THE SOUTH AFRICAN INDUSTRIALIZATION DEBATE AND THE TARIFF IN THE INTER-WAR YEARS

by

Sean Archer

Introduction

This paper reports on a research programme into the growth of secondary industry in South Africa immediately after the revision of the tariff in 1925. The aim is a broad sketch more than a presentation of results. The numerical calculations, e.g. of output growth, tariff levels and rate changes between 1924 and 1939, are incomplete. With access to other sources (1), these are likely to be revised, and the figures appearing in the tables below should be read as preliminary. Two further points are needed by way of introduction: first, this forms part of a larger study of industrial growth in the period spanning the two world wars; secondly, the work on related questions, notably theses by Kaplan (2), Davies and others, has been accessible only recently and has not been consulted.

A setting for the research work reported here is the following. Given the aggregate volume of investment in the South African economy in the early nineteen-twenties, and therefore the rate of accumulation, its pattern was believed such as to generate a reserve army of black and white labour. The stated purpose of the tariff revision of 1925 was to alter this pattern by raising the prospective value-added - the source of accumulation - in manufacturing activities. (Value-added is an industry's output minus the goods and services bought from other industries - fuel, power, intermediate inputs - and used up in the course of production.) One intended consequence was absorption of the white labour surplus. This is by and large the conventional perspective, variously labelled. Another presented in recent years argues that the primary objective of the reformed tariff was the purposive bias in the accumulation process itself. Far from protection merely being an instrumental means to the ultimate goal of employment creation - and therefore in potential substitutable by other means like subsidies, tax and credit incentives, or state investment - it was itself the object of the exercise. Agricultural and manufacturing capital, so runs this hypothesis, were the recipients and had a material interest in the diversion towards their sectors of more investible surplus.

This antithesis is too stark. First, any secondary industrialization process has in potential a realization problem: where and to whom are its products to be sold so that in turn they generate surplus for conversion into investment and capitalists' consumption in the accumulation cycle? Apart from export of manufactures, an option not open in the circumstances of the inter-war years, demand had to come from the agricultural, mining and services sectors (the exogenous component) and, there is reason to argue, in addition from the expanded wage employment of whites within manufacturing (the endogenous component). The consumption of black wage-earners also was not negligible, in particular for clothing, textiles, tobacco, certain processed foods, fuels and utensils, but the argument turns principally upon the "auto-demand" of white industrial workers. This is speculative. Testing the proposition requires a close look at the composition of manufacturing output by use - wage goods, durable consumer goods, intermediate inputs, capital equipment - and by destination. This is not easy, as explained later, but it suffices to note that the endogenous demand, a function of manufacturing's own size of labour force and wage structure, may be a key factor.

Secondly, we need reminding that factory production becomes feasible only when a pool of labour without independent means comes into existence. Had poor whites surplus on the land or informally employed or on poor relief not been available, would the scale of manufacturing expansion that occurred still have been attainable? By the early twenties a second generation black proletariat resident in towns and cities was in the making, and a skilled stratum in the ports possessed an earlier provenance. There is little systematic information about recruitment to the South African workshop and factory, less than to the mine and the farm. But, to adopt the counterfactual mode, had a supply of free white labour not emerged is it plausible to suppose that the same pace of growth and range of output would have occurred in the sector prior to World War II? The question is complex. It turns upon the relationship between cost and productivity in the employer's perception of the labour available, and upon variables like the differential mobility of black and white labour, their access to formal education, housing and health status, not to speak of docility and discipline.

Thirdly, there is not one-way causation between capital formation and industrial output with the former a precondition for the latter. This is the perspective appropriate to the phase of primitive accumulation, i.e. the transfer and concentration in control and ownership of productive assets. But it does not fit the period under discussion. We can speak as justifiably of capital accumulation resulting from industrial development (3), and in certain circumstances the volume of investment determines the rate of savings rather than the other way round in a profit-seeking system. Those circumstances have to do with the autonomous role of expectations and the "state of business and confidence". The aspect relevant here is that the source of accumulation in an economic sector and the control of net increments to it may not be the strategic factors for study.

The rest of the paper is arranged as follows. The second section presents an economic profile of the twenties and the third an account of the industrialization debate. Next, the industrial structure, 1924-1939, is described, and finally there is discussion of the tariff, of the concepts of nominal and effective rates of protection, and the kinds of inferences these may yield for the questions just raised.

Economic Profile of the Twenties

Industrial growth during World War I was in large part a response to fortuitous protection: that is, import substitution was forced by the incapacity of foreign suppliers, mainly British, to meet orders and by lack of shipping space for civilian goods. Thus the war created a captive market for certain consumer goods, predominantly processed food, clothing and footwear. It also stimulated a great volume of repair work, the output of one-off replacements by the engineering industry, as well as intermediate inputs for construction, like cement, lime, bricks and timber. The volume increase in sectoral output, 1916/17 to 1920/21, has been calculated at 43% (Pearsall, 1937: 414).

But the war interrupted the flow of needed capital goods and intermediate goods imports, thus having, too, a negative effect. Overall, the level of capital formation relative to what might have been achieved in peace-time may have been lower.

Furthermore, social overhead investment - transport, communications, power, water and public construction - probably marked time and therefore inhibited manufacturing growth in the first post-war years. These propositions are purposely tentative. This entire episode in South African industrial history needs investigation, with leads from the mixed experience of allies and of non-belligerents like Argentina and Brazil. (4) What will prove decisive in assessing whether the changes were, on balance, stimulating or retarding to the sector's accumulation is the role of war-time inflation and the increased profits generated.

The immediate post-war years are less ambiguous. With the resumption of international trading, new and old manufacturing branches alike experienced cold winds and agitated for protection. In the Department of Mines and Industries a policy committee writing five years later claimed that a "special degree" of economic disruption had been inflicted upon South Africa by conditions of war and transition. (5) The inflationary boom and slump 1919-22 was in certain respects more violent than 1929-32, with a fall in national income at current prices of 29% compared with 15.4% in the latter depression (Frankel & Herzfeld, 1944). Of course, in terms of unemployment, lost production and therefore material disruption, this comparison was reversed. But the rapidity of change in prices, wages, interest rates and other financial indicators generated an economic psychosis, a "crisis of confidence", the lever which capitalists wield to persuade governments into certain courses of action or abstention.

For this paper's purpose it is unnecessary to present data on major economic indices for the decade. There is little. Yet the standard figures on incomes and wages are a salutary reminder that, for fully the first two decades after Union, material gains achieved by wage labour of any colour were either meagre or non-existent. (6) Tables 1 and 2 contain, respectively, income per capita figures 1911/12 to 1945/46, and indexes of real wages paid to white workers in different sectors 1910-35. (7)

In the language of the business cycle, March 1922 to August 1929 was a "major upward swing" (8) when monitored by time series like volume of imports, railway revenue, bank clearings, coal sales, transfer duty on property and share prices. Equally, however, the twenties as a whole has been labelled "a decade of stagnation, conflict and economic re-assessment" (Hobart Houghton & Dagut [1973, III: 3]). Both descriptions are valid, depending upon whose perspective is implicit. The wage movements exhibited in Table 1 - an 11% rise in the aggregate index 1920-30 - do not conflict with the possibility of considerable growth in profits, rents and agricultural incomes. What is indicated, taking the figures at face value, is that during the first twenty years the fruits of national sovereignty filtered down to the mass of white wage-earners in the magnitude of a 1% real gain. Whether and what workers of other skin colours gained in this time is unknown, and probably unknowable.

