G.R. Knight

# Did 'Dependency' really get it wrong? The Indonesian Sugar Industry, 1880–1942[1]


## Abstract

This article discusses a post-dependency perspective on the sugar industry of Indonesia during the late colonial era, c. 1880–1942. It suggests the need for a critical assessment of the contributions of both Dependency and subsequent (nascent) Revisionism to our understanding of the dynamics of large scale sugar production in Indonesia during the period which saw the foundations of a national economy. The assessment reviews a variety of interrelated issues: the cost of production, the measure of sugar's impact, the role of the state, the production factors of capital, land and labour. It begins, however, with a brief description of the form which the First World sugar factory had come to take in the 'Third World' field of colonial Indonesia during her final decades of Dutch rule.


## 1. A First World factory

The milling of cane in the Indonesian area, and boiling of the juice into some form of marketable sugar dated back to the seventeenth century and probably earlier. The sugar factory began to take on a First World appearance, however, only in the middle of the nineteenth century. That is to say, what went on within its walls only then took on the semblance of industrialized production. The rudiments of this development were largely in place by the 1880s. By then, the entire manufacturing process–beginning with the feeding of cane into the mills, continuing with triple-effect apparatus and vacuum pans in the boiling house and ending with a bank of centrifuges in the 'back-factory' which turned the thickened syrup into crystalline sugar–was carried out by machines of increasing elaboration and complexity. After that date, there were further innovations–improved crushing systems, diffusers, carbonization, electrification and the like. Electrification of various sectors of manufacture began early in the twentieth century.

[1] Research for this paper was made possible by the University of Adelaide's Study Leave Fund and by a Research Grant from the same university. It would not have been feasible without the generous hospitality of friends in Amsterdam, The Hague and London.

Essentially, however, such improvements amounted to sophistications, albeit expensive and increasingly frenetic, of the already-established format of industrial manufacture. It was on this basis, by the early twentieth century, that the Indonesian industry stood at the very apex of the world sugar economy. Only Cuba produced and exported more sugar to world markets than did the Indonesian factories.

The discussion of the Indonesian sugar industry which follows takes as its frame of reference developments in that part of the industry located in Pekalongan-Tegal, midway along the north Java littoral. This was a major sector of the industry and, in most respects, typical of the Java sugar industry as a whole during the late colonial era (centrifugal production of sugar on a large scale was confined to Java during this period). By 1930–on the eve of the Depression which saw a dramatic diminution in sugar production everywhere in Java–industrialized sugar factories established in Pekalongan-Tegal (there were 17 of them by that date) accounted for over 9 per cent of Indonesia's total output of centrifugal sugar. Yields–measured in terms the amount of sugar produced from a given area of cane–ranged from 12.3 (sugar factory Balapoelang) to 17. 2 tons (sugar factory Djatibarang) and averaged 14.8 tons. This was a little above the average for Java as a whole, which in 1930 amounted to 14.7 tons per hectare (Archief, 1931: I, 94).[2] Of Indonesia's competitors in the late 1920s, only the Hawaii industry boasted a higher level of productivity, measured in these terms[3].

The industrialized sugar factory of late colonial Indonesia, however, lay at the heart of a larger enterprise. It was one which both manufactured sugar *and* organized and managed the production of cane. All of Pekalongan-Tegal's major sugar factories were surrounded by a shifting complex of plantations, located within a procurement zone or *areaal*, from which they drew for their raw material. From the 1880s onward, these plantations comprised land rented from the peasantry of the districts around the factories and woven into an agricultural cycle which saw sugar-cane rotated with rice and other 'peasant' crops. By 1930, the largest of the annual plantings of cane in the procurement zones of the residency's sugar factories amounted to 1,848 hectares (sugar factory Wonopringo) and the smallest to 692 hectares (sugar factory Pagongan). The entire area harvested in the Residency in 1930 covered 18,195 hectares (Archief, 1931: I, 191; Indisch Verslag, 1931: 199).

In the most literal sense, this was the Third World field in which the factory stood. Ostensibly (though this point will be discussed below) it was also 'Third World' in a looser sense of the word. In marked contrast with what went on

[2] These are the industry's own figures. They are lower than the output per hectare (15.2) which can be deduced from: Creutzberg, 1975: 76 (*i.e.* by dividing totals in line 1 by the totals in line 42).

[3] Yields (tons sugar per hectare) in Hawaii 1925–1929 appear to have averaged 15.16 tons sugar per hectare as against Indonesia's average over the same period of 12.58. The only other major producer approaching these levels of productivity at that period was Peru, 11.07 tons (World sugar, 1961).

within the factory compound, production in the agricultural sector of sugar production was almost totally unmechanized, except in so far as the haulage of cane from field to mill was concerned. It was manual labour–assisted with simple digging and cutting tools–which characterized virtually all aspects of the work process in the plantations, from the initial 'opening-up' of the fields though to the cutting and bundling of the cane and its loading onto trucks. Only at that point was there any significant resort to machinery, as the loaded cane bogies were hauled (from the early twentieth century onward) by small steam engines along a network of fixed and temporary rails to the factory yard.

The historical evolution of this combined unit of agricultural and manufacturing production in Pekalongan-Tegal dated essentially from the era of the Cultivation System in the 1830s and 1840s. This period was one in which the Netherlands Indies government requisitioned both land and labour on the industry's behalf and directly provided large amounts of capital to the manufacturers. It saw the appearance of the vestigial modern sugar factory and its surrounding procurement zone in which the industry had, in effect, first call on land and labour.

By 1850 there were thirteen such factories in Pekalongan-Tegal, all with Dutch owners. From the 1860s onwards, this core of factories was progressively modernized and enlarged–almost all were still in production on the eve of the Depression of the 1930s.[4] A few new factories were built in the 1870s,[5] but the most significant spate of renewed factory building took place just before and after World War I. In all, some four, 'state-of- the-art' factories were established in Pekalongan-Tegal during this period.[6] They were owned by (or closely connected with) several big Dutch combines–the NHM, the Koloniale Bank, the NILM/NI Handelsbank and Internatio.

