DOUBLE DUTCH DISEASE

Emigration as a Human Resource Curse on the Sudan

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Abstract: Structural adjustment started in Sudan in 1978 but no real devaluation nor effective liberalisation was achieved. Declining exports and persistent inflation were not solely the result of the Sudan's lax fiscal policies, distorted markets and structural weaknesses. Sudanese emigration to OPEC countries and the Dutch-disease effect of the emigrants' hard-currency remittances had a greater impact; one which was reinforced by an inherited service-sector bias to the Sudanese state. These factors rendered powerless the standard prescriptions of devaluation and market liberalisation. An extensive debate over those policies between the IMF, Sudanese economists and others was in fact irrelevant. Even if Government had shown far greater capacity to implement a coherent policy of fiscal and economic reform, the loss of up to two thirds of the skilled labour force and remittances equivalent to 2% of GDP would still have driven the Real Exchange Rate up and productivity in tradeable sectors down. A standard model of booming sector economics is used to develop a theory for this special form of Dutch Disease and the way the effects were compounded by its direct impact on Government. This model may have lessons to teach for other countries which have experienced mass labour emigration.

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1. BRAIN DRAIN AND CAPITAL FLIGHT

A close neighbour of Saudi Arabia and the Gulf nations, culturally as well as geographically, Sudan was uniquely exposed to those countries' sudden acquisition of wealth after the OPEC shock of 1973. Drawn by that wealth, every Sudanese dreamt of migration. And, because they are hard-working, skilled, pleasant, Arabic-speaking Muslims, the Sudanese were in demand. By 1986 it was estimated that two thirds of the professional and skilled workforce was overseas, predominantly in the oil exporting states of the Arabian peninsula. (ILO, 1987) There have been various estimates of the total number of Sudanese nationals working abroad: 45,000 In 1979 up

to 200,000 or even 500,000 by 1983. In the mid-1980s, 350,000 was a conservative estimate. And the result was that "Sudan's recorded and unrecorded remittances together would have been sufficient to support three times the value of officially recorded imports." (Brown, 1990)

These estimates, raise a flock of questions about what was happening in the Sudanese economy. Why, if those vast sums were remitted, could Sudan not pay for its imports and why was the supply of imports so restricted? Why was the Sudanese pound under constant pressure? Why did inflation continue to run at high levels? Why did government revenues continue to decline? According to Brown, the answer lay in grossly distorted markets that allowed the extraction of rents which were then lost in capital flight. Sudan's balance of payment problems were not, therefore, the result of excess demand for imports, reflected in the current account, but of excess demand for foreign assets on the capital account. After the coup in 1985, it was estimated that some US$ 15 billion of capital had been exported from Sudan between 1978 and 1986: as much as a quarter of all capital exports from Sub-Saharan Africa. "The estimated unrecorded export of capital from Sudan in 1983/84 comes to $ 2.6 billion, or more than twice the level of the country's net foreign borrowing in that year." … "In reality Sudan is a net exporter of capital" and "Sudan ceases to be a net debtor in that the estimated value of its privately held foreign assets far exceeds the recorded value of its publicly held foreign debts." (Brown, 1990) The extraordinary nature of this conclusion bears underlining, it is that the biggest debtor of the international community Africa, the country with the largest single outstanding debt to the IMF, was in fact a net exporter of capital.

After reviewing policy debates which took place at the time, this paper uses a standard Dutch Disease economy model to take a new look at what was happening to the Sudanese economy in the ten years after OPEC. It is argued that Government of Sudan was relatively powerless to resist the economic effects of emigration. This made the policy debate around devaluation and structural adjustment largely irrelevant; conclusions which may be applicable in other undeveloped economies facing the combined effects of mass emigration and large flows of remittances.

2. A SERVICE SECTOR BIAS

In 1976, the ILO completed a comprehensive study of the Incentives for Resource Allocation in the Sudanese economy. At that time the position was as follows:

- Exchange rate: £s 1 = US$ 2.87 but a tax/subsidy rate of US$ 2.5 allowed since 1972 on all transactions except the export of cotton and gum arabic.
- Export duties between 5 and 9%, except meat on which 20% (ie eliminating the exchange 'subsidy'.)
- Sudanese Nationals Working Abroad (SNWA) allowed an exchange premium on remittances of 60% (plus the 15% general subsidy.)
- Import duties at 26 different rates from 5% to 600%. In 1970/1 the average was 43% CIF value. It was difficult to identify any clear policy distinction between the rates for raw materials and equipment and for consumer goods.
- All imports licensed by both the Bank of Sudan and the Ministry of Finance and Economic Planning with a tendency to give priority to investment goods, thus choking the supply of inputs to existing capacity. No clear appraisal mechanism so that "firms making chronic losses may receive allocations at the expense of efficient firms."
- A Nil-Value licensing scheme for imports by SNWA had been suspended in 1976 because of 'abuse' (although it was to return).
- Three major export crops, cotton, gum arabic and ollseeds, controlled by monopoly marketing corporations.
- Domestic prices of manufactures controlled ex-factory by the Ministry of Industry on a cost-plus basis. As the cost figures were supplied by the producers this was a procedure with 'serious limitations', but ex-factory price control was relatively effective.
- Crop minimum prices set by the Ministry of Finance, also into-mill prices for import substitutes: wheat and sugarcane.
- Retail price controls on 20 odd consumer items but 'generally ineffective' except where government also controlled supply; eg sugar.
- Trade profits also controlled, ineffectively, at rates between 2% and 25%.
- At end 1973, 36 industrial products protected by outright import bans and six by quota.
- Industrial enterprises eligible for tax holidays, cheap utilities and Infrastructure and duty free imports of machinery, spares and raw material. On the other hand, subject to license from the Advisory Committee for Industrial Development where "decisions are of an ad-hoc nature and the process does not act as a screen based on considerations of social profitability." (ILO, 1976)