On the dimension of unemployment there are no quantitative estimates from official sources for the twenties. Monitoring of white unemployment commenced with the 1929-32 depression, that of "Coloured" and "Asian" workers later, while the first estimate for Africans from a state agency appeared in 1977. Employment indices in three broad sectors are available from 1922: manufacturing, including construction; electricity, transportation and railway construction; and mining and metallurgical works. They have use as cyclical indicators and possibly as guides to demand pressure in their respective labour markets, but in charting the trend of unemployment their value is limited. (9)

Widening the concept to include underemployment compounds the empirical difficulties. This is curious in that a dozen state commissions, and one semi-official one, in the period 1908-32 were directed in their terms of reference to enquire into the welfare and poverty status of whites. (10) Others - investigations into marginal mines and cost of living, for instance - also addressed this question, though indirectly. None of these produced hard figures. Concern, it goes without saying, was confined to whites and a miniscule fraction of the "Coloured" population. The distress of Africans linked to worklessness impinged upon official and public consciousness only in the depths of the thirties depression (11) (the Native Economic Commission reported a decade later than the time under discussion).

Table 3 lists the familiar estimates of poor white numbers and their designations. No independent assessment of such aggregated figures, utilizing primary material and alternative assumptions, appears to be available for these years. At best they are indicative of orders of magnitude. Nothing in this paper turns on numerical precision and the documents selected and quoted below convey merely the flavour of the white unemployment issue in the early twenties.

First, the 1924 committee, previously cited, calculated that

> The annual accessions to the European male labour force in the Union number about 16,000 boys who in each year attain the age of 18 years. Of this number 8,000 are required to make good losses in the labour force due to deaths and age; the remaining 8,000 can only be absorbed by the extension of the existing fields of employment ... The development of industry might enable us not only to absorb our own natural increase, but to provide a field for aided immigration ... [and] at the same time render it more easy to absorb in useful employment numbers of poor whites, a class of which under present conditions the country has almost come to despair.
>
> (Report of Committee upon an Economic Policy for the Union, 1924.)

Secondly, early in the same year before the election that brought the Pact to power, a decision was taken to expand railway absorption of unskilled white labour. Under the new government it was applied vigorously.

> No effort was spared in absorbing the unemployed in replacement of native labourers and figures soared. From [3,200 at the end of 1923] the figure rose sharply in 1924 to 6,363 and to nearly 11,000 in 1926; it remained in the vicinity of 12,000 during the years of economic depression and then showed an upward trend to just over 15,000 in 1939.
>
> (South African Railways [1947: 30, 3])

And, as is well known, part of the civilized labour package entailed similar steps of black displacement in public enterprises in the manufacturing sector: see Table 4, last column.

Thirdly, the petition reproduced as Appendix 1 is probably an isolated case. Nevertheless, it gives a lead to what was popularly believed about urban white unemployment, to presumptions about the state's role, and to the pressures upon legislators for relief. (12)

The Industrialization Debate

The opposed positions, for and against the purposive fostering of manufacturing activity in South Africa, had their counterparts abroad. Indeed, in large part their intellectual content was acquired from there, and similar debates were in process in other "intermediate industrializers" like Canada, Australia, and Argentina. (13) While it is not feasible to characterize all these currents of opinion, some did in the early inter-war years comprise the essential background to the domestic debate.

> In all the major capitalist countries the watchword of internal economic policy during the immediate post-

> Armistice months was 'de-control'. The same conception underlay the general approach to the international economic problems during the whole of the immediate post-war period. In so far as any general principle guided the actions that were taken for world economic reconstruction, it was the speediest possible restoration of the liberal world economic system which had existed during the nineteenth century. To point out this intellectual failure [to realize that the world required more positive action than the speediest possible removal of all impediments to and controls of private enterprise] is not to deny that the adoption of this policy was, historically, due to the fact that political power in most of the important countries was in the hands of those who, rightly or wrongly, believed that their interests demanded the minimum of State interference in economic affairs.
>
> (Arndt [1944: 223, fn. 1].)

Orthodox thinking on economic policy in South Africa subscribed to this benign and optimistic view. Capitalists, the managerial stratum, civil servants and journalists along with many trades union officials, politicians and academics worked within a common framework of economic thought and financial practice. That the international division of labour, if unfettered, would maximize the collective net advantages of trade and investment flows between metropolitan centre and the periphery was a shared presupposition. Another was that interests and goals were at base complementary. Conflict in the domestic economy was manageable in the way it appeared to be under British capitalism. What was characteristic of this time, even more than of our own experience of the managed market system and American dominance of international capitalism after 1945, was that events systematically slipped out of the intellectual frame.

> We find in the post-war [WWI] period an extraordinary divergence between the theories of economic experts and the practice of those responsible for the economic policies of their respective countries. Analysis will show that this divergence springs from a simple fact. The economic expert, dominated in the main by laissez-faire doctrine, considers the hypothetical economic interest of the world as a whole, and is content to assume that this is identical with the interest of each individual country. The politician pursues the concrete interest of his country, and assumes (if he makes any assumption at all) that the interest of the world as a whole is identical with it. Nearly every pronouncement of every international economic conference held since the War has been initiated by this assumption that there is some 'solution' or 'plan' which, by a judicious balancing of interests, will be equally favourable to all and prejudicial to none.
>
> (Carr [1940: 71].)

Parallels and contrasts at this general level can be questionable. Nevertheless, it helps to think ourselves back sixty years, first, by contrasting what happened after the two world wars and, secondly, by posing the question whether the confrontations of the inter-war years that marked exchange between nations - the "politicization of trade" - were the norm or the exception. There is no ambiguity about the contrasted trends of trade and output growth and their switch round at World War II. In the period 1913-1948 world production rose at an annual rate of 2% while world trade grew by only 0.5%, whereas in the subsequent twenty-five years, 1948-1973, world production grew by 5% per year and world trade by 7% (UNIDO [1979: 15, fn.2]).

The international trade system established outside the socialist bloc in the late 1940s, exemplified by institutions like the GATT and the IMF, was a creature of the preponderant weight of one capitalist power. America, we are told, replaced "the 'high politics' of interstate relations with the 'low politics' of commercial exchanges among private producers and consumers" (Warnecke [1978: 3]). This system - hardly "free" trade - by the early seventies was in dissolution for manifold reasons, and currently we are witnessing perhaps the return of "normal" trading conditions between nations, more like the years between the wars. (14) In place of the old protectionism resting on tariffs, the new protectionism is characterized by quantitative restrictions on trade, by state aids of all kinds to domestic industry, and by "voluntary" export restraints on the part of developing countries.