Considerable amounts of capital were invested in them, reflected *inter alia* in the sheer size of the operation. The factory which the NHM built at Soemberhardjo, south of the city of Pemalang, for example, had a roof-area spanning 140 metres by 70 metres, was extensively (though not completely) electrified and cost the company some 2.7 million guilders. According to a contemporary (1913) account, together with its associated housing compound, it looked for all the world as if a small town had suddenly been erected in the previously 'empty' countryside.[7]

[4] Pangka, Kemanglen, Doekoewringin, Adiwerna, Djatibarang, Tjomal Baru (replacing Tjomal in 1922), Ketanggoengan-West (previously Lemahabang), Sragie (all still in operation in 1942) and Pagongan, Bandjardawa, Wonopringo, Kalimatie and Sragie and Simbang. The colonial era spelling of sugar factory names has been retained throughout this paper.

[5] Kemantran (1874–1932), Tirto (1873–1923), Maribaija (1873–1889), Klidang (1873–c. 1900).

[6] Tjomal Baru, Soemberhardjo, Bandjaratma and Petaroekan (all were still in production in 1942). This signalled a somewhat disproportionate expansion of the centrifugal sugar industry in Pekalongan-Tegal when compared with developments elsewhere in Indonesia during the 1910s and 1920s. Between 1911 and 1927, of the nine new sugar factories opened in Indonesia, four were in Pekalongan-Tegal (Prinsen Geerligs, 1927: 1188).

[7] Algemeen Rijks Archief (ARA), The Hague: Nederlandsche Handel-Maatschappij (NHM): Vol. 3120. 'Rapport Bezoek aan Soemberhardjo', 29–31 July 1913.

The very last sugar factory to be built in Pekalongan-Tegal during the colonial era was Tjomal Baru in 1923 (replacing a factory which dated from the 1840s) (Archief, 1930: I, 1, 187). Still standing today–but only as a shell–Tjomal constitutes the very epitome of the First World factory in a Third World field. A veritable industrial complex it is set uncompromisingly among the rice-paddies, some score kilometres from the nearest Indonesian town, surrounded only by its own rail-yards, the housing complex for its European and Eurasian managerial and technical staff (and their swimming pool), and serviced by its own electricity generator and elaborate engineering workshop and water purification plant.

## 2. Indonesian sugar and the Dependency thesis

These great factories in the field–and the sugar industry whose ubiquitous presence in the countryside of lowland Java they signified–became the primary focus for discussion of the impact of world market production on Indonesian economy and society during the late colonial era. Much of this discussion (some of it 'before the letter') was Dependency-oriented. That is to say, it derived its theoretical inspiration from the paradigm of the development of *under*development in the Third World in consequence of its incorporation into the capitalist world market, a thesis notably expounded by André Gunder Frank in 1969 in a Latin-American context.

In the Indonesian case, it reflected concerns going back to critiques of the impact of the sugar industry first developed early in the twentieth century. It was applied both implicitly and explicitly in a number of major studies from the 1960s to the 1980s. Prominent examples include Soetrisno, regrettably still unpublished, Van Schaik–still by far the best documented discussion of the agrarian situation in Pekalongan-Tegal in the late colonial era, Breman and a series of articles published in the 1970s and 1980s by Alec Gordon and Jennifer & Paul Alexander (Soetrisno, 1980; Van Schaik, 1986; Breman, 1983; Gordon, 1979; Alexander & Alexander, 1978). It is fair to say, however, that the overwhelming amount of published research relating to the Java sugar industry carried on during this period–and certainly the author's own–was broadly situated within the Dependency paradigm. Briefly summarized, these studies amounted to statements both about sugar's malign influence on the overall development of rural Java and, more generally, about the 'deformed' variant of capitalism which the industry typified.

The nub of Dependency's argument is that sugar was able to gain and sustain its competitive position in the world sugar economy only through extra-economic coercion. In tandem with such arguments, Dependency also maintains that sugar *under*developed Java, both through the misuse of agrarian resources and through the export of accumulated capital overseas.

Central to this scenario is the argument that sugar appropriated land which could have been devoted, more profitably and progressively, to other, notably food crops. In so doing, moreover, it had a highly deleterious effect on the *total* agrarian development of Java's sugar districts, through its stranglehold over irrigation and through the emaciation of the entire agricultural cycle consequent on the timetable imposed by cane on other crops.

At the same time, the sensational profits being made by the handful of big Dutch combines who controlled the industry by the early twentieth century were not applied to development within Indonesia. Most of the capital thus accumulated was exported to the Netherlands. Moreover, in so far as sugar created a modest basis for the accumulation of capital in the Javanese countryside–notably through the rents to peasant landholders it paid for the use of their fields–it encouraged *rentier* rather than entrepreneurial behaviour among its beneficiaries.

The broader implication of Dependency's indictment of sugar is as unmistakable as its immediate analysis of misdirected resources. Briefly stated, it focuses on capital's relations with the state and the 'extra-economic' coercion which lay at the heart of the industry's sustained access to rural resources. In arguing that the prevailing capital-state nexus retarded full commodization of the key production factors of land and labour (neither of which, on this analysis, was 'priced' according to the market), Dependency postulates a hybrid, colonial, 'peripheral' capitalism. That is to say, a form of capitalism which was qualitatively different from that which characterized the 'developed' world and which lacked its progressive potential (Gordon, 1979, 1986).

## 3. Revisionism

As an analysis and critique of colonial capitalism, Dependency was never other than theoretically flawed (Werker, 1985). Of immediate interest in the present context, however, are the empirical difficulties which it has been said to have encountered in its treatment of the Java sugar industry during the late colonial era. Though these have not been absent from the research literature of the last couple of decades, by far the most cogent and sustained case against Dependency has been mounted by Van der Eng, *as part of* a thesis recently defended at the University of Groningen (Van der Eng, 1993).[8]

The (nascent) Revisionist case thus presented can be summarized as follows. It is critical, in general, of the 'implicit assumption that plantation agriculture was a dominant part of the economy and an essential element in the explanation of economic underdevelopment in Indonesia' (Van der Eng, 1993: 188). Rather, 'it is very unlikely that sugar production implied an uneconomic use of productive resources. It is also unlikely that sugar production enhanced rural impoverishment in Java. It is possible to suggest that the sugar factories generated a positive spin-off in particular areas of Java' (Van der Eng, 1993: 200).

