	10.5	14.3
1981	8.9	9.3	10.2	7.6
1982	3.9	4.8	5.8	6.8

All indexes based on December to December changes, except 1970 to 1976 regional indexes for Houston and Pittsburgh which are based on January to January changes.

Therefore, for a fair multiyear lease, protecting both the lessor and lessee, an indexed lease tied to a local measure of inflation would seem appropriate. In some areas a local CPI should be considered if it is available. Firms or Chambers of Commerce in some cities across the U.S. are constructing their own cost-of-living indexes.¹⁷ While the breadth and quality of these local measures may not be quite so great as the CPI, they certainly should be considered as an alternative for indexed leases.

Conclusion

While CPI escalation clauses have been appropriate for long-term real estate leases, the recent revision in the

CPI housing component raises the question of continued relevance. This paper suggests that the revised CPI will still be a relevant index on which to base a multi-year index lease. But it may be to the lessor's and lessee's advantage to investigate tying this lease to a regional index compiled by the BLS, or better yet, possibly tying the lease to a locally compiled index. Obviously, both parties to the lease must agree to, and be comfortable with, the index used.

NOTES

1. J. R. Lewis and E. J. Nosari, "Consumer Price Index Escalation Clauses in Leases," *Real Estate Review*, Vol. 10, No. 3 (1980), 101-104.
2. See for example, "Relative Importance of Components in the Consumer Price Index, 1970-71," U.S. Department of Labor, Bureau of Labor Statistics, 1972.
3. *CPI Detailed Report*, U.S. Department of Labor, Bureau of Labor Statistics, January 1970-January 1983, and quotes from the BLS.
4. A. Dougherty and R. V. Order, "Inflation, Housing Costs, and The Consumer Price Index," *American Economic Review*, Vol. 72 (March 1981), 154-164.
5. A. Blinder, "The Consumer Price Index and the Measurement of Recent Inflation," *Brookings Papers on Economic Activity*, No. 2 (1980), 539-565.

6. See note 3, *supra*.
7. E. A. Powell, "Substituting Rent for Homeowner's Costs in the Consumer Price Index Stirs Debate," *The Wall Street Journal* (May 18, 1982), 56.
8. See note 4, *supra*.
9. *Ibid.*
10. See note 3, *supra*.
11. See, for example, J. S. Greenlees, "An Empirical Evaluation of the CPI Home Purchase Index, 1973-1978," *American Real Estate and Urban Economics Association Journal*, Vol. 10, No. 1 (1980), 1-24, as well as notes 4 and 5, *supra*.
12. P. Cagan and G. H. Moore, "Some Proposals to Improve the Consumer Price Index," *Monthly Labor Review* (September 1981), 20-25.
13. See note 5, *supra*.
14. See note 3, *supra*.
15. 1982 figures obtained from the BLS.
16. Some regional indexes do not show much variation, however. An example is the New York City CPI which has varied by less than 5 percent from the all-urban CPI between 1967 and 1981. See "Escalation Clauses in Urban Office Leases," *Real Estate Review*, Vol. 12, No. 2 (Summer 1982), 55-62.
17. For instance, the First National Bank of Lubbock, Texas began a cost-of-living survey in 1982. This index, based on 302 items, is measured for the Lubbock area, and often shows a substantial difference in the rate of price change when compared with the national or regional CPI. As an example, the national CPI index rose an annualized 3.3 percent in August 1982, while the Lubbock index decreased an annualized 4.0 percent in the same period.