The bearing of these observations on the South African debate is through the argument that the international context made the time exceedingly unpropitious for a small country to remain open. Given its premises and high abstraction (which is to say nothing about its realism or ideological status), the free trade argument is logically impregnable. But in a world of beggar-thy-neighbour actions - that is, the <u>absence</u> of free trade policies in other countries - the presumption in favour of free over restricted trade, or less over more restriction, falls away. When recognized this perception did not encompass issues like the best form of protection or which sectors of the economy should have been favoured, but it deflected that onus of proof the orthodox camp always thrust upon their opponents. Secondly, even if Afrikaner nationalism had not existed it would not have been necessary to invent it. A perfectly respectable case, by political, economic and intellectual criteria, could be constructed for autarchy and economic nationalism, as it was in Australia, Canada, Argentina and other intermediate industrializing countries. Carr evokes vividly the incongruity between the harmony of interests,doctrine and the conditions of the time: in South Africa you did not need to be an Afrikaner intellectual or technocrat to realize that

> <u>Laissez-faire</u>, in international relations as in those between capital and labour, is the paradise of the economically strong. State control, whether in the form of protective legislation or of protective tariffs, is the weapon of self-defence invoked by the economically weak. The clash of interests is real and inevitable; and the whole nature of the problem is distorted by an attempt to disguise it.
>
> (Carr [1940: 77].)

The remainder of this section lists differentiating features of the two sides in the policy debate from the vantage point of the present. The orthodox or mainstream position and the bases of its support have been identified at length in writings of the past decade (some in this seminar series). For the present it suffices to note:

(i) fundamental opposition to state enterprise (15);

(ii) a wholly benign attitude to foreign investment, including complete freedom in repatriation of profits and capital transactions across the frontiers;

(iii) a conception of the desired development path as export-propelled growth in a <u>laissez-faire</u> environment with the sources of dynamism overwhelmingly external;

(iv) the gold standard mechanism centred upon London - "an organic part of our economic system", wrote the 1932 Select Committee - was invested with an inordinate degree of political and intellectual commitment: no gap between rationalizing model and practice was recognized (16);

(v) the expansion of secondary industry was to be paced by the growth of domestic markets and its range by the country's resource endowment (17) - a process of 'import-swallowing' as distinct from 'import-substitution', in Hirschman's terminology (1968).

These features, as with those of the state capitalist model below, are purposely general and schematic in presentation to highlight the differences. Also, it hardly needs saying, once in power the Pact and its ideological successors took over these tenets plus minor ones not listed, and remained less squeamish only about state enterprise and conscious manipulation of the tariff. There were attempts in the early twenties at a synthesis of both sides. Perhaps the most interesting example was van der Byl, the Scientific and Technical Adviser and first of the new Afrikaner technocrats. Like his functional ancestors two decades earlier, the social engineers involved in state-building under Lord Milner (18), he viewed the issues in markedly pragmatic and rationalist terms - the "national interest" - and appeared perplexed at the Smuts government's incapacity or unwillingness to share this perspective, as these passages indicate.

> It is recognised that there are certain forms of State aid which involve questions of policy. But there are also other forms of State aid which it is the duty of Government to furnish. It is with these that I am concerned in this report. I have in mind certain lines of action which, it seems, the Government should take if our industries are to undergo the developments which we hope for ... of the utmost importance to our economic future. We cannot afford to waste time in this matter for several reasons. In the first place the gold mines which form a not inconsiderable portion of the industrial activities of South Africa are beginning to close down, and we do not know how long it will be before the majority of them will be mere memories of the past. If we aspire to anything approaching economic independence, we cannot rely entirely on our agricultural industries, but must pave the way for development of manufacturing industries, one effect of which will be to absorb a large proportion of the labour that will be liquidated by the closing down of the mines. Secondly, the extraordinary economic conditions occasioned abroad by the war have afforded this country opportunities for developing its manufacturing industries in a manner which, before the war, was probably regarded as impossible ... We have passed beyond the stage that requires lengthy investigation into the plausibility of Government participating in activities intended to stimulate industrial development in the Union. We know that something must be done and what we need now are the outlines of a concrete plan of procedure ...

So he wrote in March 1921, and went on to urge the establishment of a Customs Tariff Board. Two years later his frustration is breaking through the surface.

> I may state that the time I have been in charge of the Industries Division has been a trying and to me a very disappointing one. I realize that the country has been in a difficult financial position during the past two or three years, but at the same time I feel that the Government should make a special effort to assist in the development of a line of activities which seems to be absolutely necessary if the country is to develop along right lines. As compared with other countries, South Africa should be in a state of industrial development which is, comparatively speaking, very high ... In every nation, there is a class of people who possess practically no initiative ... To provide work for these white people as well as the coloured population requires a proportionate amount of manufacturing industrial activity ... It is futile to talk of putting these people

> on the land ... The only means of absorbing the labour represented by this class is in manufacturing industries, where they can do prescribed routine work. The presence of the coloured and native population makes it difficult to absorb them in domestic service and farm labour ... While a proportion of the development should be done by private initiative the Government should not neglect to do its share ... In laying the foundation of the Industries Department, I have carefully borne in mind the extent to which the Government could be expected to go in fostering the development of industries. Private enterprise must learn to do something for itself (and our manufacturers have a lot to learn) but the limit of the scope of Government assistance has not by any means been reached. This is evident when the activities of this department are compared with those of similar departments in other countries.
>
> (van der Byl [1921, 1923].)

I do not intend to discuss whether "state capitalist" is an appropriate label for the set of beliefs characterized below, or whether "interventionist" or some neutral term would be more apt. They meet the general criteria usually adduced. (19) Furthermore, were the emergence of undeniably state capitalist forms after World War II, progressively widening and deepening ever since, not to have had their provenance in policy thinking two decades earlier, this would be astonishing. Features like the technocratic monopoly acquired by the Industrial Development Corporation, its satellites and other public corporations, in which capital accumulation came to assume independent power in the hands of top administrators, would then be difficult to explain. Or, alternatively, credence would be lent to myth-making where such phenomena are viewed as part of the "logic" of economic development and of the country's geo-political environment.

The state capitalist model rested upon the following presumptions:

(i) By the mid-twenties an overwhelming need existed to diversify employment opportunities for whites, given the saturation of mining and agriculture.

(ii) The natural resource endowment, measured by existing and potential supplies of raw materials, made feasible an expanded range of manufacturing activities if accorded "moderate" protection or state initiation.

(iii) Economies of scale were achievable in the output of certain consumer and intermediate goods by rationalization, specialization and learning effects but which free importation had precluded.

(iv) Autarchy was desirable in the harsh international climate after the World War; coupled to this was the notion of an "essential industry" for national sovereignty, like iron and steel and chemicals.

(v) The fostering of positive expectations in the minds of industrial entrepreneurs via protection and anti-dumping provisions, guarantees, statements of intent, and the assiduous cultivation of a "climate of confidence" was essential.

(vi) Internal expenditure links from the export sectors were being dissipated abroad in the absence of suitable policy safeguards.

(vii) Extractive activity, particularly of gold, entailed a wasting asset: hence guiding market forces would ease the transition to a balanced productive structure containing a greater weight of secondary industry.

(viii) With the exception of South West Africa, newly mandated, the land frontier for capitalist agriculture was closed.

(ix) Urbanization and the rise of new social groups - indigenous entrepreneurs, expanding middle strata, including the petty-bourgeois segment of ministers of religion, intellectuals, teachers, civil servants and white-collar salariat - who were articulate, vocal and as Afrikaners politically aware, together with the skill-less at the bottom of the white pyramid; both these trends made linear extrapolation of the mining-dominated economy problematical.