It was estimated that this tax/subsidy regime gave a pronounced anti-export bias, in particular with respect to agricultural exports, of between 35 and 40 percent.

Bias against exports and against agriculture was not, however, the critical dimension. Sudanese industry was performing little better than agriculture, if at all. The tendency to allocate foreign exchange to yet more investment, persistent utility and infrastructure breakdowns, ex-factory price controls and licensing restrictions all eroded the apparent incentives. Instead it was the commercial sector that benefitted. "Weak control of wholesale and retail prices has not only left the commercial sector with excessive profits but by fostering the illusion of control distracted attention away from the rich premia being earned in trade." (ILO, 1976)

One conclusion was, therefore, that devaluation would not reduce the anti-export bias and that it would be "no substitute for fiscal reform." The other key conclusion concerned management. The policy structure was not so much incorrect of itself as ineptly run. To be successful the existing system required "a well elaborated plan, a pervasive and rapid information-monitoring system and a coordinated decision-making process. None of these conditions is met to any significant degree by the present administrative structure in the Sudan." (ILO, 1976) The primary case for market liberalisation rested, therefore, on the need to find policies that were within the state's administrative capacity.

The ILO's perceptive analysis does not appear to have been noted in the debate, two years later, on the first IMF package of adjustment reforms. Nevertheless, Sudanese academics resisting the IMF package took a very similar view. "The Sudanese economy, despite the distortions that characterise it, is not suffering from a fundamental disequilibrium as the IMF/IBRD proposals purport to show. The Sudanese economy, we believe, is rather suffering from a crisis of economic management." (Ali Ed, 1985) For this reason, Govermnent's own Consultative Panel to the Minister of Finance, Planning and National Economy recommended that cotton taxes should be reduced, and that Government expenditure, especially wages and salaries in parastatals, should be cut. Instead of devaluation, import duties should be raised, which would allow a measure of selectivity. Lastly and most surprisingly of all, development expenditure should be cut as "there are already clear signs that the rate at which new

development projects are contracted and executed is by far greater than the economy can absorb." (Quoted in Ali Ed, 1985)

3. THE SUPPLY SIDE CASE FOR DEVALUATION

It is difficult to see anything in this rather harsh self- analysis with which the IMF could disagree, apart from the rejection of devaluation. Indeed, the IMF's case for devaluation was based on the argument that the distortions of the Sudanese economy meant that neither exports or imports were likely to respond as needed to changes in the exchange rate. This reflected a view that the standard Purchasing Power Parity case for devaluation as a response to current account deficits was not valid for developing countries. In their case, public sector dominance of productive sectors, a range of market failures, and dependence on a limited basket of agricultural export commodities meant that *"exchange reform must be tailored specifically to the cost structure of the major export and import substitutes, to shift resources toward traded goods, and to foster structural change."* In short, the IMF agreed that Sudan's problem was essentially one of economic management. In their view, however, devaluation would provide part of the solution: *"whereby the exchange rate in conjunction with a number of corrective measures applied to the price and cost distortions becomes a major instrument of export promotion and structural change."* (Nashishibi, 1980)

It possible that this argument was partly aimed at an internal IMF audience. It served to justify the fund's continued involvement in Sudan and, crucially, further balance of payments support. Not coincidentally, it also supported the case for continued development lending by the IMF's sister organisation, the World Bank. Where Sudanese economists saw the country as being at the limit of its absorptive capacity, Bank lending grew rapidly through the late 1970s and early 1980s.

Perhaps because it was the only real point of disagreement, the subsequent debate revolved almost entirely around the question of devaluation and the IMF's Supply Framework for Exchange Rate Determination. This argued that a rate should be set which would ensure that

the major Sudanese export crops were competitive. Central to the analysis was a judgement that policy distortions meant resources were being misallocated, to crops in which Sudan did not have a comparative advantage.