[8] I would like to record my gratitude to Dr. Van der Eng for making his thesis available to me.

The sugar industry retained profitability in the increasingly competitive world sugar economy of the early twentieth century through 'drastic changes in production technology, and [in] the organization of production and marketing' (Van der Eng, 1993: 195–196). Nor, apart from a short-lived boom at the end of World War I, were the industry's profits exceptional. Hence the amount of capital available for export (Dependency's 'drain') was considerably less than the industry's critics claimed (Van der Eng, 1993: 200–202). In sum, the story of huge profits remitted abroad no more stands up to examination than does the image of an industry which could only sustain itself through forced access to rural resources connived at and supported by the colonial state and its bureaucracy.

## 4. The cost of production

The modern Indonesian sugar industry emerged and consolidated during the mid-nineteenth century, in an era of rapidly expanding markets for sugar and generally favourable prices for producers. From the 1880s onward, however, market conditions were far less favourable and prices often very low.

Dependency argues that sugar was able to sustain itself in these changed conditions *primarily* by depressing the cost of labour and land inputs. The industry was able to do this because it could rely on state support to discipline (and if need be crush) its workforce. At a more subtle level, the industry could achieve similar effects through its ability to manipulate 'traditional' authority in the countryside. The same kinds of factors worked to support the industry in its competition for land against better-paying peasant crops.

Revisionism suggests a fundamentally different explanation. It points to the importance of manufacturing technology and advanced agricultural techniques in assuring the industry of the continued production of some of the world's cheapest sugar. Revisionism hence seeks to minimize manipulation of rental arrangements and labour by village and state authorities, which are seen as incidental rather than 'structural' (Van der Eng, 1993: 193). Quite specifically, Van der Eng contends that 'the unit costs of the main production factors–labour and land–stagnated or increased, while international competition mounted. *The Java sugar industry maintained its position on the world market by drastic changes in production technology and the organization of production and marketing*' (Van der Eng, 1993; 195, emphasis added).

How far is it possible to access these competing arguments?

As might be imagined, the Dutch companies who largely owned the sugar industry of Pekalongan-Tegal–as elsewhere in Java–by the end of the nineteenth century were assiduous record makers and keepers. (There exists a photograph of the centrifuge section of sugar factory Pangka c. 1890 in which the clerk at his desk is clearly in evidence in the foreground). Many of these records have survived and await (further) exploration. A preliminary sampling of production costs in the Pekalongan-Tegal industry throws some useful light on the Dependency-Revisionist argument–while at the same time suggesting some of the apparent limitations of such data.

Breakdowns of costs at the NHM's Kemantran factory in Tegal *kabupaten* (a reasonably typical mid-scale enterprise) tend to confirm that, as elsewhere in Java (Elson, 1979: 291–295), the industry was able to bring about a very appreciable reduction in the cost of land and labour inputs in the final decade and a half of the nineteenth century.[9] By the late 1890s, what the company-styled *bewerkingskosten* per hectare in the agricultural sector (exclusive of the Campaign) were some 45 per cent lower at Kemantran than they had been in the early 1880s, and land rental costs some 22 per cent lower per hectare. The *bewerkingskosten* were costs incurred by hiring labour to 'open up' the land and prepare it for planting but not including (labour and commodity) costs of manuring or canecuttings or wages of the supervisory personnel. Per quintal, *i.e.* 100 kg, of sugar, *bewerkingskosten* fell by 51 per cent in the same period, and land rental costs were reduced by 26 per cent.[10]

Manufacturing costs at Kemantran during the same period of time, however, fell even more dramatically. On a per hectare basis, what were termed *fabricatie* costs fell by nearly 50 per cent and per quintal of sugar by more than 67 per cent. This might appear to be unequivocal evidence that the industry survived *first and foremost* by increasing its technological efficiency (Revisionism's argument). The obstacle to the unreserved acceptance of such a conclusion, however, is that *fabricatie* itself included a considerable labour component–cane-cutting and haulage and work in the factory.[11]

Turning to developments after 1900, the cost of land and labour inputs into sugar production at Kemantran began to rise (as elsewhere in Java) during the first decade of the new century and reached a sharp peak around 1920/21. Again, Revisionism's argument that the industry's subsequent successful (till 1930) struggle for survival in a contracting 'world' market was predicated on technological advance (and good marketing) rather than superexploitation of agrarian resources appears to derive some support from the industry's own costing of production. Between 1921 and 1930, the *aanplant* cost (*i.e.* personnel, rents, bewerking, manuring but not *bibit*) per quintal of sugar produced at Kemantran[12] fell by 25 per cent, while the *fabricatie* cost (now excluding sugar haulage) per quintal fell by 59 per cent. The ambiguity persists, however, that *fabricatie* costing contained a substantial labour component.

[9] Kemantran was established in 1874 and taken over by the NHM two years later. As a factory which never had access to cane from state plantations (because it never operated on government contract), its run of production costings from the late 1870s onward are relatively straightforward.
[10] ARA: NHM: Vol. 3672. Cultuurzaken. 'Raming en resultaten eigen fabrieken'.
[11] The *jaarverslagen* of the NHM sugar factories include under *fabriekaat:* 'Personeel, Rietsnijloon, Rietaanvoer, Koelieloonen, Brandstoffen, Fabriecatiekalk, Olie/Vet/Verlichting, Emballage, Suikertransport, Diversen'.
[12] ARA: NHM: Jaarverslagen Kemantren 1916; 21; 1921: 39; 1926: 37; 1931: 43; 1932: 34.

