Chapter 7

Conclusion

This dissertation intended to answer to what extent linkages between sectors define South Africa’s development trajectory, and how suitable its economic policy is to change its path to achieving a more diversified industrial sector that is less reliant on its mineral endowment and that is also more labour-absorbing. For this purpose, I provided a detailed overview of the history of the country’s economic and particularly its industrial development. Building on the stylised facts established in that section, I implemented a model that aimed to take the mineral endowment and linkages between economic sectors into consideration. Lastly, an econometric exercise and a policy analysis assess the strength of linkages and issues of path dependence in policy formulation that explain the continued focus of the South African economy on sectors close to mining.

The historic overview has shown that it was indeed the country’s mineral endowment, its abundant supply with gold, diamonds, coal, platinum and a host of other raw materials, that at first triggered and then continued to shape its development path. In the very beginning, manufacturing activity was started in reply to the needs of mines. Explosives, electricity, and a basic supply of consumer goods for mine workers were soon provided locally. At later stages, successive governments attempted to broaden the manufacturing base by employing import substitution policies, while those manufacturing sectors close to mining—basic metals and chemicals are the most important examples—also received strong government support. As a result, the South African economy inherited by the ANC when it came to power in 1994 was largely inward oriented. This was particularly true
for manufacturing. The deficit accrued in these foreign-exchange consuming activities was financed mostly by the exports of minerals and of goods produced within the confines of the Minerals Energy Complex or MEC. In addition to inward orientation, this industrial structure was problematic for a second reason: despite a large supply of unskilled labour, South African manufacturing and industrial activities are very capital intensive, resulting in high unemployment. While the challenges were clear to the incoming government, the appropriate policy responses were less so. The discussions on the economic interventions focused on macroeconomic policy mostly, but were partly reflected in industrial policy as well. In the end, the ANC chose to liberalise its trade regime to foster an opening of the economy and increased competitiveness of manufacturing firms, simultaneously supporting them by a range of supply side programmes. However, at least in the early phases, the desired results—more diversification, job creation in manufacturing, an improved performance in international markets—were not accomplished. Quite to the contrary, the country experienced a more strongly accentuated development of capital-intensive sectors, while more jobs were lost in labour-intensive sectors such as textiles and clothing.

The simulation in Chapter 4—based on a New Economic Geography model of the vertical linkages type—takes two stylised facts from this historical development as its starting point: the role of a mineral endowment and the role of inter-sectoral linkages in the industrialisation process. I set up a three-regions model where only one region disposes of minerals that are used as an input in the production of one of its industrial sectors. All manufacturing sectors are linked with each other in an input-output framework. Other than that, they only use labour as an input in production. As is common in NEG models, there is an industrialised core region that concentrates economic production in the manufacturing sector within its confines. The driving force for this agglomeration (or, more precisely in a linkages framework, specialisation) are the forward and backward linkages at play. They allow firms to buy inputs more cheaply and to profit from a larger market for its output in the core region. On the other hand, higher economic activity in the modern sector drives up wages—the resulting wage gap with the peripheral regions acts as a countering force on complete specialisation. Of the two peripheral regions, one profits from the above-mentioned mineral endowment, most likely resulting in its specialisation in the respective sector.
From this initial point, a growth process is introduced which increases worldwide demand for manufacturing goods. The simulations show that this increase at first leads to further growth of manufacturing industries in the core—with the exception of the mining sector that heavily uses the mineral input—while the other two regions remain peripheral. Yet, at the same time, the wage gap widens, making it more and more attractive for some firms to go into business in the periphery. At one point, this resettling indeed occurs, its concrete manifestation depending on the strength of linkages in the respective sectors. Using an artificial input-output matrix with a mining sector, a strongly linked second sector close to mining and three very weakly linked labour-intensive sectors, the resettlement of industries takes place in the latter three sectors only, and they all move to the peripheral region without minerals, allowing it to profit from linkage effects itself and leading to its rapid development. The mineral-rich region (South Africa) continues to specialise entirely in the resource-heavy sectors and is eventually overtaken in terms of wage levels by the third region. With a more realistic input-output structure taken from South African data, the results are less clear-cut, but the overall picture remains the same: growth in the mineral-rich region is concentrated in sectors heavily linked to the mineral endowment (e.g. chemicals), while sectors more intensive in the use of other factors move to the third region. The simulation thus confirms on a theoretical level that it is indeed possible for a country to forego the opportunity of a more diversified and labour-intensive industrialisation path due to a specialisation in mining and closely related sectors—due to linkage effects and wage differences.

A simulation exercise is no substitute for empirical work, and thus Chapter 5 attempts to empirically assert to what extent linkages influence sectoral growth in South Africa and how growth shocks in a sector might pull other sectors along—or fail to do so. The method used is a version of the SVAR approach where sectoral performance is explained by its own and other sectors' past performances, and the latter are weighted according to linkage strength. Estimation points to a strong pulling power of the manufacturing sector as a whole which—due to linkage and spillover effects—has positive effects on the other sectors of the economy. This is in marked contrast to the MEC, which, despite sizeable linkages to the rest of the economy, does not provide comparable spillover effects. Looking at manufacturing sub-sectors, the effects are weaker, but a cautious interpretation points to a positive influence of the transport equipment and (to a lesser extent) the metals and
metal products sector, while petroleum and chemicals, a very dominant and strong performer in the South African economy, has relatively weak positive spillover effects on other manufacturing subsectors. Growth in mining and closely related sectors thus diffuses only weakly to the rest of the economy, and particularly to those sectors that would provide more employment opportunities. This evidence could be read as a confirmation of the tendency towards path dependency established in the theoretical work or at least does not contradict it.

Lastly, in Chapter 6, the recent shifts in industrial policy came under scrutiny. Industrial policy and economic policy more broadly have to a large extent reinforced the lopsided development of the South African economy since 1994, despite the repeatedly stated aim of policy makers to change the economy’s course. With the notable exception of the Motor Industry Development Programme that has helped the South African auto industry to become more competitive on a global level, industrial policy has failed to push the manufacturing sector towards more diversification. Particularly in the 1990s, institutions such as the Industrial Development Corporation, but also the broader macroeconomic and trade policy framework have favoured those sectors that have profited from policy support in the old regime as well: mining itself and the upstream users of the mineral endowment such as chemicals and basic metals. The latest initiative of the Department of Trade and Industry, the National Industrial Policy Framework, admits to these shortcomings and attempts to redirect policy interventions. The document puts a lot of emphasis on policy coordination of various government agencies, so that a consistent industrial policy in line with the DTI’s goals can be pursued. While the attempt is laudable and the analysis it is based on confirms many of the findings of this study, a careful reading of the document, its reception in the country, and an analysis of the drivers of this policy and first initiatives that emerged from it lead to a cautious and rather skeptical assessment: it is questionable whether the DTI has the clout to implement the wide-ranging changes it envisions for the country’s industrial policy strategy, and a number of indicators point toward a less radical change, leaving many of the key characteristics of policy as they were, and therefore implying more continuity in South Africa’s industrial and economic policy regime.

The answer to my research question then is a nuanced one: linkages did play an important role in industrial development, yet they have often been reinforced by policy interventions that make it difficult to isolate their effect.
On a theoretical level, their importance in shaping the development path has been shown to be plausible, and empirically, the development of certain sectors is indeed strongly influenced by other sectors. As input-output linkages continue to matter today, so does industrial policy which shows a surprising amount of path dependency as well. Despite many assurances and honest attempts to change this fact, industrial policy is still geared to benefit the sectors close to the country’s mineral endowment, and thus contributes to the continuity of South Africa’s lopsided industrial development.