

Mozambique Business Cycles

Part I:

The Composite Indicator of Economic Activity

Updated to December 2002

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The **Composite Indicator of Economic Activity** in Mozambique (**ICAE**) has been updated. The ICAE is the product of a partnership between the private and the public sectors, and it was first made public in October 2002. The last update that was released in February 2003 (see the weekly supplement *Economia e Negócios* of Mozambique daily broadsheet *Notícias* of 21 February 2003) presented the ICAE based on actual activity data up to July 2002 and forecasts up to the end of the first quarter of the current year. In the current update the Indicator is based on actual data covering the period up to December 2002. **Part II** (coming next week) will present the update of the ICAE for the period up to the end of the first semester and forecasts up to the end of 2003.

¹Founder of **Analítica-RJT**, *Economic Research and Consultancy* (<http://www.analitica-rjt.virconn.com>). The Mozambique ICAE was produced while the author was under contract with the Development Centre of the Organization for Economic Cooperation and Development (DC-OECD). The DC-OECD financed the study in support of the Mozambique Public Private Partnership Project. In the framework of Public-Private partnership the Association of Mozambican Industries (AIMO) is the host of the ICAE in Mozambique.

Trends-cycles of economic activity to end 2002 with a broadened ICAE

The ICAE published in October 2002 and updated in February 2003 was based on six indicators of economic activity namely: electricity consumption, cement production, exports, imports, cargo handled by the rail system, and cargo handled at ports (both to and from Mozambique, in transit to and from neighbouring countries). In addition to extending the period covered by the actual out-turns of the component series, the present update for the first time includes an indicator of activity of manufacturing industry in Mozambique that allows the ICAE to be broader in information content than it was in the previous versions. In those versions industrial activity was captured mostly indirectly through electricity consumption, imports (as these include imported raw materials and other intermediate inputs for industry) and exports (as these include a few industrial products, in particular from agro-industries). In addition to reflecting the activity of the particular industry, cement production also contributes to providing an indication of the performance of the construction industry (noting however that Mozambique is a net importer of cement).

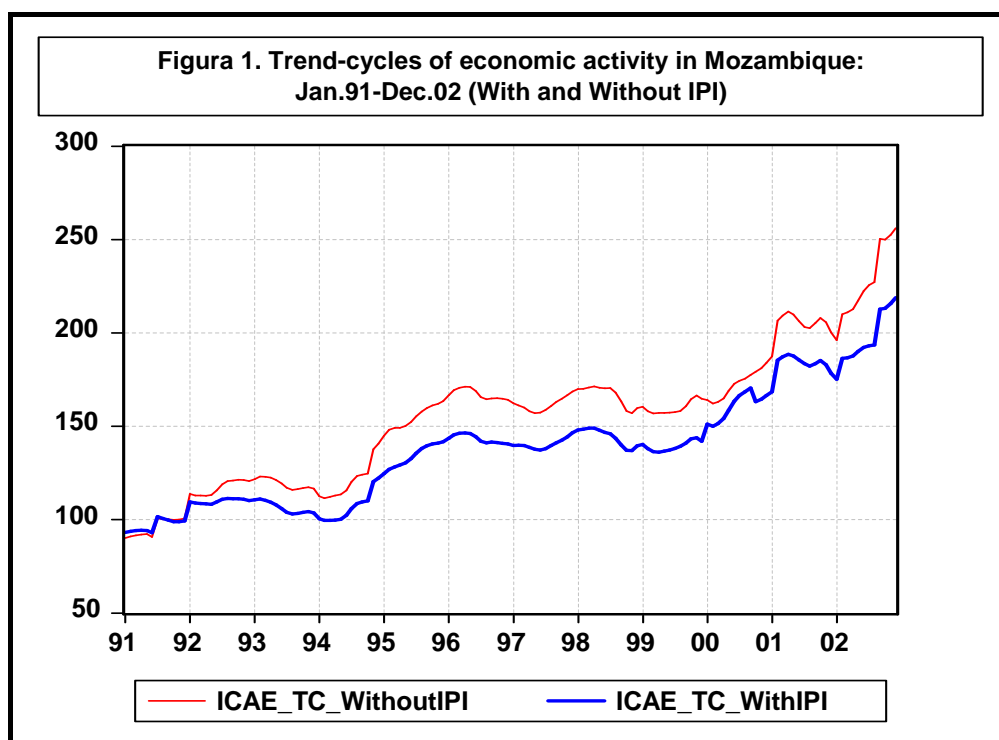
The seventh component series that has now been added is based on the output of a selection of 84 products of manufacturing activities for which data is available over the period from January 1991 to December 2002.

