

TRADE LIBERALISATION AND THE COMPOSITION OF INVESTMENT: THEORY AND AFRICAN APPLICATION

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1 Introduction

While the effect of trade liberalisation on aggregate investment has been a major focus of study, its effect on the composition of investment has received little attention. The effect on aggregate investment is somewhat controversial but recent evidence suggest that it usually is positive. Sachs and Warner (1995) find that the openness dummy which they use significantly and substantially increases the investment/GDP ratio. Similarly, Levine and Renelt (1992) find that the result that the investment ratio is higher in liberalised economies is one of the few results of the empirical growth literature which passes the test of Extreme Bounds Analysis. However, there is some evidence that in Africa trade liberalisation has tended to reduce aggregate investment (Mosley *et al.*, 1991), and in the theoretical literature several explanations have been proposed for a negative effect.

One emphasises lack of credibility. When trade liberalisation is not considered fully credible it may be optimal for private agents to reduce fixed investment in favour of stocking imports (Calvo, 1987, 1988) or to remain liquid until policy uncertainty is resolved (Dixit, 1988). However, liberalisation can reduce aggregate investment even when fully credible. The first explanation for this relies on differences in factor proportions. If the protected import substitutes sector is capital intensive then trade liberalisation will reduce the return on investment (Buffie, 1992). The second explanation stresses that protection often applies only to consumer goods. Trade liberalisation then amounts to the removal of a subsidy on capital goods (Collier and Gunning, 1992, Buffie, 1992).

In this paper we use variants of these two models to analyse how liberalisation might change the composition of investment. As we show, empir-

ically episodes of trade liberalisation have sometimes been associated with very large changes in investment composition. When investment data are decomposed into tradable capital (equipment) and non-tradable capital (structures), the post-liberalisation slump in investment is found to be composed entirely of a fall in the former. Investment in structures, by contrast, appears to experience a boom. This phenomenon has implications both for analysis and measurement. Models which fail to distinguish between equipment and structures, or in which the two are used in fixed proportions, as in Buffie (1992), are evidently unable to explain the phenomenon. Substitutability between equipment and structures must be introduced either directly, or in the form of factor intensity differences between sectors. Measures of investment response which fail to make the disaggregation risk systematic bias.

The purpose of this paper is to present this evidence and to develop simple models which can explain the conjunction. We present two models. The first one illustrates the *equipment intensity effect*: if the composition of investment differs sufficiently between sectors, with investment in the protected sector intensive in equipment and investment in the export sector in structures, then the conjunction occurs: equipment investment falls, but construction increases. In the second model there is an *equipment subsidy effect*. In this model equipment and structures are substitutes in the production of an aggregate capital good which is used both for exports and importables. Hence there is no equipment intensity effect: the two sectors can differ in capital-labour ratios, but equipment-structures ratios are the same. However, in this model tariffs apply only to consumer goods so that there is an implicit subsidy on equipment investment. As a result trade reform raises the price of equipment relative to structures, the *equipment subsidy effect*. We show that if equipment and structures are good substitutes and the protected sector is capital intensive while in the short run export supply is inelastic then the conjunction of an investment slump and a construction boom occurs. The equipment subsidy is necessary for this result.

In the next section we present African evidence on changes in the composition of investment in the wake of trade reform. Section 3 presents two models which may explain this result, one illustrating the equipment intensity effect, the other one the equipment subsidy effect. Section 4 concludes.