In short, while industry data on costing have significant things to tell us about the sectors of the production process in which the sugar factories were able to make their greatest savings in critical periods in the industry's history, they scarcely resolve the issue between Dependency and Revisionism. One of the factors, for instance, involved in making *possible* the depression of wages (and rentals) in the late 1880s and 1890s was clearly the downward movement in the price of rice. Elson talks about 'stubbornly low rice prices' in the late 1880s/early 1890s and Creutzberg shows July rice prices at Batavia to range between 10.60 and 13.50 guilders per quintal in the years 1872–1882 whereas in 1883–1910 they ranged as low as 6.30 guilders only on four occasions marginally exceeding 10 guilders per quintal (Elson, 1979: 293; Creutzberg, 1975: 44). Rice prices were thus appreciably lower in the last two decades of the nineteenth century than in the 1870s and did not begin to rise until early in the twentieth century. Imports appear to have had little impact on the situation as they covered 'only a small part of total consumption' so that 'the influence of foreign rice on the market in Indonesia can ... be questioned' (Creutzberg, 1975: 19).

But what turns *possibility* into *actuality*?–what enabled factory managements to recruit labour for appreciably lower wages than had held good a decade earlier? At that point, are we back to Dependency?–and should we also be looking at such (unguarded) comments from within the industry as that provided in an 'internal memo' by sugar factory Kemantran's general manager in the mid-1890s. In registering apparent surprise that people would work for 'these low earnings', he surmised that the clue lay in the fact that the factory's payments were in cash and on the spot.[12]

## 5. The measure of sugar's impact

One of Revisionism's major contributions has been the attempt at quantitative analysis of the impact of sugar on indigenous agriculture. A fundamental problem remains, nonetheless, of how far analysis of this kind can be divorced from the broader agrarian context (and from the political economy of sugar generally) without losing its explanatory power.

The Revisionist case, as spelt out by Van der Eng, is that for an island which had a reputation as 'sugar colony', the proportion of arable land under cane in Java was actually rather small. He concedes that 'the data do not show that sugar production was concentrated in the lowland plains of central and east Java', and that 'the impact of sugar production on the rural economy must have been very significant in several areas of Central and East Java' (Van der Eng, 1993: 192, 197). Nonetheless, the crux of his argument is that, even 'at the zenith

[13] ARA: NHM: Cultuurzaken. Dossier 'Misbruiken suikercultuur' [Mullmeister inquiry]. Vol. IIIG.

of sugar production, factories harvested [no more than] 6 per cent of all irrigated land in Java' (Van der Eng, 1993: 191–192).

A moment's reflection on the practice of sugar cultivation in early twentieth century Java suggests, however, that this a potentially misleading conclusion:

(1) There was an appreciable mid-year overlap between the planting of cane for harvest in the following year and clearing cane from the land and returning it to 'peasant' crops during the current year's campaign. This does not show up in calculations based simply on data for the current year's planting. In fact, between April and early June each year, *as much as twice* the figure cited by van der Eng was under cane at one stage or another of its cycle of production. Only by September–the month during which the Campaign usually ended (in the early twentieth century) had the land engrossed by cane fallen back to the average figure cited by Van der Eng.

(2) This is important, because it meant that considerably more than an average six percent of land was unavailable for 'peasant' cultivation at precisely the time of year most suited to planting *palawija*, second crops which often brought considerable profit to their growers. Risking the fearful charge of historical particularism, it needs to be mentioned that in early twentieth century Pekalongan-Tegal (though apparantly not elswhere) considerably more land was actually withdrawn from 'domestic' production by the operations of the sugar industry than even the corrected, mid-year snapshot would suggest. This was because of the prevelance of *braakinhuur* or fallow-rental. Under this rental arrangement–designed to enable land to be taken up by the factories at a time of year when labour was at its cheapest–*sawah* was kept fallow instead of being planted to rice in the wet-season immediately prior to its conversion into plantation. In consequence, the factories did not have to wait until rice had been harvested but instead were able to commence the 'opening' process as early as January and February. At its peak, c. 1915, some 40 per cent of the total annual land-intake of the Pekalongan-Tegal sugar industry was in *braakinhuur* (Van Schaik, 1986: 111). Though the percentage of land rented in this fashion subsequently declined, it was not until 1938 that it was finally prohibited.

(3) Dependency's argument was not simply about the quantity of land taken by sugar: very specifically, it was also an argument about the impact of sugar cultivation on what it argued was the increasingly *residual* agriculture of the industry's procurement zones and of Java's sugar districts in general.

(4) In this context, there appears to be two major arguments. First, that yields of *padi* in the domestic sector were appreciably reduced by the need to the hand over *sawah* to the sugar factories some weeks or even months prior to the normal harvesting time of *padi*. Clearly, this issue needs further investigation. One industry source c. 1928 explained that the early har-

vesting of padi was secured (a) by the paying of premiums, (b) though the provision of the seed early-ripening varieties, and (c) where practicable, through the use of the industry's pumping stations to provide water for the establishment of seedling beds during the dry monsoon. The source goes on to discuss the potential of fertilizer to speed up the ripening of *padi* (Wilbrink, 1928). The second argument is that sugar's prior call on water-resources had a markedly adverse effect on *palawija* cultivation.[14]

(5) Neither point is new (Elson, 1979: 299–305; Van Schaik, 1986: 135–136), but what industry sources had to say about the irrigation of palawija *in the 1890s* is of interest. The quotations which follow are from the confidential replies (to the NHM's superintendent of sugar factories) of the of managers of NHM-owned factories in Pekalongan-Tegal to questions about irrigation water posed by the 'Mullemeister' investigation of the sugar industry in 1894: 'is de toestand te dien opzigte houdbaar te noemen, maar er kan zoo goed als geen water afgestaan worden voor de tweede gewassen. Hiervoor onstaan dijkwijls conflicten met de bevolking. Door een weinig autocratisch optreden, komt het water weer ten goede van den riet aanplant' (sugar factory Kemantran) and 'de bevolking weet hier in deze streek dat het water voor het riet noodig is, en maakte er alleen gebruik van waneer er overvloed is' (sugar factory Tirto).[15]

All of this is of considerable importance in making sense of the statistical picture of income gained from sugar vis-à-vis that derived from peasant farming. In particular, it is likely to be used to query Revisionist arguments which seek to show that the sugar industry generated (and distributed locally) more income in the countryside than did the 'domestic' sector of the rural economy.[16] It might be wondered, for instance, whether in heavily sugared areas like the north Java littoral of which Pekalongan-Tegal formed a part, it is indeed possible to arrive at an acceptable calculation of what the 'domestic' product *might* have been.