Furthermore, in addition to adding the extra data points and another component series, the updating exercise that resulted in the current version of the ICAE involved improvements in the application of the methodology and computation procedures of the Indicator, thanks to the access that we have had to more specialized software and critical reviews offered by experts in this area, in particular from the OECD.

Figure 1 shows the trend-cycles series of the updated ICAE, with (ICAE_WithIPI) and without (ICAE_WithoutIPI) the added series of manufacturing industry output (IPI). It is easily seen that

starting in 1992 the two series of the trend-cycles (levels) of economic diverge, with the ICAE_WithoutIPI remaining systematically above the ICAE_WithIPI. Thus without the new series of manufacturing activity the computed ICAE in Mozambique tended to show a more optimistic performance in economic activity than when it incorporates the industry series.

Notwithstanding this slight difference in the levels, the two trend-cycles indicators are strongly associated. On average, and for all the period under consideration, the level of the ICAE without the new indicator of industrial activity is only 10% above the indicator computed with the new series added. Over the whole sample period the coefficient of correlation between the two series is 0.99, which is almost its maximum value of 1.0.

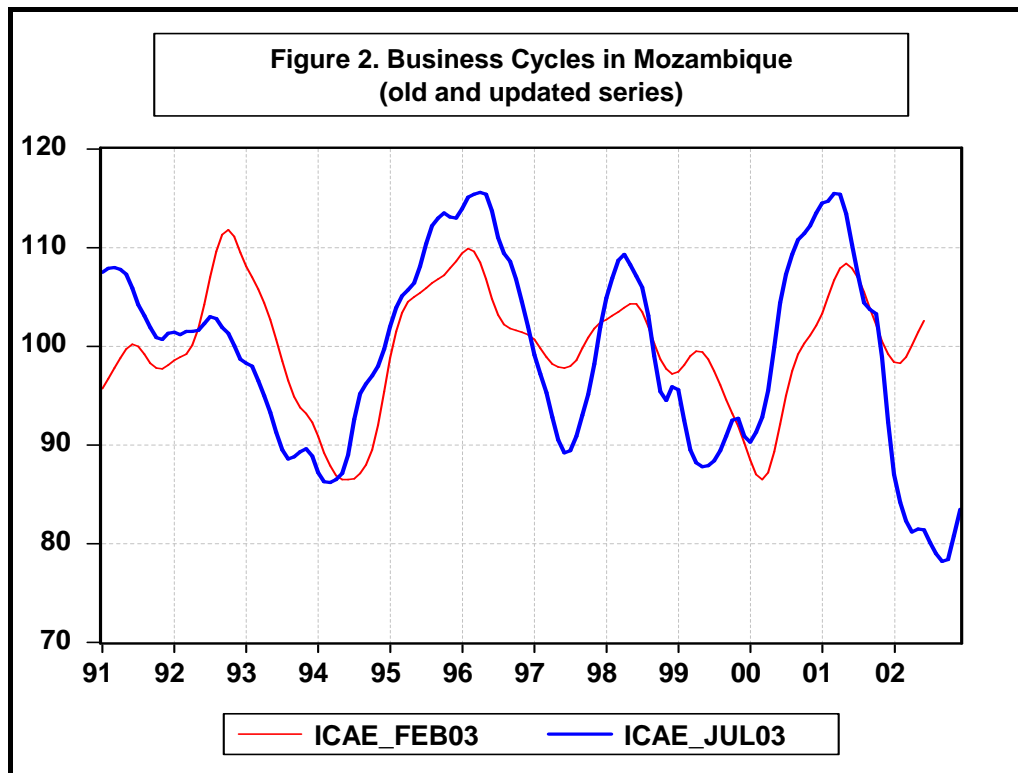


These results must bring some comfort as they suggest that beyond the noticeable level departure in 1992, in essence the two series capture in the same way the long-term trends and the medium-term cyclical processes that are of interest to us. Thus for instance, in terms of the medium-term, it can be seen that the two series capture in a similar way the decline of activity until 1994 (more pronounced when the new series of manufacturing activity is included). They