2 The Composition of Investment Following Trade Liberalisation: Some African Evidence

To study the effect of trade liberalisation on the composition of investment requires that trade policy be measured, which is notoriously difficult. The more restrictive is trade policy, and hence the more important its effects, the more elaborate are the forms which restrictions take and so the harder it is to reduce them to a single aggregate measure. A commonly used proxy is the premium of the parallel market exchange rate over the official rate. However, as a continuous variable subject to many influences this exaggerates the volatility of trade policy and classifies as trade liberalisations periods of which policy makers would be unaware. Sachs and Warner (1995) aggregate five different dimensions of trade policy into a dichotomous classification: policy is considered restrictive if it fails to satisfy a threshold level on any one of five dimensions. On the Sachs-Warner criteria there were only seven liberalisations in Africa prior to 1990. Unfortunately disaggregated data on investment at constant prices are available only for two of the seven countries: Uganda and Ghana. We therefore supplement the group with Nigeria and Tanzania. While these two countries do not satisfy the Sachs-Warner criteria for a liberalisation, in both there was a large and discrete trade liberalisation identifiable both as a change in specific policies and as a sharp reduction in the parallel premium. In three of the four countries (Nigeria, Uganda and Tanzania) there was an investment slump following liberalization. These are the three cases on which we focus.

In each case we date the liberalisation by the parallel premium: the liberalisation occurred when the premium abruptly fell from 100% or more to under 50% and stayed at this level or fell further during the next four years. We then compare investment in structures and equipment over the subsequent four years against a base level immediately prior to the liberalisation. In all cases investment in equipment and structures are measured at constant prices. The results are presented in Table 1, the underlying data series being given in the Appendix.

Table 1: The Composition of Investment
during Trade Liberalisation Episodes

	Nigeria	Uganda	Tanzania
premium in base period	322%	335%	324%
premium in liberalisation period	32%	23%	50%
structures (index) base period	100	100	100
structures (index) liberalisation	144	134	155
equipment (index) base period	100	100	100
equipment (index) liberalisation	55	80	98
structures/equipment (index)	262	168	158

Base periods: for Nigeria 1984-85, for Uganda 1987/88-1989/90 (fiscal years) and for Tanzania 1985-88. Liberalisation periods: for Nigeria 1987-90, for Uganda 1990/91-1993/94 and for Tanzania 1989-92.

In all three countries the liberalisations were of the same magnitude, from an initial premium of around 300% being reduced to the range 20-50% for the subsequent four years. During the post-liberalisation phase equipment investment fell absolutely and relative to GDP in each case. By contrast investment in structures increased both absolutely and relative to GDP. The changes are large. For example, in Uganda in the course of only a few years equipment investment fell by 20% in real terms while structures investment *increased* by 34%. There was thus a powerful substitution from equipment to structures and the apparently curious conjunction of a construction boom during an investment slump.

Such changes in the composition of investment have two important consequences for the measurement of the effects of trade liberalisation. First, the aggregate behaviour of investment depends upon the weighting of two opposing changes in its constituent parts and these weights themselves differ *ex ante* and *ex post*. Because the *ex ante* prices are affected by trade controls, the *ex post* prices better reflect world prices. At *ex ante* prices equipment is underweighted, and since this is the component of investment which declines, the performance of aggregate investment appears better than is really the case. Empirically, the distinction is of considerable importance.

National Accounts are usually constructed using ex ante prices, notably those for Nigeria and Tanzania in our above examples. Had the Ugandan National Accounts used ex ante 1986/87 prices instead of ex post 1991 prices, we estimate that aggregate investment would have appeared to increase by around 26% in the five years since liberalisation whereas it was in fact constant. These large and systematic measurement errors which are built into the post-liberalisation data on aggregate investment, together with the radical differences in the response of the two investment components, suggest that in analysing the response it is advisable to work with the disaggregated data.

Secondly, substitution between structures and equipment has implications for the measurement of resource allocation. In both empirical and analytic work on trade liberalisation, the non-tradable sector is commonly considered as a single aggregate. For example, World Bank country work on national accounts routinely shows the shares of the non-tradable and tradable sectors. A successful liberalisation is presumed to shift resources from the non-tradable to the tradable part of the economy. Yet the substitution into the construction sector is a desirable expansion in the non-tradable sector so that the direction of the net resource transfer between tradable and non-tradable activities is a priori ambiguous. Trade liberalisation is better regarded as giving rise to resource transfers within each activity: from import substitution to exports within tradables, and from consumer to capital goods within non-tradables.