(x) The prevailing distribution of the surplus was no longer defensible. That is, the old-style spoils system with its tripartite division between foreign and national capitalists, and the patronage dispensed in the state sector by the South African Party, widely countenanced as a creature of mining capital.

(xi) The new technocrats subscribed to certain central tenets of state capitalism. There was the vision of a "class-less modernisation without tears", and the premise that the state pursues ends which are not identical with those of a capitalist enterprise bent on profit maximization.

(xii) Historical analogies with late industrializers like the United States and Germany and with the contemporary experience, particularly in tariff matters, of Canada and Australia were pervasive. Underlying these parallels was the two-stage or "textiles-first" supposition that industrialization usually proceeds in an evolutionary manner from single-use consumer goods to those of greater capital intensity, and eventually to intermediate and capital goods production.

(xiii) In negotiation over access for non-gold exports to foreign markets South Africa had no bargaining counterweight in a world with escalating tariff barriers. Moreover, the absence of protective duties entailed being tied in the long term even tighter to the British apron strings.

<u>Changes in the Industrial Structure, 1924-1939</u>

Table 5 shows the enormous expansion of aggregate output, of both private and public establishments, in the manufacturing sector in the 15 years preceding World War II. The boom after recovery from depression in 1932 has claim to be the most spectacular in South African history. Interestingly, by international standards it was rivalled at the time in pace only by the Soviet Union during the first five-year plans. (20)

The changed structure of these manufacturing activities can be viewed in different ways. In Table 6 the <u>increment</u> in employment and value-added has been broken down by industrial branch to show changing relative weights, while Table 7 exhibits the branch composition of white employment and the ratio of black to white at the initial and terminal dates. (21) The branches which <u>increased</u> their percentage contribution to sectoral value-added, 1939 over 1924, were metals and engineering 23.4 (21.0), power 10.2 (8.8), clothing and textiles 6.5 (4.0), cement, glass and ceramics 5.3 (5.0), vehicles 5.1 (2.7), wood products and furniture 4.7 (4.3), and rubber products 2.1 (1.0). Those that <u>lost</u> weight were food, beverages and tobacco 17.4 (22.5), building and construction 9.5 (12.8), printing and paper 6.3 (7.5), chemicals 5.9 (6.2) and leather products 2.8 (3.1).

A major limitation of output data at the branch level is that the mesh of the net is too large to answer analytical questions about structural change. One cannot discriminate easily between consumer goods (single-use and durable), intermediates (of varying fabrication levels) and capital goods, nor between heavy and light manufacturing (22), where the latter tends generally to require less capital per unit of output and per unit of labour employed, and lesser skills than the former. Another trend difficult to monitor is the degree of integration of the manufacturing sector, that is, the extent to which the industrialization process "turns inwards" and produces inputs for other sectors and for itself (in the economists' jargon: where most cells of an input-output table are "non-empty").

A final limitation to be noted is that without disaggregated information one cannot evaluate the repeated claims that South Africa's version of import-substitution industrialization (ISI) was a major success attributable to the rational and "moderate" policies initiated after 1924. (23) Neither can underlying questions about the burdens of such a process be approached fruitfully. For example, the array of wage-goods on the frontier of import substitution changed in pattern and relative weight over time. Consequently, in so far as their prices rose relative to wage and other incomes (including subsistence) this bore down unequally upon different consumers at different times.

<u>The Tariff, 1924-1939</u>

This final section will not describe the inter-war tariff in detail, but rather make general observations about its functions as an interventionist device, introduce the idea of "effective protection", and discuss the rates on selected tariff items and their possible relationship to other variables like employment.

The tariff arrangements preceding the major revision of 1925 are described in a number of sources. (24) What emerged that year from the reconstituted Board of Trade and Industries was by common consent still a hybrid, embodying the twin objectives of revenue and protection. While Australia, Canada and the United States were the models of "scientific tariff management" urged by protectionists, their larger tax-paying populations provided an alternate base for generating tax revenue and gave these countries a latitude unavailable to South Africa. The lament that the revenue function tied their hands was a reiterated theme of the new technocrats until the mid-thirties, when the gold-price boom filled State coffers. The issue was by no means technical alone. First, for steady yield and low administrative cost, customs duties should be levied upon a small range of mass consumption goods having few substitutes. (Witness the dilemma of contemporary governments over tobacco: potent in the generation of cancer and of revenue.) Secondly, the state's expenditure obligations expanded greatly at this time (137% between 1927/28 and 1938/39), and disproportionately so to the agricultural sector whose share in the total out of ordinary revenue and loans rose from 18.6% to 32.5% between these dates. (BTI [1945: 27]) This trend was politically irreversible.

Prior to 1930 sovereign governments other than the USSR had at hand few policy tools in peace time, though war was another matter as the directed economies of 1914-18 had demonstrated. Keynesian thinking lay ahead, and governments, owing to their gold standard commitment, had little control over their exchange rates, few had central banks or mature fiscal machinery, and in southern Europe and the present Third World large subsistence sectors and "imperfect" markets. That autonomy in tariff construction loomed large in the policy armoury is hardly surprising. (25) In addition, the tariff has always had a symbolic and cultural dimension. The same attitudes as in other countries experiencing industrial growth at this time cannot be postulated in South Africa without evidence, but there are suggestive echoes.

> In the minds of most Argentines, exports are linked automatically to oligarchical and feudalistic rural landlords allied with foreign interests, while protection is linked with import substitution, industrialization, nationalism, and social democracy.
>
> (Diaz-Alejandro [1968: 94].)

The protectionist aims which the post-1925 tariff was deemed to embody - deemed, that is, by successive regimes acting on the advice of the Board of Trade and Industries and reflected in the series of legislative acts and amendments - are well known. (26) The Board propounded a distinction between the "principles underlying the tariff" and the criteria or "factors" considered in applying these principles in concrete situations. Whether, in the key phrase, "satisfactory labour conditions" actually were a principle (a central objective) or a factor (a desired joint-product), they were the distinguishing feature of the South African tariff between the wars. (27) Other national tariff systems had objectives ranging through diversification of the economic structure, support of the wage level and freedom from balance of payments pressures. But, with the possible exception of the Irish Republic, few appear to have contained employment creation as an explicit aim, let alone for one target segment of the population. Only after World War II did net increases in employment appear on tariff agenda generally.

Though, as remarked in the introduction, how effective this principle-cum-criterion actually was in South Africa's case is not a simple question. A normal import substitution strategy to force the pace of industrial expansion behind tariff walls, coupled fortuitously after 1932 to an export-propelled boom, may have generated the same incremental demand for white labour evidenced in Table 5 without any explicit employment provision.