also capture in a similar way the relatively accelerated growth (although less pronounced when seen through the ICAE_WithIPI) until the end of 1996, followed by a period of stagnation up to the end of 1999. The recovery that started in 2000 is relatively quicker when seen through the ICAE_WithIPI. This last aspect is particularly important, as it reflects a phenomenon we identified and that has been confirmed by a number of manufacturers and that is related to the disaster floods of 2000. In that year some industrial companies benefited substantially from the demand for emergency supplies in basic consumer goods in the areas affected by the floods (e.g. packed foodstuffs, domestic utensils, etc.). Finally, manufacturing industry appears to have suffered relatively more from the financial crisis of 2002 (first the accelerated depreciation of the Metical increasing the domestic currency cost of imported factors of production, and then the strong brakes pulled by monetary policy – high interest rates and credit crunch). This is also reflected in the differentiated performance of the two ICAE series since 2001 (see also **Box 1** for a sharper contrast in the performance of manufacturing industry *vis a vis* the rest of the economy).

Given these results, we now turn to look at the business cycles of the economy of Mozambique up to the end of 2002 using the revised ICAE (that is, the series that was computed with the added new series of manufacturing activity).

Mozambique business cycles up to the end of 2002: review of out-turns and forecast performance

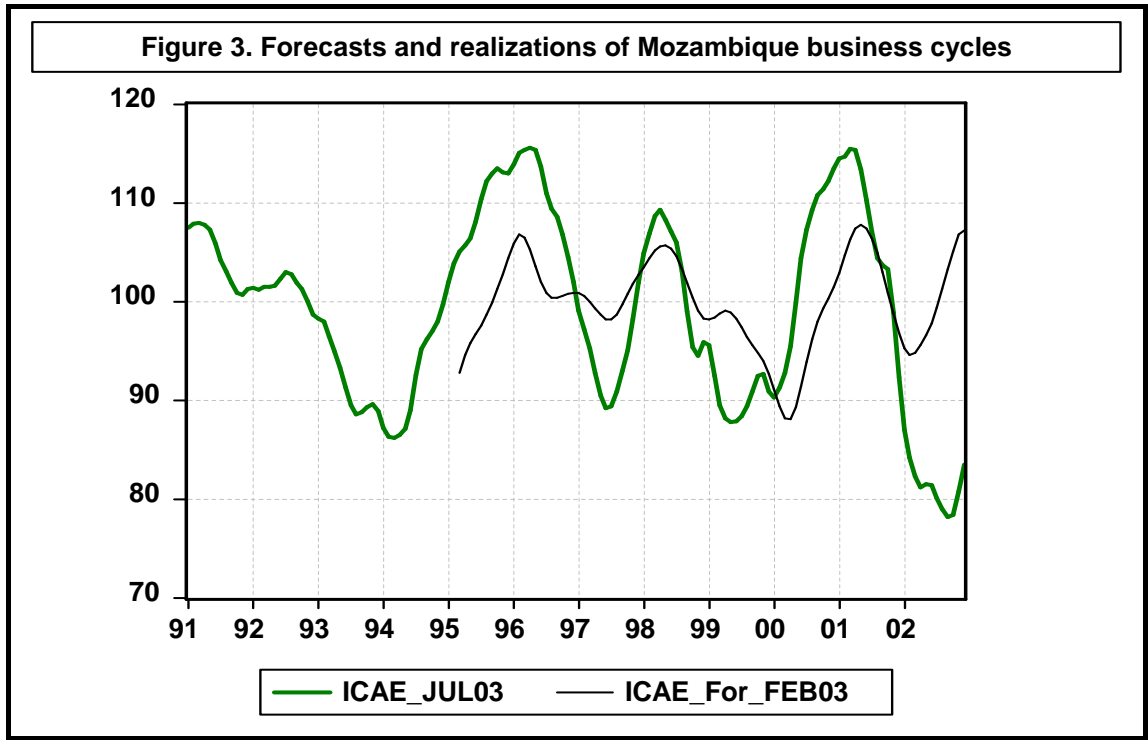
As we present the updated ICAE in the form of cycles of economic activity we draw your attention to two aspects. The first relates to the differences in the ICAE series published in February (ICAE_Feb03) and that which is now brought to the public (ICAE_Jul03), as shown in **Figure 2**.