[14] Van der Eng cites and criticizes the view that the colonial state's irrigation projects 'largely served the interests of sugar factories' (Van der Eng, 1993: 58–60). He does not, however, address the issues raised here.
[15] ARA: NHM: Cultuurzaken. Dossier 'Misbruiken suikercultuur' [Mullemeister inquiry]; 'Enquete inhuur van gronden van inlanders', 1894.
[16] Van der Eng presents two sets of figures, one for the opening years of the twentieth century and the other covering the entire period 1884–1936. He suggests that the former 'clearly indicates that the returns [per hectare] to the indigenous population from sugar production were more than double the virtual gross value from farm production' and that the latter 'clearly indicate that sugar production contributed more heavily sugared areas like the north Java littoral of which Pekalongan-Tegal formed a part, it is indeed possible to arrive at an acceptable calculation of what the 'domestic' product *might* have been.

## 6. Bringing the state back in

Dependency tends toward a reductionist view of the state as an instrument of capitalism. At the same time, it contends that 'capitalism' of this kind–'colonial', hybrid and uniquely dependent on state-power in matters of worker control and access to land–was 'backward' in that in inhibited the development of vital capitalist factors of production, notably 'free' proletarian labour. Revisionism, on the other hand, apparently proposes to marginalize the role of the state in capitalist development and inclines (implicitly, at least) to see the state in autonomous terms as a *beamtenstaat*. A post-Dependency perspective hence needs both to advance discussion of state-capital relations and to review the characterization of capitalism embedded in Dependency. Both these propositions will be briefly examined in turn.

Bringing the state back in? Not, indeed, in the autonomous sense proposed by Skocpol, but more plausibly and usefully as a *corporate* state, a state 'dominated by a crucial *alliance* of state actors and business sectors' (Skocpol, 1985; McVey, 1992: 14). Equally pertinent to a such a discussion might also be the 'accurate and realistic "model" of the relationship between the dominant [capitalist] class ... and the state' proposed by Milliband, in which the latter functions as a 'partnership between two different, separate forces, linked to each other by many threads, yet each having its own separate sphere of concerns' (Milliband, 1983: 65).

In any event, we are looking for a model which precludes neither the probability that 'state actors' have interests and agendas of their own, nor the likelihood of clashes between state and capital; 'a certain tension between state power and class interests', as Milliband remarks, is in fact inevitable, however good their relationship may fundamentally be' (Milliband, 1983: 64). In short, a construction which escapes reductionism of the 'handmaiden of capital' variety while avoiding the pitfalls of the 'autonomous state'.[17]

On this basis, it should then be possible to make sense of some of the seeming paradoxes of capital-state relations in late colonial Indonesia. Such, for instance, as the co-existence of businessperson-bureaucrats like Governor-General C.H.A. van der Wijck[18] (spawned by the same nest of Dutch gentry who owned the Tjomal sugar factory) and the presence in the *Raad van Indië* of a very senior state official (De Jaager), designated by the NHM as 'een vijand der particuliere industrie', or of a Resident in early twentieth-century Pekalongan (Steinmetz) whom the same Dutch company felt happy to describe as *openlijk vijandige* in

[17] For a particularly scathing critique of the idea of the autonomous state in Indonesia, see: Gordon, 1993.

[18] The eulogy in the *Encyclopaedie van Nederlandsch-Indië* identifies extensive business interests both after his retirement as Governor-General in 1899 and–more significantly–in the interlude in the early 1890s when Van der Wijck was out of government service (Encyclopaedie, 1921: IV, 796).

his dealings with their sugar factories.[19] The second proposition concerns the implications of the nexus between state and capital. In this respect, a post-Dependency perspective would recognize the (possibility of the) centrality of the state in capitalist development while rejecting any assumption that this constituted an aberrant form of capitalism. If nothing else, the example of development in East Asia during the mid-and late twentieth century, albeit much debated, suggests the redundancy of a 'paradigmatic' capitalism derived, on a highly selective basis, from the historical experience of the West (White, 1988).

## 7. Capital

Dependency emphasizes 'the drain'. Revisionism opts for arguments about the 'real' rate of profit and about the context of world commodity markets in which the industry sought to maintain a hold (Van der Eng 1993: 200–202; also: De Bree, 1920; Helfferich, 1914). This is important. By the early twentieth century, the world market for sugar was becoming (or reverting to being) fragmented, as major producers and consumers became linked by preferential marketing arrangements bolstered by tariffs and quotas. Hence the Philippine sugar industry found a secure market in metropolitan United States and that of Taiwan in metropolitan Japan. Lacking this metropolitan advantage (the Dutch market was too small and, in any event, dominated by local beet sugar production), the Indonesian industry became dependent on an increasingly residual 'world' market and particularly exposed to the crises of over-production which appears to have been a hallmark of the world sugar economy for almost as long as it has existed.

This had several effects on capital accumulation within the industry (and on any notion of the industry as an 'engine of growth'). The most obvious was that the industry was prone to suffer huge losses as well as huge gains. At the Tjomal sugar factory, to which reference was made at the beginning of this article, for instance, the company's appreciable reserves of well over 8 million guilders in 1925 had been whittled away to less than one quarter of that amount by 1937.[20]

Likewise, the industry's increasingly perilous position in the world sugar economy appears to have contributed (at the very least) to a gamble on technological renovation in the manufacturing sector. Whether that urge for renovation bordered on the frenetic may be disputable, but it certainly consumed large amounts of the capital which the industry generated.