In recent years the concept of effective protection has emerged in the international trade literature. The basic idea is to allow for (a) the additional cost to a manufacturing industry of having to purchase inputs (materials, equipment, machines) from other protected industries at prices reflecting their tariffs; and (b) the fact that the proportion of value-added to gross output differs between industries. The aim of every protective system is to raise the prospective value-added in the chosen industry above what it would otherwise be under free trade. For any given level of protection the smaller the ratio of value-added to output the greater the impact upon profitability. Calculations of effective rates thus are intended to measure the resource-allocation (or surplus diversion) effects of a tariff structure. (28)

Table 8 contains a sample for certain product groups in the food and beverages branch. Nominal and effective rates are contrasted for 1924 and 1939, ranked from the highest of the latter. The table's purpose is to show that, although nominal rates were increased substantially, doubling and trebling in some cases, the effective rates rose in a considerably smaller ratio or even declined. The explanation lies in the rates on major inputs to these industries listed at the bottom of the table. Clear examples are sugar and fresh and frozen meats. To protect the agricultural producers of these, the tariff rose from 18% to 76% and 81%, respectively. In consequence, the using industries - Confectionery, Canning, Baking and Processed Meat - had also to be granted increased protection. (29)

These examples illustrate two general points. First, quite apart from the burden placed upon consumers, any given configuration of tariff rates designed to protect selected activities has multiple effects. Other industries and other sectors have costs imposed upon them in a direct manner (some, of course, also benefit by an expanded market). Table 8 is a simple instance of tariff escalation, though the more usual case is where import substitution proceeds down the vertical structure towards more sophisticated inputs. An example would be not only cardboard cartons and packing but tin cans and, ultimately, capital equipment for the canning industry. To make production of the latter possible tariffs are levied, but then the nominal rate on the final commodity, jam or canned fruit, has to be raised further to offset these higher input prices.

Secondly, tracing the ramifications of such changes is highly complex. No simple correlation of nominal rates and of their variation with, for instance, employment levels by industry is sufficient. Furthermore, though the tariff is essentially a device for socializing costs, or a portion of them, without socializing profits, on the premise that long-term benefits accrue to "society", no simple delineation of gainers from losers is defensible. Effective protection rates are superior devices in this respect, though even here interpretation must be probabilistic and cautious.

But these observations are no cause to infer that research into the tariff is unrewarding. A principal theme of this paper has been that many social forces converged upon the tariff in the inter-war years. It was the single most significant policy measure of the time. Any serious understanding of the processes of industrialization that shaped contemporary South Africa must encompass it as a major determinant.

-------oOo-------

Notes

(1) For example, access to a full set of Board of Trade and Industries reports for the period is required. These provide an expanded range of cost, output and other information for selected industries. Data quoted in this paper have been drawn in the main from the Industrial Census, the Annual Statements of Trade and Shipping and the relevant Yearbooks.

(2) The one exception is Kaplan (1976), a paper which covers ground related to this. Some of his inferences may conflict with present arguments, though perhaps not with the general tenor.

(3) "It is impossible ... to separate cause and effect: it is just as sensible - indeed more enlightening - to say that capital accumulation has resulted from industrial development as that it was the cause of such development. For taking manufacturing activities as a whole, the growth of output and the accumulation of capital are merely different aspects of a single process. Capitalistic production is 'production of commodities by commodities'; individual industrial activities make use of goods produced by other industrial processes as their inputs, and provide outputs which (in the great majority of cases) serve as the inputs of further processes." (Kaldor [1977: 193-4].)

(4) Diaz-Alejandro (1970) and Fishlow (1972).

(5) "The depression which has settled on nearly the whole world as the result of the war and of the general disturbance of political, social and industrial life which has followed appears to have affected South Africa in a special degree. As a consequence of this serious depression a considerable amount of unemployment exists in South Africa, especially amongst unskilled workers. The difficulty of the poor white problem, already sufficiently serious, has thus become accentuated. Government relief works in consequence exist on a large scale and involve considerable State expenditure. Nearly every class in the community has suffered in some degree as the result of existing economic conditions." Report of Committee upon an Economic Policy ... (1924)

(6) This is an aggregative statement quite compatible with real income rises for individual skill groups and sub-sectors.

(7) Kuczynski (1945: 142) presents indexes on the money and real earnings of "white and coloured workers" for a similar period. They have not been reproduced here but are broadly in line with Table 1 and probably constitute a reworking of the same or similar data. Both sources need evaluation.

(8) du Plessis (1950: 50), Schumann (1938: 248).

(9) By taking urban population figures in conjunction with participation rates, it should be possible to calculate the potential number of workers available for

non-agricultural employment. Then, from a comparison with the rate of labour absorption in the sectors covered by the indices, plus an assumption about employment keeping pace with output in the services sector, one should obtain a measure of the growth of the labour surplus. Though rough, the calculation would be worth pursuing.

(10) 1908 Transvaal Indigency Commission; 1913 Select Committee on European Employment and Labour Conditions; 1916 Transvaal Relief and Grants-in-Aid Commission; 1920/21 Unemployment Commission; 1925 Economic and Wage Commission; 1926 Committee on Poor Relief and Employment (Department of Labour); 1928/29 Commission on Pensions and National Insurance; 1930 Inter-departmental Committee on the Labour Resources of the Union; 1930 Carnegie Commission on Poor Whites; 1932 Unemployment Investigation Committee.

(11) "Unemployment had become very bad by the middle of 1933. Drought and the economic crisis had combined to drive thousands of Africans to the Witwatersrand. Even the labour market on the mines was glutted for the first time in history. The authorities admitted that at least 5000 natives were unemployed on the Rand ... Thousands were in gaol for breaches of the pass and poll tax regulations. Thousands more, illegally resident in town, led a precarious existence ... A member of the Johannesburg City Council ... declared that in October 1937, there were '93000 Natives in Johannesburg and on the Reef who live by their wits, sleep with their friends at night, and are not included in the census'." (Roux [1964: 270].)

(12) The document's wording excites the suspicion that Mrs Kruger was put up to the job: by local politicians or professionals or even nascent Vrededorp capitalists.

(13) There is no settled terminology in the historical literature. In part this is because "industrialization" itself is an amorphous category, but by semi-convention France, Germany and Japan are "late" or follower examples, the countries of "recent settlement" listed in the text together with the Scandinavians are "intermediate", and the post-WWII cases "late-late industrializers". (See Hirschman, 1968.)

(14) "[What] has been called the 'repoliticization of world economics' ... means that the conventions which made it possible to segregate economic issues and to bargain about them without allowing the disputes to be dominated by extraneous political considerations are unlikely to continue to operate. Such segregation of zones of conflict is seen as a very special feature of the period covered by the present study [1959-1971]. The reason given for the expected change is that the U.S. economic presence in the international system is no longer overwhelming. It can no longer impose the rules of the game." (RIII [1976: 135].) For a brief account of the late forties when the United States acquired this predominance, see Milward (1977: ch. 10).

(15) For example, the refusal of the Botha-Smuts regime to venture state capital in iron and steel production. After much pressure and agitation - amply documented in ministerial archives - a Bounties Act was passed in 1922 providing for potential subsidies upon the initial output of such an industry. But no guarantees of interest or redemption payments were forthcoming, despite the willing participation of a number of foreign steel producers and at one time a British government agency: the Trade Facilities Advisory Board. Memorandum ... on the South African Iron and Steel Corporation (1923).