Similar to what is observed in the case of the trend-cycles series, there is a slight difference between the business cycles series published in February 2003 and that being now released. It must be recalled that these differences reflect simultaneously the effect of the addition of the new series of manufacturing activity, and the improvement in the methodology of computation of the ICAE. Taking

into account these aspects, it should also be reason for comfort that, except for the last year of the sample (i.e. 2002), there does not appear to be substantial differences in the way the two series capture Mozambique business cycles. In particular, it is crucial that both the old and the new series capture the same turning points (from recession to recovery and vice-versa) in the business cycles of the country.

The second aspect of the results that deserves highlighting relates to the performance of our forecasts released in February (ICAE_Feb03) for the period between July and December 2002, when compared with what became the actual performance, as depicted in **Figure 3**.



It can be clearly seen that the forecasts of the ICAE that we released last February were substantially optimistic and tended to miss the last turning points by a few months. In effect, while we predicted

that by October 2002 economic activity in Mozambique could be slightly above the long-term trend, the out-turn suggests that it must have actually been almost 20% below (the long term trend).

That the updated ICAE suggests that actual economic activity by end 2002 was in deeper recession, a fact that to a certain extent contradicted our forecasts, should be no surprise. In effect, as we published such forecasts we drew attention to the possibility that they could be more optimistic than otherwise. Thus in the first paragraph of the release (*Economia e Negócios, Notícias*, 21 February 2003) we noted: *“The indications that [the ICAE] gives are that the economy of Mozambique is facing immense difficulties getting out of the recession. In fact all signs are that the worse may still happen this year and during at least the coming two years. “ The same February article closed noting that: “Forecasts that we have conducted (...) suggest that unless measures to stimulate the economy are taken in the coming three to six months, and if the pessimism that has already taken hold in the business community continue, the coming two/three years will be lost Such measures must above all aim at the real sector and the small and medium enterprises, and include substantial (not to say radical) positive political moves that can inject confidence in future political stability (even in the case of political changeover of the governing party in the coming local authorities and national parliamentary elections).”*

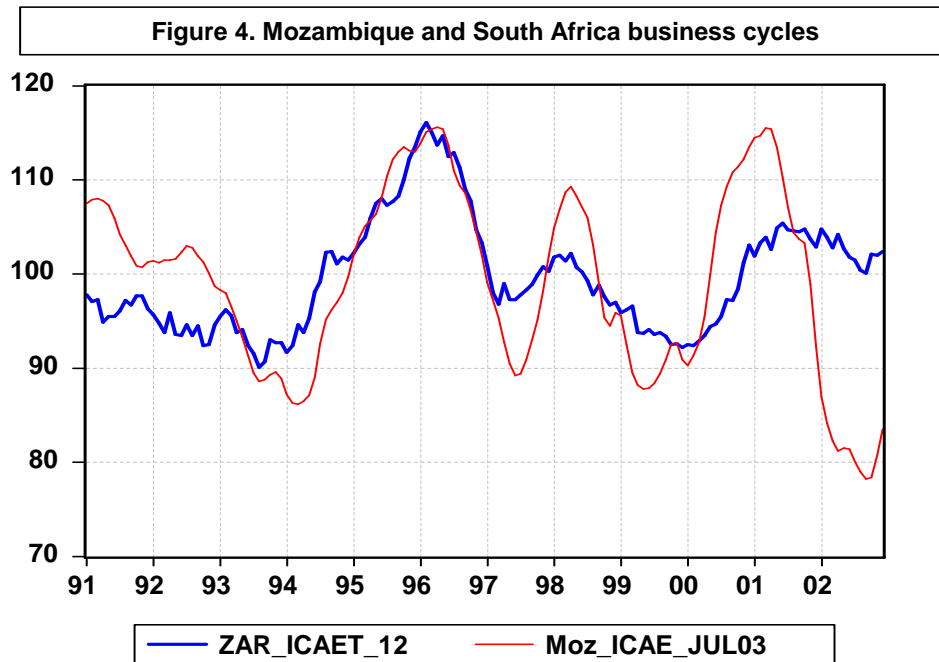
The review of the now updated ICAE suggests that these considerations were and may still be valid.