3 Two Models with Tradable and Non-Tradable Capital

In this section we present two models which can explain the conjunction of an equipment slump and an investment boom. Both models are two-period models in which trade liberalisation (initiated in period 1 and maintained in period 2) has both short run effects and, through changes in investment, long-run effects.

The first model illustrates the equipment intensity effect. In this model the economy produces two tradables, import substitutes and exports, and a single non-tradable, structures, produced by the construction sector. The two tradable sectors use mobile labour and sector-specific capital. Gross investment in these sectors requires equipment and structures in different proportions. We assume that investment in importables is equipment inten-

sive and that construction requires only labour.

In this model trade policy does not discriminate between equipment and consumer goods: the domestic price is p_m for both types of imports. The revenue function for the first period for the two tradable sectors (importables and exportables) is denoted $r^1(p_m, p_x; \bar{k}_m^1, \bar{k}_x^1, \bar{l} - l_s)$ where l_s is the labour used in construction (investment in structures) and the remaining labour $(\bar{l} - l_s)$ is allocated optimally over importables and exportables, given the predetermined sector specific capital stocks $(\bar{k}_m^1, \bar{k}_x^1)$ and the relative price p_m ($p_x = 1$ in both periods). In period 2 there is no investment so that all labour is allocated to the tradable sectors and the period 2 revenue function may be written as $r^2(p_m, p_x; k_m^2, k_x^2, \bar{l})$.

Gross investment in importables requires a_e^m units of equipment and a_s^m units of construction and similarly a_e^x, a_s^x for exports. Assuming that optimal gross investment in both sectors is positive ($i_m > 0, i_x > 0$), both with and without trade liberalisation, the capital stocks in period 2 are given by:

$$\begin{aligned} k_m^2 &= (1 - \delta)\bar{k}_m^1 + i_m = (1 - \delta)\bar{k}_m^1 + (a_s^x i_e - a_e^x i_s)/\Delta \\ k_x^2 &= (1 - \delta)\bar{k}_x^1 + i_x = (1 - \delta)\bar{k}_x^1 + (-a_s^m i_e + a_e^m i_s)/\Delta \end{aligned}$$

where Δ is the determinant of the capital input-output matrix:

$$\Delta = a_e^m a_s^x - a_s^m a_e^x.$$

Since the import substitutes sector is assumed to be equipment intensive Δ is positive. There is a single representative agent who consumes only importables. He receives tariff revenue in the form of lump-sum transfers $\bar{y}$.

Recall that partial derivatives of the revenue function with respect to output prices (r_m, r_x) are equal to output. Suppressing the arguments of the revenue function, income in period 1 is equal to the value of output of tradables $r^1 = p_m r_m^1 + r_x^1$ plus the lump-sum transfer $\bar{y}^1$. This income is spent on consumption c^1 and imports of equipment i_e . Since the price p_m applies both to consumer goods and equipment, consumption in the first period is given by $c^1 = (r^1 + \bar{y}^1)/p_m - i_e$.¹ Period 2 output of tradables may be written as functions of the capital stocks and labour allocated to importables: $m^2(k_m^2, l_m^2), x^2(k_x^2, \bar{l} - l_m^2)$. We assume that capital and labour are

¹Note that investment in structures is accounted for: by using labour it reduces the labour endowment $\bar{l} - l_s$ of the tradables producing sectors, thereby reducing revenue r^1 . Note also that $\bar{y}^1 = (p_m - 1)(c^1 - r_m^1 + i_e)$ and $\bar{y}^2 = (p_m - 1)(c^2 - r_m^2)$ since in the second period no capital goods are imported.

