



Cavendish
Maxwell

The impact of inflation on feasibility studies – not always bad news

Zoom



The role of inflation in a feasibility study

Intuitively, we appreciate that because it changes the values of assumptions, inflation is highly likely to influence the results of a feasibility study. Unfortunately, academic analysis of the role of inflation for feasibility studies of all kinds rarely goes beyond mentioning its importance and a description of how it is treated in Argus software. We never get to learn how exactly inflation should be incorporated in a feasibility study, nor how to judge the consequences of different projected future inflation rates on key variables. So let us examine each of these in turn.

Before we do so, however, we must distinguish between a real

and a nominal analysis. The former attempts to bring back all future values to today's money. The actual numbers you see in the feasibility study are therefore not those being predicted: they are deflated back to today's values using a real discount rate. The latter does the opposite. In theory, the results from both should be identical, but in practice, most feasibility studies use nominal data, mainly because calculating a discount rate is, far from a simple matter of the required return being 'layered on top of the expected inflation rate'¹, sufficiently complex without trying to disentangle the inflation component. What follows therefore assumes a nominal calculation.

Good, better, best: ways of including inflation

Ignoring inflation altogether is clearly a colossal mistake, especially now the long period of low inflation has finally ended, and although construction costs in the Gulf remain lower than most other jurisdictions,² we can no longer expect that 'the main causes for cost escalation and schedule delays are unrealistic initial estimates'.³ The analysis effectively assumes zero inflation and that real and nominal numbers will be identical. All effects that inflation can bring to a project, good and bad, are overlooked. Any incorporation of inflation is therefore better than none. The most basic method is to start with today's data for all important variables, especially construction costs, rents, and operating costs, and then apply a single inflation figure across the entire projected period of construction and ownership. This method can be nuanced by applying a different inflation projection to each key forecast variable, differentiating especially between construction inflation, rental growth and associated interest rates, and sometimes by projecting two or more periods in which inflation is projected to be different, but constant - but even in this version, which sadly is still used by some, the method is rarely based on any serious forecast and therefore overlooks economic cycles. Just about the only benefit is that the single figure can be easily adjusted for sensitivity analysis. An improvement is to assume a base forecast for inflation, usually annual, and preferably differentiating between construction, rent and operating cost inflation rates as well as projected interest rates - and then apply variations on a monthly basis for construction and a monthly, quarterly or annual basis for rents and operating costs. This method has the advantage of reflecting some degree of cyclicity whilst retaining the advantage of the former method in identifying key base numbers. The best method, however, is to incorporate projected future construction costs, rents, operating costs and interest rates directly, independently and on the basis of carefully sourced forecasts for each. Presentationally, there are two ways to include this within the feasibility study, either by including the numbers themselves as input assumptions, in which case inflation then becomes 'hidden' within them, or by including both real numbers and inflation projections, with the actual nominal data being a result of multiplying one by the other, as Argus software generally does. In any case, where existing leases must be incorporated within a feasibility study, their expiry or renewal must be dovetailed with assumptions regarding the remainder of the property: Argus aims at a weighted-average suite-related net cash flow projection for exactly this reason.



The effects of inflation on output measures

Obviously, the difficulties involved in determining the effects of inflation mount as the project becomes more complex, so to highlight the results in this short article, I have used a model to construct and then tenant a single office building. To be able to present the effects of differential inflation, construction is estimated annually but escalates monthly and takes eighteen

months; net income escalates annually and is projected for six years, at the end of which the building is sold at prevailing cap rates, which along with all other assumptions, including the initial land price, are held constant for the purpose of this comparison. We can build a sensitivity data table with the results:

Analysis: the impact of differential inflation rates on internal rate of return (IRR)

Internal Rate of Return (IRR)		Income (rental) inflation					
		5%	6%	7%	8%	9%	10%
Construction cost inflation	5%	5.7%	6.6%	7.5%	8.5%	9.4%	10.4%
	10%	5.3%	6.3%	7.2%	8.2%	9.1%	10.1%
	15%	5.0%	6.0%	6.9%	7.8%	8.8%	9.7%
	20%	4.7%	5.7%	6.6%	7.5%	8.5%	9.4%
	25%	4.4%	5.4%	6.3%	7.2%	8.2%	9.1%