(16) The sterling gold standard pre-1914, it is argued, was a mechanism which reacted to fluctuations internal to the British economy by placing the burden overseas: "Before 1914 London had been able to survive the crises that followed each trade cycle explosion by pushing the main burden of adjustment on to other countries; since the First World War it has not been strong enough to do this, and when a veritable cyclone came in 1931 it was inevitable that the international gold standard should break down ... people had too often said that London's financial strength before 1914 was due to the gold standard. The truth was rather that the strength of the gold standard was due to London's international financial position." (Sayers [1957: 98].)

(17) This quotation from a leading academic proponent is representative. "When the mining era draws to a close, the path to steady expansion will lie in the concentration of attention on the ... production, marketing and improvement of

raw produce. Industrial development should take the form of the working up of South African raw materials, and the rate of development will depend upon the efficiency of the methods employed and on the cost of production ... Industrial development without tariff assistance may not be so spectacular, but it is more secure, more healthy, and more widespread ..." (Plant [1927: 49-50].)

(18) See Marks and Trapido (1979: 61f).

(19) "What is customarily described under the generic title of State Capitalism includes ... a number of species, very different in their social content and significance. The difference depends on the form of the State, the condition of prevailing class relations, and the class interests which State policy serves. The common element in these various species is the coexistence of capitalist ownership and operation of production with a system of generalized controls over economic operations exercised by the State, which pursues ends which are not identical with those of an individual firm. This system may or may not include a limited amount of nationalized and State-operated production." (Dobb [1963: 384].) A concurring source is Fitzgerald (1977).

(20) The indexes of manufacturing activity rose for (a) South Africa (base 1911 = 100) from 312 in 1920 to 999 in 1936-38; (b) the USSR (base 1913 = 100) from 135 in 1926-29 to 774 in 1936-38; and (c) Japan (base 1913 = 100) from 176 in 1920 to 529 in 1936-38. For other countries, index values at the terminal date lie mostly in the range of 150-200. (League of Nations [1945: 130-1.) These are figures of unknown accuracy, and the South African sector was, of course, considerably smaller than the other two cited. But the ordering is probably acceptable.

(21) A note on classification is necessary. Apart from minor changes of title, the Industrial Census breakdown into 18 "classes of industry" has been retained (XII and XIII being amalgamated). These categories are unsatisfactory for numerous reasons. First, heat, light and power XIV and building and contracting XVI are not a logical part of the sector. In contemporary thinking (the ISIC classification) they are divisions or sectors in their own right alongside agriculture, mining, manufacturing, etc. Secondly, some classes are too diverse and aggregated. Metals and engineering IV combines machine production with crude metal fabrication, and food and drink V encompasses 23 product groups widely differing in sophistication and capital intensity. Thirdly, some categories are redundant or tiny (raw materials I and surgical instruments XII), while others growing in weight like rubber products are hidden in the miscellaneous class XVII.

(22) Light manufacturing includes food, beverages and tobacco; textiles, clothing and leather; wood products and furniture; printing and publishing; and rubber and plastic products. Heavy industry comprises paper and paper products; chemicals; petroleum refineries and coal products; non-metallic mineral products (cement, glass, ceramics); basic metals; and fabricated metal products, machinery and equipment.

(23) Amongst a voluminous literature, see as examples BTI (1945), van Biljon (1939), Norval (1962), Brand (1976) and the sources cited by the latter.

(24) Knowles (1936) and Bruwer (1923) are reasonably full accounts, while Kaplan's paper contains a brief sketch (1976: 73-6).

(25) Diaz-Alejandro (1975: 107-8).

(26) Short accounts are contained in the sources under fn 23. They are no less partisan than the mainstream critiques of tariff policy, and should be read with the same judicious eye.

(27) Employment expansion was the aim under the following provisions.
(a) All goods subject to the tariff had two quoted rates. Normally the maximum was imposed, but if the industry concerned "maintained unsatisfactory labour conditions" the minimum duty could be substituted by proclamation.
(b) Suspended duties could be applied or withdrawn, i.e. to reward or to penalize industries for the fulfilment of or failure to meet conditions laid down, including job creation.
(c) The whole or part of the duty on raw materials and intermediate products

could be remitted by proclamation on the recommendation of the Board of Trade and Industries for any reasons, including labour matters, deemed pertinent: Section 12(1) (k).

(d) Similarly, Class XV of the tariff "... provides for the exclusion of particular manufacturers from the privilege of free admission of raw materials and requisites under rebate, after investigation by the Board of Trade and Industries has shown that such manufacturers were maintaining unsatisfactory labour conditions". (Customs Tariff Commission Report [1936: 115].)

(28) Corden (1971) is a standard textbook treatment. An historical application of effective protection is Forrest Capie (1978) on the British tariff of the thirties.

The usual formula for estimation is:

$$gj = \frac{t_j - \Sigma a_{ij} t_i}{1 - \Sigma a_{ij}}$$

where g_j = the effective protection rate;
t_j = the nominal tariff rate on the output;
t_i = the " " " " " input;
a_{ij} = coefficient of input i to output j.

This is used for the Table 8 calculations.

(29) Some looser speculation about this manufacturing branch is warranted. In other countries, and historically, the food industry dominates the early stages of development because it plays an intermediary role between the primary sector and the markets for foodstuffs. Setting up and expansion are relatively easy because the technology is simple and skilled manpower requirements low. Internal migration from rural localities to cities, and therefore out of food production, implies "increased domestic consumption of industrially processed food, because in an urban environment it is technically more difficult (owing to transport and storage requirements) to feed large masses of people with non-processed food delivered by primary producers, and because traditional modes of consumption are profoundly altered". (UNIDO [1979: 73].)

Applying this to South Africa raises the expectation that the food industry should have been relatively large in view of early urban concentration based upon mining activities. It does not appear to be so, and it is a tempting speculation that the political leverage of agricultural capital may be part explanation.

TABLE 2

Geographical income: £ per capita (1938 prices)

1911-12 : 28	1921-22 : 21.7	1937-38 : 38.7
1917-18 : 24.5	1928-29 : 31	1941-42 : 45
1919-20 : 27.5	1931-32 : 25.4	1945-46 : 47

Source: Schumann (1972: 7)

TABLE 4

Manufacturing sector: employment in public*establishments

	White		AAC		% White
1924-25	17554	100	21297	100	44%
1925-26	18582	106	12978	61	59
1926-27	19333	110	12919	61	60
1927-28	19982	114	11442	54	64
1928-29	20759	118	11882	56	64
1929-30	21122	120	11760	55	64
1932-33	18192	104	9501	45	66
1933-34	18771	107	9570	45	66
1934-35	20379	116	11174	52	65
1935-36	22582	129	11799	55	66
1936-37	24976	142	14137	66	64
1937-38	26523	151	16543	78	62
1938-39	27741	158	17690	83	61

* Public establishments= 'Government, local government undertakings and railway workshops'.