substitutes in the sense that the cross derivatives m_{kl} and x_{kl} are positive. Period 2 consumption is simply $(r^2 + \bar{y}^2)/p_m$. The consumer chooses investment in period 1 (i_e, i_s) so as to maximize the present value of consumption. Denoting the discount factor by ρ the two-period problem is:

$$\max_{i_e, i_s} c^1 + \rho c^2 = (r^1 + \bar{y}^1)/p_m - i_e + \rho(r^2 + \bar{y}^2)/p_m.$$

Note that $r^1 = r^1(p_m, 1; \bar{k}_m^1, \bar{k}_x^1, \bar{l} - i_s)$ and that $r_l^1 = w^1$: the marginal productivity of labour allocated to the mini-economy formed by the two tradable sectors is equal to the wage rate. The first order conditions for this problem are:

$$-1 + \rho(a_s^x m_k^2 - a_s^m x_k^2/p_m)/\Delta = 0 \quad (1)$$

and

$$-w^1/p_m + \rho(-a_e^x m_k^2 + a_e^m x_k^2/p_m)/\Delta = 0. \quad (2)$$

These conditions simply state that the marginal benefit of investment in the two sectors (the discounted value of the marginal productivity of capital in terms of consumer goods) is equal to the marginal cost, taking into account the differences in composition in terms of equipment and structures. The marginal cost of equipment (in terms of consumer goods) is obviously constant (at unity) while in the case of structures $w^1/p_m = r_l^1/p_m$ measures the opportunity cost of using labour in construction rather than in the two-sector mini-economy.

Total differentiation of (1) and (2) gives:

$$\alpha di_e + \beta di_s + \gamma dp_m = 0 \quad (3)$$

$$\delta di_e + \epsilon di_s + \zeta dp_m = 0. \quad (4)$$

If the second order condition is satisfied $\alpha < 0$, $\epsilon < 0$ and $\alpha\epsilon > \beta\delta$. Using Cramer's rule one finds:

$$\frac{di_e}{dp_m} = (-\gamma\epsilon + \zeta\beta)/(\alpha\epsilon - \beta\delta) \quad (5)$$

and

$$\frac{di_s}{dp_m} = (-\alpha\zeta + \delta\gamma)/(\alpha\epsilon - \beta\delta). \quad (6)$$

Trade liberalisation reduces p_m . Hence (5) and (6) imply that trade liberalisation causes a slump in equipment investment if and only if

$$-\gamma\epsilon + \zeta\beta > 0$$

and a construction boom if and only if

$$-\alpha\zeta + \delta\gamma < 0.$$

Note that:

$$\gamma = \rho[a_s^m x_k^2 / (p_m)^2 + (a_s^x m_{kl}^2 + a_s^m x_{kl}^2 / p_m) \frac{dl_m^2}{dp_m}] / \Delta.$$

This is positive since in response to an increase of p_m more labour will be allocated to importables ($dl_m^2 / dp_m > 0$). Also:

$$\zeta = [-\frac{dw^1}{dp_m} - (m_{kl}^2 p_m a_e^x + x_{kl}^2 a_e^m) \frac{dl_m^2}{dp_m} / \Delta - \rho m_k^2 a_e^x / \Delta] / p_m$$

and this is negative.

Hence α , ζ and ϵ are negative while γ is positive. It follows that a *sufficient* condition for the conjunction is that $\beta = \delta$ is negative. It is useful to define $\lambda = a_s^m / a_s^x$ which measures the use of structures in investment in import substitutes, relative to the use in investment in exports, and similarly $\mu = a_e^x / a_e^m$ which measures the use of equipment in export investment, relative to the use in investment in import substitutes.

Using these substitutions we find:

$$\beta = a_s^x (\rho / \Delta) [-a_e^m (\lambda x_{kk}^2 / p_m + \mu m_{kk}^2) + (m_{kl}^2 + \lambda x_{kl}^2 / p_m) \frac{dl_s^2}{di_s}]. \quad (7)$$

It is useful to note that in the extreme case when equipment is used only in the protected sector and structures are used only in the export sector ($\lambda = 0$, $\mu = 0$) β is unambiguously negative. Hence in this extreme case the conjunction of an investment slump and a construction boom indeed occurs. Obviously, if λ and μ approach unity the opposite extreme case is reached in which the two sectors do not differ in equipment and structures intensities. In that case the conjunction clearly is impossible: investment in structures and in equipment either both rise or both fall, but they cannot move in opposite directions.