The IMF case was based on estimates of the comparative advantage of Sudan's major agricultural crops. Each crop's International Value Added (V) was calculated as follows:[1]

$$V = (P_x X - P_m T)$$

Where:

X = Exportable Output
P_x = World Price of Output
T = Imported Input
P_m = Imported Input prices

The following formula was then used to estimate a coefficient of competitiveness (C). This calculated the return in International Value Added ($) per unit of Domestic Input (£s) as follows:

$$C = V/Pd.D$$

Where:

D = Domestic Inputs
P_d = Domestic Input Prices

The results were as follows:

	1972/73 C	1976/77 C
Cotton Long Staple	3.25	2.69
Medium Staple	2.75	2.22
Sugar	3.95	2.57
Groundnut	1.92	2.46
Wheat	1.05	1.10
Groundnut - Rainfed	-	3.22
Sesame " "	-	2.68
Sorghum " "	-	2.08

In essence C represented the exchange rate at which each crop would be competitive on international markets. On that basis, the IMF argued in 1978 that a devaluation from $2.5/£s to

[1] The formula has been simplified from that shown in the IMF paper, removing the unnecessary and confusing complication of converting International Value Added to £s and then converting back to $.

$2.0/£s would be needed to put the exchange rate “at the margin of competitiveness of medium staple cotton and rainfed sorghum." (Nashishibi, 1980)

This analysis attracted substantial criticism. First, it was pointed out that the drop in the coefficient of competitiveness between 1972 and 1976 was the result of falling productivity, not any change in the relative value of the Sudanese pound. At 1972 productivities, C was little changed in 1976. Second, the coefficient is a relative indicator. If the figure for rainfed sorghum is low that may merely show that resources should switch out of that crop, not that the exchange rate should be adjusted to match it. (Ali Ed, 1985) There was nothing to indicate that rainfed sorghum was the truly marginal enterprise. A much larger devaluation might have made even the industrial sector competitive. Would that have been justified? Despite this the IMF prevailed and the exchange rate was duly cut in May 1979.

A further criticism was that the impact of devaluation on C was not unambiguous. It would depend on three factors: the price elasticity of supply of exportables; the extent to which the devaluation would be 'passed through' to producer prices; and the inflationary effect on domestic prices (P_d). Econometric analysis of four major export crops between 1969 and 1980 showed that "a combination of a low elasticity of supply and a high elasticity of foreign and domestic prices to exchange rate devaluation leads to a loss of foreign exchange earnings per unit of domestic input." (Hussain & Thirlwall, 1984)

Hussain and Thirlwall's analysis is also open to criticism. They use quarterly data when the crops concerned are all annual. Quarterly price movements are unlikely to be a strong determinant of output. They use Nashishibi's figures which show imported inputs for groundnuts and sesame that are equal to or higher – as a percentage of output value - than for cotton. This seems unlikely for rainfed crops. The elasticities of supply that the model estimates are low: 0.5 or less and in one case negative. This may be compared with the real (ie corrected for inflation) price elasticities estimated for rural producer markets during the 1970s and 1980s of 0.64 for groundnuts and 3.22 for gum arabic. (Morton, 1994) These were

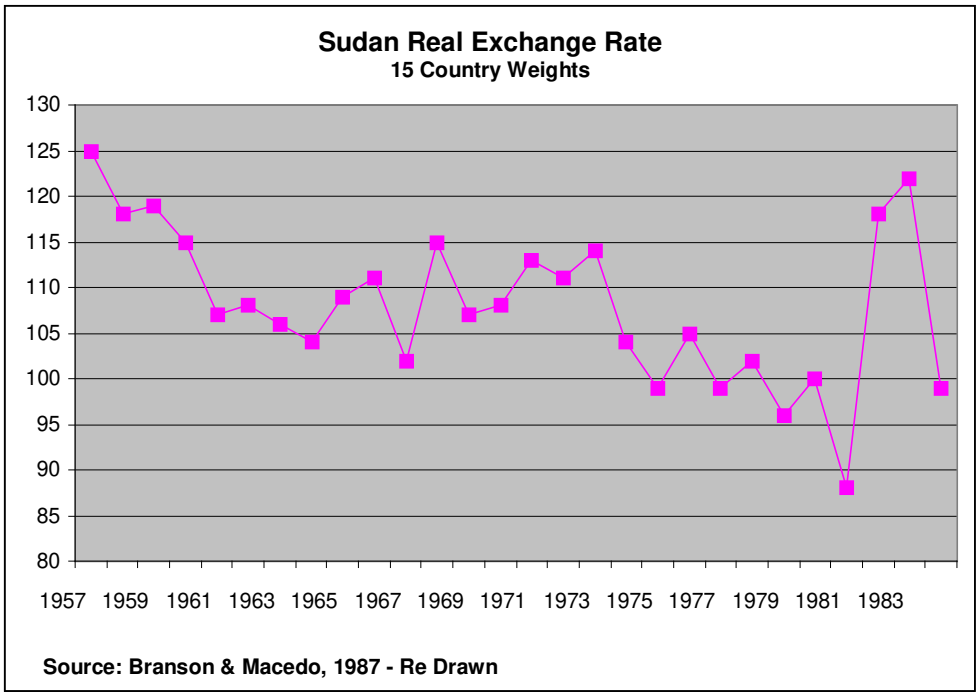
estimated more crudely but from annual data representative of rural market prices and hence closer to the prices on which producers based their decisions.