Source: Office of Census & Statistics 1942 Special Report No. 154 Twenty-second Industrial Census 1938-39: Table 1. Pretoria: Government Printer

TABLE 1

Real wage rates 1910-1935 by economic sector

	Gold	Diamonds	Engineering	Building	Printing	General Manufacturing	Transport	Trading	Aggregate
1910	100	100	100	100	100	100	100	100	100
1914	93	70	93	95	94	95	101	94	97
1915	92	71	90	90	89	95	97	92	94
1916	89	70	91	86	86	94	98	94	93
1917	88	72	86	86	84	89	94	97	91
1918	87	64	90	94	85	89	96	93	94
1919	85	61	89	91	86	90	100	89	92
1920	85	61	86	88	91	87	100	88	91
1921	97	75	95	93	91	88	88	96	96
1922	79	68	85	96	104	96	102	112	97
1923	83	71	87	98	108	97	106	113	99
1924	85	71	86	97	100	95	106	109	98
1925	83	72	88	98	100	96	107	109	98
1926	87	72	89	99	102	98	109	110	100
1927	88	69	91	99	101	98	108	106	97
1928	88	71	91	102	101	98	108	102	98
1929	89	71	93	102	101	98	107	106	99
1930	92	74	95	104	104	98	113	106	101
1931	96	75	98	106	106	102	103	102	101
1932	101	44	101	102	108	106	103	106	103
1933	102	46	104	104	105	109	106	119	106
1934	100	48	102	102	107	109	107	114	105
1935	101	81	103	116	107	114	109	120	110

Source: Official Year Book 17 1934-35 (237). The indexes refer to 'weekly wage rates of European adult male workers'. The table has been slightly altered and re-labelled but the weighting of the Aggregate index is not indicated in the source.

TABLE 3

Estimated numbers designated 'poor white' 1916–1932

	Persons	Males, family heads or families
1916	39000 ('indigent or dood arme')	10400 ('heads of families')
	67500 ('other poor')	16600 ('heads of families')
	37000 ('without visible means of support')	
	106000 ('without adequate subsistence')	
1921	120000 ('poor whites')	
1926		18160 ('males out of a job on the Census day')
1929/30	300000 ('very poor')	
1931	220000 ('poorest 12%')	14200 ('males registered unemployed & on relief works')
		63000 ('lowliest occupations')

Sources:
1916 – Macmillan (1919:9)
– Official Year Book (1933:173)
– Union of South Africa, Government Adviser on Technical Education (1917)
1921 – Union of South Africa, Unemployment Commission (1921:1)
1926 – Carnegie Commission (1932:23)
1929/30 – (1932:23)
1931 – (1932:vii, 24)

TABLE 5

Growth of manufacturing sector output and employment

	Volume index of manufacture (All industry)	Index of employment (All industry)	
		White	Total
1923–24	100	100	100
1924–25	107	107	104
1925–26	120	115	106
1926–27	125	122	110
1927–28	138	128	113
1928–29	148	135	119
1929–30	159	137	119
1932–33	148	132	105
1933–34	183	154	125
1934–35	213	175	145
1935–36	246	195	166
1936–37	282	212	182
1937–38	296	217	190
1938–39	319	219	192

Source: Calculated from Office of Census & Statistics 1949 Census of Industrial Establishments 1945–46 (29th IC): Table 25. Pretoria: Government Printer.

TABLE 6

Participation of industrial branches in the total increase in manufacturing employment & value-added, 1923/24 - 1938/39.
(percentages ranked by value-added)

Industry branch	Employment (Total)	Employment (White)	Value-added
Metals & engineering	28.0	31.0	25.1
Food, beverages & tobacco	10.1	9.2	14.0
Heat, light & power	3.3	1.2	11.1
Clothing & textiles	13.0	16.0	8.2
Building & construction	9.4	8.6	7.3
Vehicles	7.3	9.9	6.7
Chemicals	3.0	2.7	5.7
Cement, glass, brick & ceramics	9.6	2.7	5.5
Paper & printing	4.1	5.8	5.4
Rubber products & miscellaneous products	1.1	1.3	2.9
Wood products	4.1	2.7	2.6
Leather products	4.2	5.8	2.6
Furniture	2.3	2.5	2.3
Surgical instruments & jewellery	0.3	0.4	0.3
Raw material processing	-0.2	-0.1	0.2
Ship & boat building	0.07	0.04	0.05
Sector total	100	100	100

Source: calculated from 9th Industrial Census 1923-24, Table 14; 25th Industrial Census 1938-39, Tables 6 & 7.

TABLE 7

Manufacturing sector: white employment structure 1923/24-1938/39

	Industry branch	Share of sectoral white employm.(%) 1923/24	Share of sectoral white employm.(%) 1938/39	Ratio of black/white 1923/24	Ratio of black/white 1938/39
IV	Metals & engineering	27.9	29.6	1.2	1.0
XVI	Building & construction	15.6	11.8	2.3	1.9
V	Food, beverages & tobacco	11.3	10.2	3.0	2.2
VII	Printing & paper	7.7	6.7	0.5	0.5
XIV	Heat, light & power	7.5	4.0	1.4	1.9
VI	Clothing & textiles	6.5	11.6	1.1	0.9
VIII	Vehicles	5.8	8.0	0.6	0.6
XV	Leather & leatherware	5.0	5.4	1.1	0.8
XI	Chemicals, drugs & paints	3.3	3.0	2.9	2.1
III	Wood products	2.7	2.7	1.9	2.1
X	Furniture	2.6	2.6	1.3	1.1
II	Cement, glass, bricks & ceramics	2.2	2.4	8.6	7.4
XVII	Rubber products & miscellaneous	0.8	1.1	2.0	1.2
I	Raw material processing	0.4	0.1	8.0	10.0
XII / XIII	Surgical, dental & scientific / Jewellery, time-pieces & platedware	0.4	0.4	0.4	0.4
IX	Ship & boat building	0.1	0.1	0.8	1.3
			Mean:	1.76	1.43

Source: as for Table 6.

TABLE 8

Nominal and effective rates of protection, 1924 and 1939

Products	Nominal rates (%) 1924	Nominal rates (%) 1939	Effective rates (%) 1924	Effective rates (%) 1939
Grain milling	25	95	120	402
Wheat meal/flour	24	44	113	82
Maize meal	27	172	135	887
Rye etc meal	10	21	9	-63
Brewery products (Ale, beer, stout)	43	60	67	70
Dairy products	12	24	44	59
Cheese	10	25	37	63
Condensed milk	16	45	59	143
Canning (Fruit, jam)	25	34	35	43
Confectionary (Sweets, chocolates)	28	35	55	33
Processed meat	18	59	23	30
Bacon & ham	18	55	23	13
Baking products	18	33	11	17
Principal inputs				
Grain: wheat	11	45		
maize	8	33		
barley	10	18		
malted	10	23		
Sugar	18	76		
Dried fruit	32	152		
Meat: fresh & frozen	18	81		
Packing: cardboard cartons (printed)	23	30		

Source: calculated from the Industrial Census and Annual Statements of Trade & Shipping in the relevant years; Official Yearbooks 8 & 10; and BTI (1945: Annexure I).

Appendix 1

UNION OF SOUTH AFRICA, PETITION NO. 320 1924

To the Honourable Speaker and Members of the House of Assembly of the Union of South Africa, assembled in Parliament.

The petition of the undersigned MARIA MAGDALENA KRUGER, housewife of 36 Market Street, Newlands, and 255 other mothers and daughters, resident in Newlands, Greymont, Delarey and Westdene in the constituency Vrededorp -

Submits with due respect that -

1. the condition of a very large portion of the white population on the Witwatersrand, particularly in the constituency of Vrededorp, on account of the extensive unemployment is extremely wretched and pitiful;

2. that the erection of factories, e.g. a tannery, a shoe factory or a weaving mill or something similar will greatly relieve the distress;

3. that in the ward of Newlands, Johannesburg, an area of 36 acres has been made available for such enterprises, which the Honourable Government can utilize immediately;

4. that a further measure of relief for the terrible condition of unemployment will undoubtedly be to declare intra vires the colour bar, which was recently declared ultra vires.