It can be shown that β is increasing both in λ and in μ . It follows that trade liberalisation will cause an equipment slump and a construction boom if importables and exports are very different in their equipment and structures intensities: if the two sectors differ sufficiently in their use of the two types of capital in the sense that λ and μ are so low that β is negative

then the conjunction will occur. Note that this condition is sufficient, but not necessary.

The second model illustrates the *equipment subsidy effect*. As in the previous model equipment is entirely imported but trade policy now only applies to consumer goods; equipment comes in at the world price of unity. To abstract from an equipment intensity effect we now assume that gross investment in the two sectors (i_m, i_x) consists of the same type of aggregate capital good. In the production of this capital good equipment and structures are substitutes. Hence tradable and non-tradable capital are used in the same ratio in the two sectors but that ratio is not constant: structures can be substituted for equipment.

As in the first model capital is sector-specific. However, provided that (as before) gross investment remains positive, this specification is analytically equivalent to a model in which both capital and mobile are mobile in period 2. We therefore write the revenue function in period 2 as $r^2 = r^2(p_m, 1; k_e^2(i_e, i_s), \bar{l})$ where k_{es}^2 is positive, k_e^2 is decreasing and k_s^2 is increasing in the ratio i_s/i_e . Tariff revenue is returned to the consumer as a lump-sum transfer $\bar{y}^t = (p_m - 1)(c^t - r_m^t)$, $t = 1, 2$.

Now the problem is:

$$\max_{i_e, i_s} c^1 + \rho c^2 = (r^1 + \bar{y}^1 - i_e)/p_m + \rho(r^2 + \bar{y}^2)/p_m.$$

For this problem the first order conditions are:²

$$-1 + \rho r_k^2 k_e^2 = 0 \tag{8}$$

and

$$-w^1 + \rho r_k^2 k_s^2 = 0. \tag{9}$$

Total differentiation gives:

$$\alpha di_e + \beta di_s + \gamma dp_m = 0 \tag{10}$$

$$\delta di_e + \epsilon di_s + \zeta dp_m = 0. \tag{11}$$

²It is easy to see that in this model the conjunction can occur only if capital good imports are implicitly subsidised through trade policy. For if capital goods are also subject to tariffs then (8) would read $-p_m + \rho r_k^2 k_e^2 = 0$. Hence the first order conditions would imply $w^1/p_m = k_e^2/k_s^2$. But the product wage w^1/p_m rises as a result of trade liberalisation and since k_e^2/k_s^2 is increasing in the ratio i_s/i_e that ratio must fall. Hence the conjunction of an increase in i_s and a decrease of i_e is impossible.

If the second order condition is satisfied then $\alpha < 0$, $\epsilon < 0$ and $\alpha\epsilon > \beta\delta$. Therefore, as before, we have to establish the signs of γ , ζ and $\beta = \delta$. We find:

$$\gamma = \rho r_{km}^2 k_e^2$$

which is positive provided the importables sector is capital-intensive. For β we find:

$$\beta = \rho(r_{kk}^2 k_e^2 k_s^2 + r_k^2 k_{es}^2). \quad (12)$$

In this expression the first term is negative (since $r_{kk}^2 < 0$) but the second term is positive. We will assume that the two types of capital, equipment and structures, are good substitutes in the production of capital goods in the sense that k_{es}^2 is sufficiently small for the first term in (10) to dominate, so that $\beta < 0$. (Note that this is necessarily so if capital and structures are perfect substitutes. For in that case $k^2 = (1 - \delta)\bar{k}^1 + i_e + i_s$ so that $k_{es}^2 = 0$: the second term in (10) drops out.) Finally,

