Three hundred years of cyclicality in South African wine production

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We construct a long-run series of wine production in South Africa to investigate the cyclical behaviour of one of South Africa’s leading agricultural exports over the last three centuries. We employ a novel business cycle technique that allows us to extract short-, medium- and long-run cycles. These provide information about the underlying trends in the often erratic historical data. We map the medium-run trends, ranging between 8 and 40 years, to the existing narrative of wine development in South Africa. We also compare, where possible, our medium-term series to other economic variables and wine cycles in other countries.

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OVERVIEW

Less than a decade after European settlement in the mid-seventeenth century at the southern tip of Africa, the Cape produced its first wine, likely as part of the experimentation with all sorts of fresh produce to find the ideal foods and beverages that could keep sailors and passengers in good health during the long sea voyages to the East Indies and back to Europe. Volumes were initially small, owing to the small number of European settlers, the large start-up capital required and the priority placed on the production of foodstuffs to supply the passing ships. However, the conducive climate and terroir of the Cape soon made viticulture a thriving industry, augmented by the arrival of wine-producing French Huguenots (Fourie and Von Fintel 2014). Production remained limited, however, because of restrictions on sales imposed by the ruling Dutch East India Company. For most of the eighteenth century, all wine produced at the Cape was to be sold to the Company, who would act as intermediary, buying at low prices and selling high to the passing ships who had few alternative sources of supply. Despite these practices, the better farmers prospered. To avoid higher input prices in the labour-intensive vineyards, specifically the high wages demanded by Europeans, the Company decided to allow the importation of slaves from the East Indies, with the first slaves arriving even before the first wine was made. The troubled labour relations on commercial farms throughout South Africa as well as the deep inequalities in Cape society that resulted from these institutions are therefore a direct consequence of the wine industry.

The British takeover of the Cape in 1806 improved matters considerably. The era of the Napoleonic Wars and the associated high tariffs created a large market for Cape wines in Britain. Exports soared, especially of fortified wines which had alcohol added as a preservative to ensure that quality was maintained. By the end of the 1830s, however, with the emancipation of slave labour, increasing labour costs, and the reduction of excise duties, Cape viticulture was

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in crisis. Prospects for improvement were low until the discoveries of vast quantities of diamonds, first, and later gold in the South African interior created a large local market.

Although exports for wine continued, the South African economy shifted to minerals and, during the early twentieth century, manufacturing. While farming expanded rapidly in the interior of the country, with improvements in mechanisation driving growth in the 1950s and 1960s, growth in wine production lagged behind. Sanctions further limited South African farmers’ export opportunities, so that by the late 1980s less than 1 per cent of the wine produced was exported. Only by the 1990s, with South Africa joining the World Trade Organisation and re-entering the world market, would wine production again see significant changes. Mechanisation, science and the expanding consumption across the globe created the conditions to see the South African wine industry again excel, becoming the country’s largest agricultural export commodity.

This paper investigates this historical narrative with a new quantitative dataset of wine production. As far as we are aware, we are the first to analyse the business cycles of wine production over more than three hundred years for this country. Using a novel time-series smoothing technique from the business cycle literature, aimed at separating short-run business cycle information from longer-run trends in the economy, we identify the periods of growth and stagnation in the wine industry, and aim to explain these turning points (Harding and Pagan 2002). One popular data smoothing technique is the band-pass filter method, which entails decomposing time series into different frequency components where each frequency component relates to a specific time horizon (Baxter and King 1999). The benefit of using such a technique is that, apart from removing noise, smoothing out short-run fluctuations also removes the short-run impact on agricultural production due to idiosyncratic shocks, such as climate shocks.

By isolating the medium-run cycles, we are able to verify the exact timing and duration of each cycle, matching it to the historical narrative. Does the cycle change after the abolition of slavery? When does the cycle begin to reflect that of a modern, industrial economy? In addition, we will be able to identify the reason for the cyclicality, by comparing it to other variables, where available. Does the wine business cycle lead or follow the general South African business cycle, for example? Do turning points match? And does this relationship change over time? Finally, we hope to compare the South African cycle to cycles from other wine-producing countries? Do the business cycles follow each other, or are they completely independent?

A three hundred year annual data series of South African wine production allows us to observe and explain the evolution not only of one of the largest agricultural sectors, but of the South African economy in general.