[19] ARA: NHM: Vol. 3674. Report Van Geyt, 23 October 1905.
[20] ARA: Tjomal: Vol. 28. Jaarverslag 1939.

This last point can be illustrated most simply from what we know of profits and investment by the company which owned Tjomal. Tjomal was not part of the major combines (though it was managed (and financed?) by 'Internatio' (*i.e.* Credit- en Handelsvereeniging 'Rotterdam', in business since 1863) but by a small, limited liability company whose shares were held by a handful of people, all members of the interrelated Van der Wijck, Teding van Berkhout and Des Tombe familes. Between 1915 and 1928 (the last 'good' year before the Depression), it recorded profits of more than 20 million guilders, of which over half was consumed on machinery and buildings at Tjomal[21]. This argument might appear a trifle disingenuous, because the Tjomal factory was exceptional: it was entirely rebuilt on a new site in 1923. But, as we have seen, it was by no means the only new factory build by existing sugar companies in Pekalongan-Tegal during the opening decades of the twentieth century and it does appear–albeit in exaggerated form–to represent a more general trend for constant renovation in the manufacturing sector of production.

What happened to profits that were not spent this way–and who spent them? Tjomal's largest single shareholder would appear to personify Dependency's gloomiest predictions about the ultimate fate of profits made in the Third World field. Jkvr. Alphreda Louisa Teding van Berkhout (niece of Jhr. F.J.T. van der Wijck who had bought Tjomal from the colonial government in 1872) spent at least the latter part of her long life–she had been born in Batavia in 1863 and died in Merano in 1959–in elegance and comfort on the Italian lakes (Nederlands Adelsboek, 1988: 489).[22]

Yet this may well be misleading. As well as the remittance people, it is also fairly clear that the industry went some way toward creating the nucleus of a (Dutch) capitalist business group, in and around the big factory-owning company's, whose existence was an integral part of the rise of capital in late colonial Indonesia. A likely candidate for this category would be D.C. Eibergen Santhagens (senior), chairman of the board of the 'Hoevenaar' group of companies, which owned five big sugar factories in Pekalongan-Tegal and neighbouring Cirebon from late in the nineteenth century until Nationalization in 1958. Educated partly in Batavia, partly in Holland, Eibergen Santhagens was born in 1874 and died in 1959. In addition the Hoevenaar connection, he was also on the board of directors of the Javasche Cultuur-Maatshappij (owner of two sugar factories in Pekalongan-Tegal as well as others throughout Java, in addition to other plantation interests) and of Nederlands Lloyd (Handboek, various issues).[23]

[21] ARA: Tjomal: Vol. 28. Jaarverslag 1939.
[22] Jkvr. Teding van Berkhout-Senfft von Pilsach held 136 of the 400 shares in Tjomal. See. ARA: Tjomal: Vol. 66. 'List of Shareholders', 31 December 1938. It was noted in the list: 'alle aandeelhouderszijn niet-jood'.
[23] ARA: NHM: Vol. 8300 [on D.C. Eibergen Santhagens whose father had been in business in Batavia during the 1880s and whose son and namesake was on the board of directors of the N.V. Suikercultuur Maatschappij in Amsterdam in 1956]; Vol. 8994 [obituary notices].

## 8. Towards a post-Dependency perspective: Sugar, land and labour

The Indonesian sugar industry was virtually unique among the world's major sugar producers in the early part of the twentieth century in respect to the way in which it exploited land and labour. It hired its work force–much of it on a casual basis–from among Java's rural population and rented its land, on which cane cultivation was directly managed by the sugar factories, from peasant farmers on a basis which saw sugar rotated with rice and other 'peasant' crops.

The context in which this took place, however, can be characterized as one of significant agrarian change, in which sugar sought to maintain the hold over rural resources which it has consolidated in the second half of the nineteenth century. Of particular importance here is Revisionism's argument that by the 1920s the industry was, in effect, caught in a pincer movement between, on the one hand, increasing pressure of population on land and consequent increases in land rentals and, on the other, a contracting free market for its exports of sugar and consequent need to bring down its cost-price.

The industry's reactions to this developing situation are sorely in need of further analysis. Indications, however, are that it responded in a number of ways. As they had done for decades, for example, the various sugar companies involved in Pekalongan-Tegal and neighbouring residencies continued to maintain the long-term 'frontier-treaties' (*grensscheiding-contracten*) demarcating the procurement zones of their respective factories and closing the door to any mutual competition for land.[24]

Such arrangements did not, of course, preclude a different kind of competition for land from other crops. This competition came from both local Chinese and *pribumi* entrepreneurs. As I have argued elsewhere, the sugar industry attempted to circumvent this competition by a number of devices rather than meet it head-on in the 'market place'[25]. Of particular importance here was its accord with the larger landholding groups among the increasingly differentiated peasantry. Rentals to the sugar companies provided these groups with cash which they could lend at rates of interest high enough (presumably) to compensate for any negative 'opportunity cost' involved in the transaction. Details such as the solicitousness of the NHM management of the Ketanggoengan-West sugar factory (Brebes *kabupaten*) for the economic plight of a number of big, *haji* landholders in their procurement zone during the early part of the Depression gain in comprehensibility from this context. The factory in fact helped the landowners to get credit from the statesponsored Creditbank in Brebes to tide them over their difficulties.[26]

[24] ARA: NHM: Vol. 3681. 'Nota Kalimatie', 19 August 1890; Vol. 8994 [D.C. Eibergen Santhagens to NHM, 9 November 1955]; Tjomal: Vol. 96.

[25] In this context, I find particularly baffling Wertheim's recent attempt to designate me as a proponent of the existence of a 'free market' in land in the sugar districts of early twentieth-century Indonesia (Wertheim, 1993: 276, n. 20).

[26] ARA: NHM: Vol. 9213. Jaarverslag Ketanggoengan-West, 1934: 5.