Hussain and Thirwall's conclusion was that Sudan was a typical 'rigid country', dependent on agricultural exports and on imported intermediate inputs and correspondingly unresponsive to devaluation. Other authors have suggested that for smallholder producers, inefficient markets and poor transport infrastructure are particular factors in this rigidity. Evidence has been presented that trader, processor and exporter margins in the oilseed sector increased over the period 1962 to 1979. (Saad & Simpson, 1990) Once again the data is not without its weaknesses. It could be argued, for example, that 1979 was too early to assess the impact of the major devaluation and no account is taken of possible increases in the costs faced by the traders.

4. AN ALTERNATIVE MODEL OF EVENTS

For all the doubts, the fact that the IMF inspired devaluations failed to stimulate exports and had minimal impact on the real exchange rate (RER) appeared to support the argument that the Sudanese economy was rigid. Figure 1 charts the RER between independence and 1984. (A fall in the graph marks an appreciation in the real exchange rate, and vice versa.) After appreciating quite sharply after independence, the exchange rate fell back again during the early 1960s and was then relatively stable up to 1973. At that point the RER began fall sharply, ie appreciate, a trend which was barely slowed by devaluations in 1976 and 1979, and only partially and temporarily reversed by much larger devaluations in 1981 and 1982.

Figure 1



Whether or not the Sudanese economy was structurally rigid, there were two other more probable causes for the minimal real impact of devaluation. One was weak fiscal control and the consequent inflation driven by Government borrowing from the banking system. There is no doubt that fiscal control was very weak indeed. (Brown, 1990) Critics of the IMF package on this flank argued this was inevitable. Government would find it impossible to reduce its commitments in real terms. With its tax revenue both lagged in time and relatively inelastic to income, the devaluation would feed directly into the Government deficit and thence into inflation. (Ali Ed, 1985) The way Government expenditure and deficits ballooned in the adjustment era supports this argument very strongly. (Morton, 1994)

The second more probable cause was emigration. This outstanding characteristic of the Sudanese economy in the 1970s received little attention in policy discussions. As the figures quoted at the outset show, migration to the booming Gulf nations rapidly came to dominate the national economy. The period covered by the devaluation debate coincided almost exactly with the first impact of that boom; as did the rapid appreciation of the RER. In the four years

between 1973/4 and 1976/7 official remittances rose seven times to $172 million, equivalent to 2.86% of GDP. In the mid 1980s they were to peak at over 5% of GDP. It is estimated that remittances through unofficial channels were four times higher, giving total remittances in 1976/7 of $757 million. (El Badawi, 1992)

One justification for devaluation was that it would bring the large underground flows of remittances to the surface and that migrants would be encouraged to repatriate their earnings rather than hold them overseas. What was not considered was the impact devaluation would have on domestic wage levels and on the 'migrant wage', ie the incentive to migrate, and hence on the numbers of migrants. If there was any export commodity for which devaluation was likely to increase competitiveness, it was labour, if only because the cost of imported inputs is nil. Time series data on migration is scarce and it is impossible to analyse these effects statistically, but the probability must be that any real devaluation would have encouraged migration and, by raising domestic wages, directly affected export crop production. But there was no real devaluation. The twin inflationary pressures of labour emigration and remittances overpowered any changes in the nominal exchange rate.

It is possible to develop a theoretical analysis of the impact of Sudanese emigration using a model which has become standard in the literature on Dutch Disease. A re-working of some of the IMF's and other data even allows a simple, non-statistical test of the model's predictions.

Dutch Disease, or booming sector economics analyses the impact of a sudden shift in an economy's resource endowment; as in the classic Dutch case where the discovery of natural gas led to an appreciation in the real exchange rate and a decline in manufacturing. The following summarises the synthesis presented by Corden. (Corden, 1984)

The economy consists of three sectors: a Booming Tradeable Sector (B), a Lagging Tradeable Sector (L) and the Non-Tradeable Sector (N). Whether through the discovery of natural

resources or a sudden increase in prices or productivity, a boom in B raises factor incomes in that sector causing two things to happen:

The Spending Effect - increased B incomes spent on non-tradeables, raise the price of N relative to tradeables (Pn), ie the real exchange rate. This will also draw resources out of L and into N.

The Resource Movement Effect – the boom in B draws in labour from L. This creates *direct de-industrialisation*. B also attracts labour from N, reinforcing the Spending Effect and further raising the price of non-tradeables. The increase in Pn means that L also loses labour to N creating *indirect de-industrialisation.* In non-industrial countries, agriculture may be the lagging sector, with *de-agriculturalisation* the equivalent of *de-industrialisation.*

The Spending and Resource Movement Effects both reduce the economic rent on any factors specific to L and raise wages relative to that sector's output. What happens in the non-tradeable sector N will depend. In the classic Dutch Disease case of a natural resources boom, B can be near enough to an 'enclave sector' with limited links to domestic factor markets. Here the Spending Effect will dominate and production and factor incomes in N must go up. However, if B is not an enclave and it attracts domestic factors, from N as well as from L, production of non-tradeables and factor incomes in N may fall.