Comparing the business cycles of Mozambique and South Africa

One of the characteristics of the economy of Mozambique relates to its close relationship with that of South Africa. The capacity of the ICAE to reflect this basic fact of the structure of the economy of the country can be taken as an indication of its relevance and validity.

Figure 4 shows this strong correlation between the Mozambique and the South African business cycles. It must be noted that in this picture the South African business cycle is lagged 12 (twelve)

months, which suggests that the business cycle in Mozambique tends to follow that of South Africa with almost one-year delay.



This phenomenon of correlation between the business cycles of Mozambique and South Africa can be of particular importance for the forecast of developments in the economy of Mozambique as it suggests that the knowledge of the current state of the business cycle in the economy of South Africa is a useful information about the likely state of the business cycle of the economy of Mozambique twelve months ahead.

In **Part II** (coming to public next week) we will present the ICAE updated with preliminary data up to July 2003, as well as our forecasts to the end of the current year.

Box 1. The indicator of industrial activity and the business cycles in Mozambique

The Index of Industrial Production (IPI) that has been added to the component series of the ICAE was computed using data supplied by the Mozambique National Institute of Statistics (INE). It includes series of volume of production of 84 products from the following manufacturing industry branches:

Industry branch	Number of products	% of the Total Volume
31. Food, drinks/beverages and tobacco	17	61.1
321. Textiles	4	0.7
33. Wood	11	2.5
34. Paper, graphics and printing	20	5.1
35. Chemical industries and derivatives of oil and coal	17	8.0
369. Non-metal minerals (construction materials)	3	20.0
37. Basic metallurgical industries	4	0.9
38. Metal products, equipments and transport materials	8	1.6
Total (excluding garments)	84	100.0