None of this *guaranteed* that rentals were smoothly organized. On the eve of World War I and immediately after it, in particular, potential clashes between sugar company and peasant landholder interests came very much to the fore when high prices for rice appear to have made the industry's rentals singularly unattractive. But from the early 1920s through the onset of the Depression (and consequent massive reduction in industry rentals), the sugar company's own records–at least–suggest that their earlier difficulties with rental had largely subsided. Not least of the explanations of this was that rentals had risen considerably c. 1921 and that many factories now held their land on 21–year contracts (which allowed for a 3–year rotation of crops) rather than on short-term rental. Nor should the broader context of the industry's hold over rural resources be ignored : this was a situation in which the state, especially through the agency of the aptly named field police (*veldpolitie*), enjoyed a flexibility of control in the countryside which severely discourage protest. In 1927, for example (presumably in the wake of the 'communist' uprisings), a force of sixty such field police turned out to suppress an *opstootje* in the procurement zone of the Pangka sugar factory in Tegal *kabupaten*[27].

A different dimension of the sugar industry's response to the changing agrarian situation in the Third World field outside its factories relates to its exploitation of labour. The debate so far has tended to centre on the issue of the development of wage labour and the centrality of wages to the reproduction of the industry's work force. It might be equally useful, however, to talk about *deproletarianization–i.e.* the attempts of capitalism to undermine the free movement of labour. The important theoretical reference here is Brass and Bernstein who suggest that 'assaults by capital ... on the freedom of labour–the ability of workers to enter and *withdraw* from particular markets and labour processes–are a general feature of capitalism. Such actions aim to bring about *deproletarianization*, in the sense of diminishing or eliminating altogether the freedom of labour' (Brass & Bernstein, 1992: 6–7). Some such reference certainly makes sense of the moving in of large numbers of temporary migrant labourers (presumably bonded in some way or other) to perform much of the work in preparing the land and planting cane at many Pekalongan sugar factories during the 1920s (Knight, 1994).

There is also good reason to suppose that by the 1920s the industry was able to exploit its work force with increasing intensity–*i.e.* they did more work for the same (real) wage. Illuminating in this context, for example, is the record of a conference of sugar factory general-managers in the *Societeitsgebouw* of sugar factory Doekoewringin (Tegal *kabupaten*) in April 1932 (it secured general agreement on lower wages). During this conference an interchange took place between the *administrateur* of sugar factory Balapoelang and his counterpart at Ketanggoengan West, the gist of which was that while wages might not (yet) have sunk to their pre-1914 levels, fewer workers were employed than was then

[27] ARA: NHM: Vol. 7212. Jaarverslag Doekoewringin, 1927: 36 [which reported an otherwise 'kalme stemming' in that part of Tegal].

the case and they were expected to do considerably more.[28] With the full onset of the Depression, moreover, it was unequivocally the case that workers were expected to do more. At Tjomal in 1933, for instance, the factory's cane-cutters were divided into gangs of four who had to do the work assigned in previous years to gangs of five.[29] (Interesting, Tjomal was one of the sugar factories[30] on which the Coolie Budget Inquiry based its findings about starvation wages at the end of the decade.)

There can be little doubt that, for reasons about which Dependency and Revisionism profoundly disagree, the Java sugar industry of the early decades of the twentieth century had access to labour on a scale and at a price virtually unparalleled elsewhere in the world sugar economy. One well-informed contemporary, for example, observed in the 1920s that Java had 'the cheapest labour among the sugar producing countries of the world, except India' (Maxwell, 1927: 7), while another remarked that Java differed from most 'sugar colonies' in that it was labour, rather than land, which was 'so abundant and cheap' (Prinsen Geerligs, 1912: 124).

That said, however, it may be time for a re-appraisal of the Third World connotations of the industry's heavy reliance on manual labour in the agricultural sector of production. All the more so, if this reliance is seen as indicative of a 'backward' form of production. Insistence that mechanized production is the more 'advanced' form leads, in the circumstances of late colonial Southeast Asia, to some striking paradoxes. None more so if a comparison is essayed between the sugar industries of Indonesia and the Philippines. The Indonesian industry was incomparably more productive in the agricultural sector than its northern neighbour, yet a simple 'mechanization' rating would place the industries of Negros and central Luzon–in which tractors were quite extensively used in field work by the 1920s–considerably ahead of their Java counterpart in the 'development' stakes (Koningsberger, 1928: 1230; Larkin 1993).

This is plainly a nonsense. Indeed, the Java industry *was* far more productive than its Philippine counterpart precisely *because* it made such effective use of its (relatively) ample access to manual labour. Central to its very impressive plantation yields was not simply the introduction of new varieties of cane (pioneered by the Indonesian industry) but also a work process and an agriculture of cane in general which was subject to constant (even obsessive) renovation and experimentation.

It was a perfectly typical contrast between the industries, for instance, that while late in the 1920s the fertilizing of cane-fields was a recent innovation in the Philippines and far from universal (Koningsberger, 1928: 1231), such procedures–heavily labour-intensive as they were–had been standard practice in Java since the second half of the nineteenth century. Indeed, c. 1900 it was

[28] ARA: Koloniale Bank: Vol. 1021 [sugar factory Bandjaratma]. 'Protocol vergadering JSWB, afdeeling Tegal', 27 April 1932.
[29] ARA: Tjomal: Jaarverslag 1933: 24.
[30] ARA: Tjomal: Jaarverslag 1939: 39.

already the case in Java that fertilizer itself and the labour involved in applying it might well account for more than 20 per cent of total *aanplant* costs.[31] The same point was further reflected in the industry's house-journal, the *Archief voor de Suikerindustrie*, published annually (often in several volumes) from the mid-1890s onward. In a typical issue some 29 per cent of the articles listed by author and title dealt with issues relating to the agricultural sector of production (Archief 1911) parts 1 & 2]. The industry's main organization had a similar agenda. At the three-day congress of the *Algemeen Syndicaat van Suikerfabrikanten* in Surabaya in March 1911, for example, around a third of the sessions was devoted to matters relating to the agriculture (Archief 1911: I, 11).