While there is usually only one booming sector, the lagging sector L comprises the range of different industries producing exportable and importable goods. The effect on each industry will depend on its exposure to domestic demand, and on its capital and labour intensity relative to other L industries.

In the special Sudanese case considered here, emigration and the flow of remittances constitute the booming sector, B.[2] Agriculture, as the main source of Sudan's exports and import substitutes, constitutes the principal lagging sector L.

Although it only receives a passing mention in the IMF's text, the impact of emigration can be clearly seen in its data. Table 1 below analyses how the distribution of returns from long staple cotton production shifted between 1972 and 1976. Reduced yields were more than offset by a near doubling in the world price. However the lion's share of the 60% increase in total return was captured by labour, including the Gezira tenant's share as part of the wage, and by non-traded inputs: trade margins, storage and handling. Government's share, in the form of charges for land, water and adminstration and the Gezira scheme profits, fell sharply. To the extent that it reflected reduced inputs and labour effort by the tenants, the reduction in yield was also attributable to an increased labour wage.

These changes are entirely consistent with the Dutch Disease model's predictions of what happens in a lagging sector L. Rents to sector specific factors - land and water charges plus excess profits – fall sharply. Wages, in the form of the labour and tenant shares, go up equally sharply. The largest percentage rise of all is in the share going to non-tradeables. The fall in the IMF's index of competitiveness, C, as the result of an increase in the price of domestic inputs, Pd, is also consistent. The IMF's Pd is equivalent to Pn in the Dutch Disease model.

[2] The Dutch Disease literature considers the case of immigration into a booming sector, but not the special case of emigration as a standalone booming sector. (Corden, 1984)

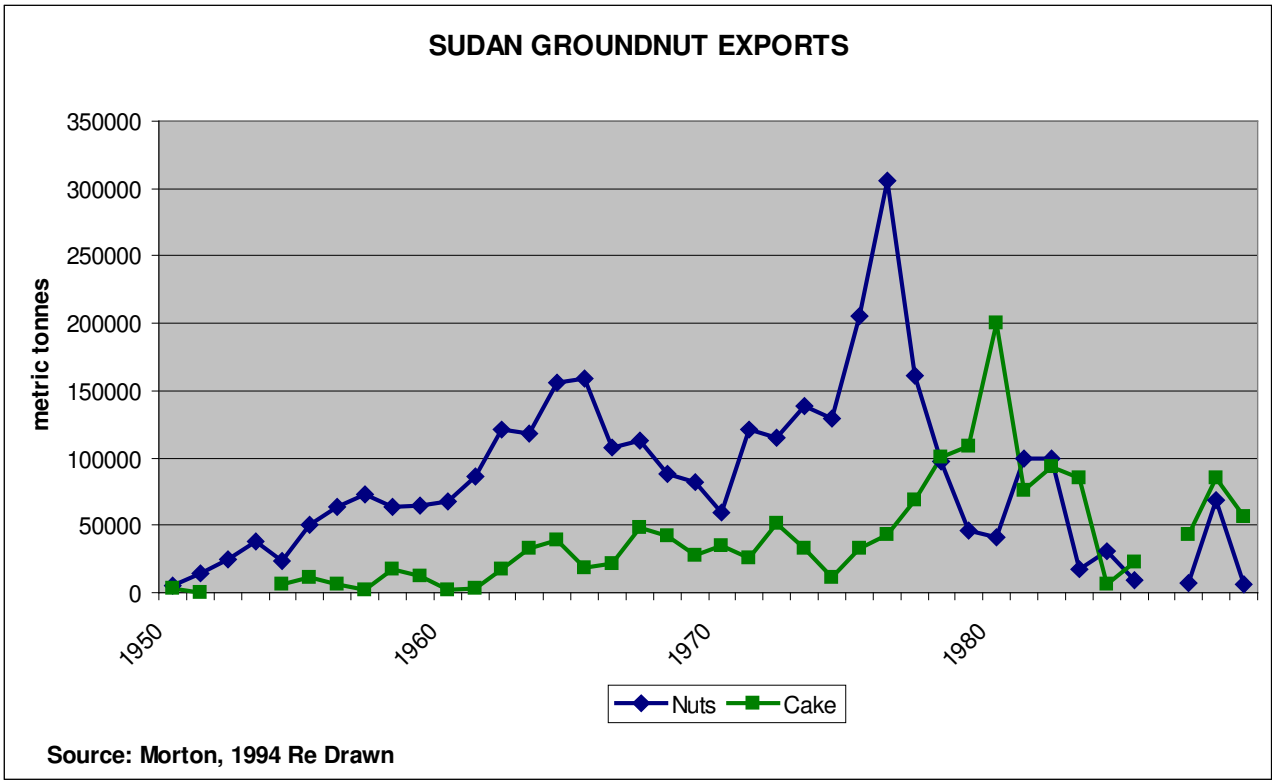
Table 1 Returns to Long Staple Cotton Production