Figure c.1. Overall and industrial trend-cycles of activity in Mozambique

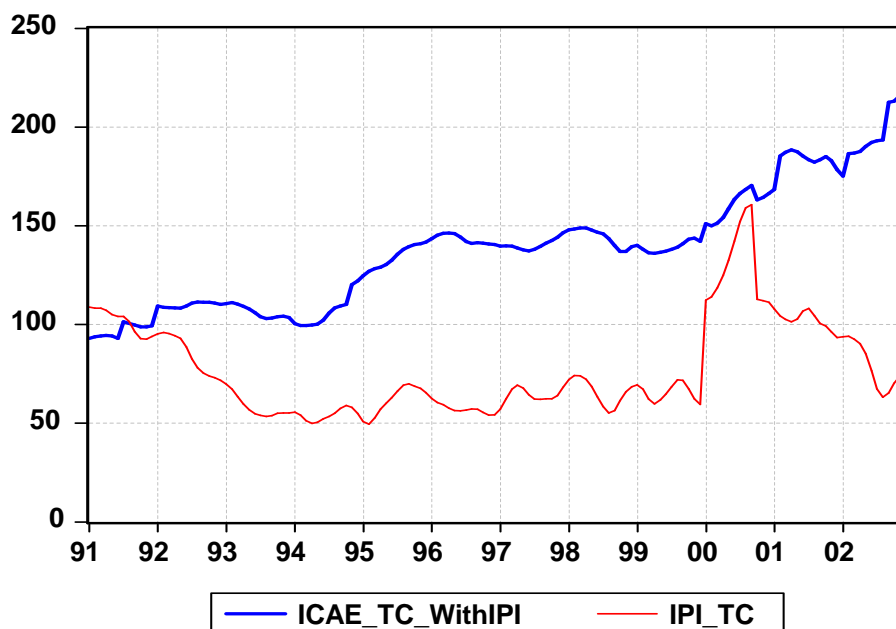
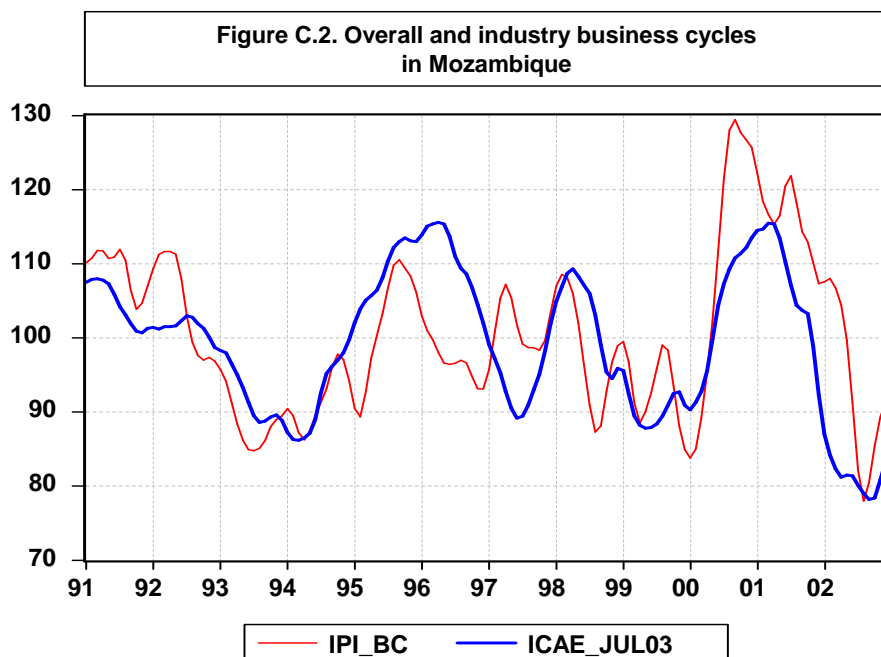


Figure c.1 shows the trend-cycles series of overall economic activity as given by the updated ICAE broadened to include the industrial component series (ICAE_TC_WithIPI) and that of manufacturing industry alone (IPI_TC). The picture reveals that performance of manufacturing industry has departed substantially from that of the rest of the economy. This performance is characterized by a long period of decline and stagnation only temporarily reversed by the extraordinary performance that took place in 2000 following the demand stimulus created by the emergency situation (floods). However this is also quickly reversed by the decline that has been taking place since the second half of 2001. It must be noted that the IPI_TC does not include aluminium from the MOZAL smelter plant and the activities of other mega-projects, while these are captured in the ICAE_TC_WithIPI, since this overall indicator includes imports and exports of such projects.

Box 1. (Continued)

Figure c.2 shows the updated overall indicator of Mozambique business cycles (ICAE_Jul03), together with the indicator of the cycles of manufacturing industry (IPI_BC). Contrary to the trend-cycles indicators that tended to depart permanently in levels since 1992, the business cycles in the manufacturing industry are highly in tandem with the overall business cycles in the economy.



This stronger closeness between the manufacturing industry and the overall business cycles (in contrast with the permanent departure in 1992 between the underlying trend-cycles series) is of particular important since it suggests that the performance of Mozambique's manufacturing industry excluding the big-projects (that is, of the activities of small and medium scale enterprises – SMEs) is dominated by the short and medium term factors. This should not be surprising. In effect, it is known that in Mozambique investment that creates capacities that determine then long term trends is concentrated in the big-projects. On the other hand, it is also known that SMEs that generate the bulk of industrial employment and incomes for the working and middle classes not only have not benefited from similar volumes of investment as those channelled into big projects (a fact that justifies their long term stagnation and decline), as they have also been subjected to negative pressures from restrictive monetary policies dominated by considerations of short-term macroeconomic stabilization that resulted in limited credit facilities and scandalously high interest rates.