What has been essayed in this paper is a preliminary critique of a debate of considerable potential importance to an understanding of the 'foundations of a national economy' in Indonesia. It is an understanding which can both be threatened and enhanced by the 'quantitative analysis' inherent in Revisionism. Threatened, because such an approach runs the danger of escaping from agrarian context and political economy: enhanced, because it opens up vistas for further inquiry which Dependency had tended to close off.

## References


Alexander, J. and P. Alexander, 'Sugar, rice and irrigation in colonial Java'. In: *Ethnohistory*, 25, 1978, 207–223.

*Archief voor de Suikerindustrie van Nederlands-Indië*. Surabaya, 1911–1931, 19–39.

Booth, A., 'Exports and growth in the colonial economy, 1830–1940.' In: A. Maddison & G.H.A. Prince, eds., *Economic growth in Indonesia, 1820–1940*. Dordrecht/Providence: Foris, 1989, 67–96.

Brass, T. and H. Bernstein, 'Proletarianization and deproletarianization on the colonial plantation'. In: *Journal of Peasant Studies*, 19, 3–4, 1992, 1–40.

Bree, L. de, 'De belastingsplannen der regering, in verband met de positie der suikerindustrie op Java'. In: *Koloniale Studiën*, 4, 1, 1920, 278–345.

Breman, J., *Control of land and labour in colonial Java; A case study of agrarian crises and reform in the region of Cirebon in the first decades of the twentieth century*. Leiden/Dordrecht: Foris, 1983.

Creutzberg P., *Indonesia's export crops, 1816–1940* [ = *Changing Economy in Indonesia*, vol. 1]. The Hague: Nijhoff, 1975.

Elson, R.E., *Sugar and peasants; The social impact of the Western sugar industry on the peasantry of the Pasuruan area, East Java, from the Cultivation System to the great depression*. Ph.D. thesis, Monash University, Clayton, 1979.


[31] ARA: NHM: Vol. 3122. 'Overzigt der Resultaten'. At one fairly typical Pekalongan factory (Wonopringo) c. 1900 some 23 per cent of total 'aanplant' costs (materials and labour) was accounted for by manuring the cane field.

Emmen, Q.A.D., 'Ombouw der suikerfabriek Redjoagoeng'. In: *Archief voor de Suikerindustrie van Nederlands-Indië*, 36, 1, 1928, 522–529.
*Encyclopaedie van Nederlandsch-Indië*. The Hague/Leiden: Nijhoff/Brill [8 vols], 1917–1939.
Eng, P. van der, *Agricultural growth in Indonesia since 1880*. Ph.D. thesis, University of Groningen, 1993.
Gordon, A., 'The collapse of Java's colonial sugar system and the breakdown of independent Indonesia's economy'. In: F. Anrooij , D.H.A. Kolff & J.M.T. van Laanen, eds., *Between people and statistics; Essays on modern Indonesian history presented to P. Creutzberg*. The Hague: Nijhoff, 1979, 251–261.
Gordon, A., 'Colonial mode of production and the Indonesian revolution'. In: *Economic and Political Weekly*, 21, 1986, 32.
Gordon, A., 'Imaginary histories and the real thing; A critique of Anderson and Benda on the "autonomous state" in Indonesia'. In: *Journal of Contemporary Asia*, 23, 1993, 444–464.
*Handboek voor cultuur- en handelsondernemingen in Nederlandsch-Indië*. Amsterdam: De Bussy, 1888–1940.
Helfferich, E., *Die Niederländischen-Indischen Kulturbanken*. Jena; Fischer, 1914.
*Indisch Verslag*. Batavia: Landsdrukkerij, 1931–1939.
Knight, G.R., 'Gully-coolies, weedwomen and "snijvolk"; The sugar workers of North Java in the early twentieth century'. In: *Modern Asian Studies*, 28, 1, 1994, 51–76.
Koningsberger, V.J., 'Een bezoek aan de Philipijnen. In: *Archief voor de Suikerindustrie van Nederlands-Indië*, 36, 1928, 1221–1233, 1251–1260.
Larkin, J.A., *Sugar and the origins of modern Philippine society*. Berkeley/Los Angeles: University of California Press, 1993.
Maxwell, F., *The economic aspects of cane sugar production*. London, 1927.
McVey, R., *Southeast Asian capitalists*. Ithaca: Cornell University Press, 1992.
Milliband, R., 'State power and class interests'. In: *New Left Review*, 138, 1983, 57–68.
*Nederlands Adelsboek*. The Hague: Van Doorn, 1988, 79.
Prinsen Geerligs, H.C., *The world's cane sugar industry*. Altricham: Rodger, 1912.
Prinsen Geerligs, H.C., 'De suikerindustrie op Cuba en Java'. In: *Archief voor de Suikerindustrie van Nederlands-Indië*, 35, 2, 1927, 1182–1196.
Schaik, A. van, *Colonial control and peasant resources in Java; Agricultural involution reconsidered*. Ph.D. thesis, University of Amsterdam, 1986.
Skocpol, T., 'Bringing the state back in; Strategies of analysis in current research'. In: P.B. Evans, D. Rueschemeyer & T. Skocpol, eds., *Bringing the state back in*, Cambridge: Cambridge University Press, 1985, 3–37.
Soetrisno, L., *The sugar industry and rural development; The impact of cane cultivation for export on rural Java, 1830–1934*. Ph.D. thesis, Cornell University, Ithaca, 1980.
Werker, S., 'Beyond the dependency paradigm'. In: *Journal of Contemporary Asia*, 15, 1, 1985, 79–95.

Wertheim, W.F., 'Conditions on sugar estates in colonial Java; Comparisons with Deli'. In: *Journal of Southeast Asian Studies*, 24, 3, 1993, 268–284.
White, G., *Developmental states in East Asia.* London: Macmillan, 1988.
Wilbrink, G., 'Vervroeging van de padi-oogst'. In: *Archief voor de Suiker-industrie van Nederlands-Indië*, 36, 1, 1928, 1–44.
*World sugar economy in figures, 1880–1959.* Rome: Food and Agriculture Organization, 1961.