	1972/3		1976/7		% Change
World Price - $ / mt	341		661		+ 93.8
Yield - kg/feddan	681		568		-16.6
Total Return £s / Fd	93.0		150.2		+ 61.5
	Distribution of Returns				% Change
	£s	%	£s	%	
Traded Inputs	22.4	24.1	35.1	23.4	- 2.9
Non Tradeable Inputs	16.4	17.6	31.4	20.9	+ 91.4
Labour	15.2	16.3	37.6	25.0	
Tenant	6.5	7.0	15	10.0	
Sub Total	21.7	23.3	52.6	35.0	+ 50.2
Ld Water, Mgt, Admin	16.1	17.3	23	15.3	- 11.6
Total	76.6	82.4	142.1	94.6	
Excess Profit	16.4		8.1		- 50.6

Source: Calculated from data in Nashishibi, 1980

A comparison between irrigated cotton and rainfed groundnuts illustrates how Dutch Disease effects vary between different lagging sector industries. With Sudan's weak and uncompetitive textile industry there was little scope for import substitution in cotton. Almost the entire crop was exported, contributing up to two thirds of total exports. With some 20% of the total, groundnut exports came second only to cotton. However, this crop was also an important import substitute. Cooking oil is an major item in the Sudanese household budget and the national oil milling industry is long-established. At independence it contributed over a third of all industrial production. (Morton, 1994) Predominantly a smallholder rainfed crop produced without fertiliser, pesticides or mechanisation, emigration was much less of an option for groundnut farmers whose traditional skills were of little value in the OPEC economies. For all these reasons, the groundnut industry withstood the impact of Dutch Disease, at least initially. Figure 2, shows how groundnut exports grew rapidly through the late 1970s. This was followed by a fall in the export of unprocessed nuts offset by rising exports of oilseed cake.

Figure 2



More data is needed to be certain but this pattern is consistent with a shift from the export of raw nuts to import substitution of cooking oil; with rising oilseed cake exports as a by product of that shift. In terms of the Dutch Disease model, increased demand for wage goods like cooking oil is driven by the Spending Effect. Exposure to that demand protects industries in the lagging sector L from de-industrialisation; provided those industries are competitive at import parity prices.

5. GOVERNMENT AS A LAGGING SECTOR

A boom in a natural resources sector such as oil or gas is the most well known form of Dutch Disease. In this case the booming sector is largely an enclave, isolated from domestic markets, and the impact on Government is unambiguous. Although it will be exposed to higher costs through the Spending Effect, its ability to extract a large share of the natural resource rent more than compensates. The budget deficit is reduced, in most cases substantially.

In the non-enclave case things are very different. Government is exposed to Resource Movement Effect as well as the Spending Effect. At the same time its ability to extract rents from the booming sector is likely to be much lower. Emigration, as in the case considered here, is the very opposite of an enclave. In effect there is a 1 for 1 link between the booming sector and domestic labour markets.

The implications can best be considered by adding a Government Sector, G, to the standard model described above. Although public services are, by their nature, non-tradeable, the revenue side of the Government account is exposed to all sectors, tradeable as well as non-tradeable. G's revenues have two sources: economic rents in all three sectors, B, L and N; and factor incomes. Revenue can be raised from the latter in one of three ways: income taxes; consumption taxes; and trade taxes.