In this example, the relative importance of future rent levels by comparison to construction cost changes is very clear. As owners, we should much prefer higher construction costs now in exchange for higher future rents in future years. Clearly, not every example will be the same: the balance between construction cost increases and future net incomes and capital values is therefore potentially decisive. The net income benefit depends in turn on the relative trajectories of rents and operating costs. But if they are both approximately aligned in the medium term, and if the balance favours net income, as in this example, the positive effect on IRR (and NPV) is potentially dramatic. This is especially the case if the developer has been able to obtain fixed interest term loans to counteract, at least partially, the effect of rising interest rates associated with the rise in rents that is likely eventually to accompany inflation.

Why the correlation? Because 'Increases in the cost of land, construction, and labor are likely to make new supply less financially feasible, which is generally supportive of higher occupancies and stronger pricing power for existing assets'.⁴ If competition and therefore supply reduce, then especially at a

time of changing user requirements, those few suitable developments that do come on stream will lease or sell faster than hitherto. When reflected in sales schedules, for example, that itself is potentially beneficial. Likewise, issues of scarcity can bear on land valuations. In both cases, work-in-progress benefits from upward valuations. For a developer, the benefit of inflation on loan-to-value ratios is therefore another potential advantage. Traditionally banks have been the losers from prolonged relatively high periods of inflation, and asset owners the beneficiaries. As asset values rise, the real value of debt declines, so LTV ratios fall. Asset owners can pay themselves larger dividends, sooner, than otherwise. IRRs rise commensurately, to counteract at least partially the effect of rising interest rates. Finally, there are also lessons to learn from the experience of project finance in tackling inflation. First, and of great importance to international investors, the projected trajectory of commodity prices and exchange rates in relation to inflation will be sources of both risk and return.⁵ And second, that at times of relatively high inflation, the relative rewards and responsibilities of joint venture partners should also be subject to especial scrutiny.⁶



| Conclusion

Whilst differential inflation can bring welcome improvements to IRRs and NPVs, especially between construction costs and net incomes, the right approach is therefore not only to develop as much confidence as possible in the base case, but also to evaluate the project using different differential inflation rates for both construction and net income as part of a variance analysis. This has the dual benefit of allowing decision-makers to see clearly what has to happen to differential inflation rates for the benefits to ensue – and the downside they do not.

Inflation can certainly whittle away idle capital that is not deployed to best use, and it is of little cheer for most bond-holders. But equally, the judicious use of leverage for projects conceived and launched in inflationary conditions can make fortunes where none existed before.



Key Contacts

**Julian Roche***Chief Economist*

Cavendish Maxwell

julian.roche@cavendishmaxwell.com

**Zacky Sajjad***Partner, Business Development and Client Relations*

zacky.sajjad@cavendishmaxwell.com

+971 50 297 9654

Dubai

+971 4 453 9525

dubai@cavendishmaxwell.com

2205 Marina Plaza, Dubai Marina, P.O. Box 118624, Dubai, UAE

Dubai | Abu Dhabi | Sharjah | Ajman | Muscat



cavendishmaxwell.com



Disclaimer:

The information and analysis contained in this publication are derived from sources generally considered reliable and based on assumptions deemed reasonable and current at the time of undertaking market research. However, no representation or warranty, express or implied is made regarding their accuracy or completeness. We reserve the right to vary our methodology and to amend or discontinue the indices at any time for regulatory or other reasons.

The information and its analysis in this publication do not constitute legal, financial, or any other form of advice. Furthermore, it does not constitute a formal valuation, feasibility study or analysis of any property interest and should not be construed as such. Such analysis, including forward-looking statements are opinions and estimates only, and are based on a wide range of variables which may not be capable of being determined with accuracy. Variation in any of these indicators can have a material impact on the analysis and we draw your attention to this.

Cavendish Maxwell accepts no liability whatsoever for any loss or damage whether direct or indirect arising from reliance on this information.