Your petitioners accordingly pray that it may please your Honourable House to consider the above favourably, and grant us such relief of the wretched conditions which presently prevail as may be seen fit.

And your petitioners will always dutifully pray,

(Signed) M.M. Kruger and 255 others.

Source: Archives of the Minister of Mines and Industries, 1924 MM1282/24. Pretoria: Central Archives. (Translated from the Afrikaans)

Arndt, H.W. 1944 The Economic Lessons of the Nineteen-Thirties. London : O U P.

Board of Trade and Industries. 1945 Investigation Into Manufacturing Industries in the Union of South Africa. Report No.282. Cape Town: Cape Times Ltd.

Brand, S.S. 1976 Alternative patterns of Industrial Development in South Africa. In Public Policy and the South African Economy (ed. M.L.Truu) Cape Town: O U P, 165-177.

Bruwer, A.J. 1923 Protection in South Africa. Stellenbosch: Pro-Ecclesia Drukkery.

Carnegie Commission 1932 The Poor White Problem in South Africa: Part I Economic Report by J.S.W. Grosskopf. Stellenbosch: Pro-Eccleria Drukkery.

Carr, E.H. 1940 The Twenty Years Crisis 1919-1939 London: Macmillan.

Capie, Forrest 1978 The British Tariff and Industrial Protection in the 1930s Economic History Review 31, 399-409.

Corden, W.M. 1971 The Theory of Protection. Oxford: O U P.

Diaz-Alejandro, C.F. 1968 The Argentine Tariff, 1906-1940 Yale Economic Growth Centre Paper 124.

1970 Essays on the Economic History of the Argentine Republic. New Haven: Yale U Press.

1975 Trade policies and economic development. In International trade and finance: frontiers for research (ed. P.B. Kenen) Cambridge: Cambridge University Press.

Dobb, M. 1963 Studies in the Development of Capitalism London: Routledge.

Du Plessis, J.C. 1950 Economic Fluctuations in South Africa, 1910-1944. Stellenbosch: Bureau for Economic Research.

Fishlow, A. 1972 Origins and Consequences of Import Substitution in Brazil. In International Economics and Development, Essays in Honour of Raul Prebisch (ed. L.E. Di Marco) New York: Academic Press.

Fitzgerald, E.V.K. 1977 On State Accumulation in Latin America. In The State and Economic Development in Latin America (eds. E.V.K. Fitzgerald, E. Floto and A.D. Lehmann). Cambridge: Centre of Latin American Studies.

Frankel, S.H. and Herzfeld, H. 1944 An analysis of the Growth of the National Income of the Union in the Period of Prosperity Before the War. South African Journal of Economics 12, 112-138.

Hirschman, A.O. 1968 The Political Economy of Import-substituting Industrialization in Latin America. Quarterly Journal of Economics 82, 1-32.

Hobart Houghton, D. and Dagut, M. eds. 1973 Source Materials on the South African Economy, III 1920-1970. Cape Town: Oxford U Press.

Johnstone, F.A. 1976 Class, Race and Gold. London: Routledge.

Kaldor, N. 1977 Capitalism and Industrial Development: Some Lessons from Britain's Experience. Cambridge Jnl of Economics 1, 193-204.

Kaplan, D.E. 1976 The Politics of Industrial Protection in South Africa, 1910-1939 Jnl of Southern African Studies 3, 70-91.

Knowles, L.C.A. 1936 The Economic Development of the British Overseas Empire Vol.III: The Union of South Africa. London: Routledge and Sons.

Kuczynski, J. 1945 A Short History of Labour Conditions under Industrial Capitalism in Great Britain and the Empire. London: Frederick Muller.

League of Nations 1945 Industrialization and Foreign Trade. Geneva: L of N.

Macmillan, W.M. 1919 The South African Agrarian Problem. Johannesburg: C N A.

Marks, S. and Trapido, S. 1979 Lord Milner and the South African State. History Workshop 8, 50-80.

Milward, A.S. 1977 War, Economy and Society, 1939-1945. London: Allen Lane.

Norval, A.J. 1962 A Quarter of a Century of Industrial Progress in South Africa. Cape Town: Juta and Co.

Pearsall, C.W. 1937 Some Aspects of the Development of Secondary Industry in the Union of South Africa. South Africa Journal of Economics 5, 412-422.

Plant, A. 1927 The Customs Tariff as a Means to Revenue and Protection. Journal of the Economic Society of South Africa 1, 32-50.

Roux, E. 1964 Time Longer Than Rope. Madison: U of Wisconsin Press.

Royal Institute of International Affairs 1976 International Economic Relations of the Western World 1959-1971. (ed. A. Shonfield) Vol 2. London: O U P.

Sayers, R.S. 1957 The Return to Gold, 1925. Reprinted in The Gold Standard and Employment Policies Between the Wars. (ed. S. Pollard) 1970. London: Methuen.

Schumann, C.G.W. 1938 Structural Changes and Business Cycles in South Africa, 1806-1936. London: Staples Press.

1972 Aspects of economic development in South Africa. In Studies in Economics and Economic History (ed. M. Kooy) London: Macmillan.

South Africa 1917 Report of the Government Adviser on Technical Education. Archives of the Department of Mines and Industries, MM 1320/17; quoted by Johnstone 1976: 62).

South Africa 1921 Second Interim Report of the Unemployment Commission. U G 34/1921. Cape Town: Cape Times Ltd.

South Africa 1923 Memorandum on the Various Proposals Regarding Finance of the South African Iron and Steel Corporation Ltd, P M 1/2/161, 46/5 III 1921-23 Pretoria Central Archives.

South Africa 1924 Report of Committee Upon an Economic Policy for the Union, submitted to the Minister of Mines and Industries 16/1/24. (Pretoria: Central Archives P M 46A Vol.1 1923-24).

South Africa 1933 Official Year Book 16.

South Africa 1934-35 Official Year Book 17.

South Africa 1936 Report of the Customs Tariff Commission. U G 5/1936. Pretoria Government Printer.

South African Railways 1947 Report of Committee Appointed to Investigate the Employment of Unskilled European Workers in the Railway Service. U G 29/1947. Cape Town: Cape Times Ltd.

UNIDO 1979 World Industry Since 1960: Progress and Prospects. New York: United Nations.

Van Biljon, F.J. 1939 State Interference in South Africa. London: P.S. King and Son.

Van der Byl, H.J. 1921 Report of the Scientific and Technical Adviser on the functions and organization of the Industries Division of the Department of Mines and Industries, March 1921. (Pretoria: Central Archives M M 2538/23), pp.1-4, 41 & 50.

1923 Memorandum to the Minister of Mines and Industries, F.S. Malan, 2/3/23 (Pretoria: Central Archives M M 1280/24), pp.1-2, 4-5.

Warnecke, S.J. ed. 1978 International Trade and Industrial Policies. London: MacMillan.