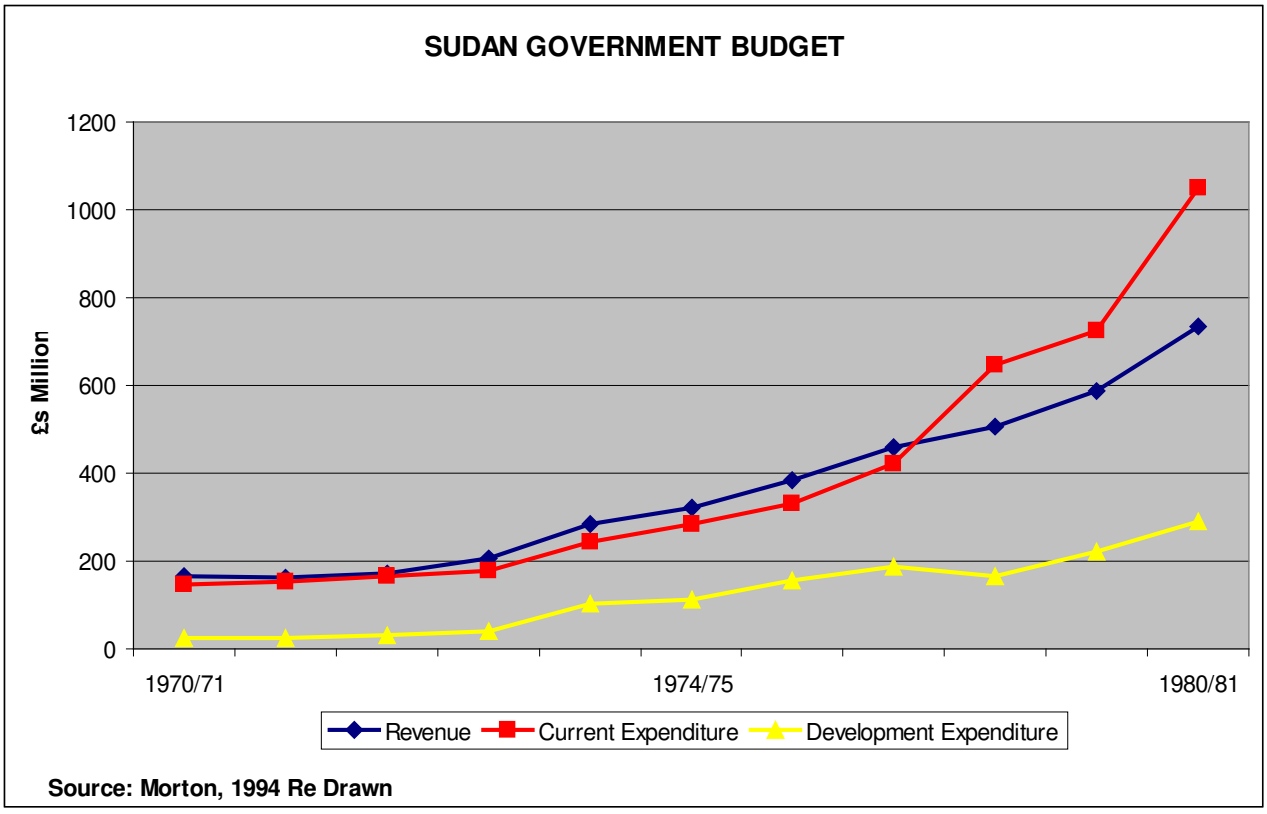
The Sudanese case can be summed up in terms of the two sides Government budget as follows:

Expenditure – As the principal employer of professional and skilled labour, Government of Sudan was uniquely exposed to the Resource Movement Effect: the movement of labour from N to B. A large proportion of Government expenditure, 100% in the case of transfer payments, was subject to the Spending Effect, the increase in non-tradeable prices, Pn.

Revenue – On the revenue side, there was no direct way Government of Sudan could extract rents from the B sector, emigration. At the same time, it was directly exposed to the fall in economic rents on public enterprises in the lagging sector L and to lower tax revenues on private rents in L, and potentially in N as well. To balance that, Government had the potential to realise greater tax income from higher wages and from increased consumption financed from remittances. It's ability to maintain a budget balance would largely depend on how successfully it realised this potential.

Figure 3 below shows that Government of Sudan failed to achieve that balance. Commentators have tended to attribute this to excessive development spending, financed by the OPEC countries and the World Bank. This was not really the case. By 1975/6, Government had lost control of its current expenditures. From then on, these absorbed substantially more than Government's total revenue. This increase in current expenditures can be seen as the inevitable result of the pressure Government was under from both Spending and Resource Movement Effects. Its only realistic option was to raise revenues to match the increase in costs.

Figure 3



Source: Morton, 1994 Re Drawn

The structure of Government revenues would make that very difficult to achieve. At independence Government of Sudan inherited three sources of revenue. Import taxes and non-tax revenues, principally profits on the major irrigation schemes, each contributed 40%. The remaining 20% came from export taxes. By 1973/4, Government had added excise and direct

income taxes but they only contributed 26% of the total. It still depended on import taxes and non-tax revenues for 60%. (Morton, 1994)

Non-tax revenues, in the form of profits on state owned enterprise, are largely equivalent to economic rents in the lagging sector L, rents which the Dutch Disease model predicts will fall; as is confirmed in the analysis of the returns to long staple cotton (Table 1). Although not without support, the Numeiri regime of the 1970s lacked the legitimacy needed to successfully increase direct income and consumption taxes.[3] Having lost a large proportion of its most capable staff, its capacity to implement such a change was also constrained. With taxes on exports from the lagging agriculture sector falling, maximising revenues from import tariffs was the only remaining option. The late 1970s and the 1980s were dominated by Government's failing struggle to achieve this.

That struggle was played out in a parallel foreign sector in the form of "mis-invoicing and smuggling of exports and imports, and diversion of remittances from Sudanese nationals working abroad to the black market for foreign exchange." At its peak in 1984, it is estimated that 'self-financed imports' accounted for 77% of total imports while remittances through legal channels are estimated to be around 23% of total remittances.[4] (El Badawi, 1992) With self-financed imports not subject to import tariffs, Government was only able to realise a quarter of potential revenue created by emigration.

Starting in 1979, the next ten years saw a series of attempts to unify the regulated and parallel economies by liberalising foreign trade and foreign exchange markets. For much of the period, self-financed imports were legal and dealers were licenced to trade in currency. Although the volume of outright smuggling may have fallen, these reforms had little impact on a black market

[3] The colonial state set this pattern. Nervous about its lack of legitimacy, it abandoned most direct taxation in the inter war period.

[4] Data on a parallel economy is inevitably uncertain and requires caution. As an example, Badawi's estimate of remittances outside official channels between 1973 and 1989 seems to be based on a single migrant household survey. The implicit assumption, that the ratio of official to total remittances never varied, seems implausible.

foreign exchange premium of between 50% and 100%. At the end of the period these policies were abandoned and total import bans and exchange controls were re-imposed. (El Badawi, 1992)

Analysts at the time attributed the failure of the attempt to unify the parallel and regulated economies to Government's failure to control spending and the inflation which lay behind the growing balance of payments deficit. "*With unsustainable macroeconomic policies, the (liberalisation) experiment has widely exposed the credibility problem of the government, thus rekindling expectation and widening the parallel market.*" (El Badawi, 1992) An alternative view saw the parallel economy as a response to Government attempts to control the balance of payments deficit by raising tariffs. It was argued that a better way to control the deficit would have been to stabilise the real exchange rate by floating the nominal rate. That would remove any incentive to self-financed imports and black market currency dealing. (Branson & Macedo, 1987)

The analyses may have reflected the World Bank and IMF's attempt to re-think structural adjustment in the face of its failure, not just in Sudan but in other African countries as well. They endeavour to develop new adjustment principles by testing complex econometric models, on rather weak data. But they maintain the basic recommendations of structural adjustment: reduce the budget deficit, devalue and liberalise trade.

In doing so they failed to address what was really happening in Sudan. While recognising the role remittances played in Sudan's parallel economy, they overlooked the impact emigration and remittances would have on the real economy and on Government's fiscal resources and capacity to execute. It was unrealistic to recommend a policy of retrenchment to a Government whose weak legitimacy was now compounded by a severe loss of revenues and human resources.

Given the state's dependence on revenues from import and export taxes, trade liberalisation was equally unrealistic. It was also the wrong policy. A combination of tariffs and export subsidies is equivalent to a devaluation. Sudan had a framework for trade taxation already in place and an effort to reform the tariff structure would been more effective than the adjustment combination of devaluation and trade liberalisation. With the critical difference that this policy would have raised Government revenues where liberalisation reduced them. It would, therefore, have formed part of a credible macroeconomic strategy, a strategy which addressed the balance of payments and the budget deficits at the same time. In this respect the devaluation – liberalisation combination was not a coherent policy for the Sudan.

Implementing such a reform would not have been easy. The sheer size of Sudan's parallel economy was a measure of Government's inability to enforce its trade policy. Branson and Macedo argue that black market premia and the volume smuggling are principally a function of tariff rates: *"escalation of trade barriers generates a rising black market premium and offers increasing incentives to smuggling, already a pervasive problem in the African countries."* (Branson & Macedo, 1987) This underrates the more important contribution of inefficiency, rent seeking and weak enforcement. Even so, the failure of the different attempts at liberalisation between 1979 and 1989 suggest the alternative could hardly have been worse.

5. CONCLUSION: DOUBLE DUTCH DISEASE

Between 1973 and 1989, Sudan was exposed to a double economic shock combining the full Resource Movement and Spending Effects of Dutch Disease. The contrast is with the classic Dutch case in which the booming natural gas sector was to a large extent an enclave and the major economic impact came through the Spending Effect. The Sudanese case is, therefore, worthy of the title Double Dutch Disease. To fully comprehend its impact it is necessary to extend standard Dutch Disease models to cover the effect on Government. Doing this identifies a major weakness in the macroeconomic strategies advocated by the IMF and World Bank and summed up as structural adjustment. If there was an incompatibility in Government's

macroeconomic management, it was at least partly because the devaluation and liberalisation combination it was being urged to adopt was itself incompatible. By continuing lending for development projects and balance of payments support and by promoting policies to realise unobtainable efficiencies in public services, without addressing the revenue side of the equation, it can be suggested that the Washington institutions extended, even exacerbated the Dutch Disease effects.

In the decades since 1970 and through into the 21st century, Sudan has experienced great difficulties, political as well as economic. These are manifested most clearly in outright civil war in Darfur and South Sudan. Those difficulties have, in major part, reflected the weakness of the Sudanese state. Figure 3 graphs Government's loss of control over its expenditure. What it cannot do is show is the decline in the volume and quality of the public services delivered. Government's resort to arming militias to combat conflict is the most extreme measure of its inability to devise and implement coherent and sustainable policies. That failure has extended across most aspects of public service and the provision of public goods.

Many of Sudan's problems pre-date OPEC. For example, Government's dependence on patronage to bolster its weak legitimacy goes back to the colonial era. Nevertheless, the way the Dutch Disease effects of mass emigration hit Government reinforced all its worst features and set the pattern for much of what followed.

The analytic framework suggested in this paper may be applicable more broadly. Sudan in the 1970s and 1980s was an extreme case. Nevertheless, many other countries from Bangladesh and Nepal to the countries of Central America have experienced similar periods of mass emigration.

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