$$\zeta = \rho r_{km}^2 k_s^2 - \frac{dw^1}{dp_m}. \quad (13)$$

Equipment investment will fall iff $-\gamma\epsilon + \zeta\beta > 0$ and construction will rise iff $-\alpha\zeta + \gamma\beta < 0$. Since ϵ is negative, γ positive and β negative a *sufficient* condition is that $\zeta \leq 0$. This will be the case if there is little scope for factor substitution in the export sector. It is instructive to consider the limiting case when the export sector is an enclave. In that case r_k^2 is equal to $p_m m_k^2$ and m_k^2 is constant since there is no mobile labour. Hence, using (9),

$$\rho m_k^2 k_s^2 = w^1/p_m \quad (14)$$

and from (11)

$$\zeta = w^1/p_m - \frac{dw^1}{p_m}. \quad (15)$$

In the enclave case a change in p_m (keeping i_e and i_s constant) must lead to a proportional change in w^1 : the product wage w^1/p_m must remain constant since employment in the import substitutes sector does not change. However, if w^1/p_m is constant then (15) implies $\zeta = 0$. Hence the sufficient condition is satisfied so that the conjunction occurs.

It is easy to see why. Trade liberalisation reduces p_m thereby lowering the return to both types of investment. The cost of equipment investment remains constant (since trade policy does not apply to capital goods) but the cost of structures is reduced. Indeed w^1 falls in proportion to p_m (since

the export sector is an enclave) if i_s is not adjusted: the labour market can continue to clear only if the product wage w^1/p_m remains constant. Hence there is an incentive to reduce equipment investment, but not to change investment in structures. However, if i_e is reduced the marginal productivity of capital rises and there is an incentive to increase i_s : as equipment investment falls it is attractive to substitute structures for it. This is the effect measured by β . From (10) the effect will be stronger the more an increase in aggregate capital reduces the marginal productivity of capital and the better structures and equipment can be substituted for each other.

In the more general case this effect will be diluted. In period 1 some labour will be absorbed in the export sector so that the wage rate does not fall to the same extent as the price p_m . Also, if the export sector is not an enclave then in the second period r_{km}^2 is larger: the direct price effect of an increase in p_m is reinforced by a substitution effect as labour is drawn from the export to the import substitutes sector.

Clearly, an enclave export sector is a sufficient but by no means a necessary condition. However, in Africa (where typically the export sector produces goods such as oil or coffee) there usually is little scope for a rapid increase in export supply. Indeed, this is one of the concerns of critics of structural adjustment programs in Africa. In that sense the critical condition for the conjunction in the equipment subsidy model is likely to be satisfied.

An implicit assumption of both models is that labour markets are flexible so that trade liberalisation leads to a reallocation of labour from the import substitutes sector to the two other sectors, exports and construction. This again appears plausible for many African economies.

4 Conclusion

The effect of trade reform in developing countries on aggregate investment has received considerable attention and there has been some concern that in the effect may have been negative in African structural adjustment programmes. In this paper the focus is not on the level but on the composition of investment. We have shown that in a number of African countries (Uganda, Tanzania, Nigeria) trade liberalisation is accompanied by a large change in the composition of investment, tradable capital investment falling relative to non-tradable investment. We have presented two models which can ex-

plain this. In the first model the change occurs as a result of the *equipment intensity effect*. If the protected sector and the export sector differ substantially in the composition of investment, investment in the import substitutes sector being intensive in equipment and investment in the export sector in structures, then trade liberalisation will indeed cause an equipment slump (in relative or absolute terms) and a construction boom. In the second model there is no difference in factor intensities but the conjunction is the result of a bias in trade policy, import restrictions applying to consumer goods but not to capital goods. This *equipment subsidy effect* occurs if the protected sector is capital intensive and export supply is inelastic in the short run.

The conditions for both the equipment intensity and the equipment subsidy effect are plausible for many African economies. This is worrisome since while in our models changes in the two types of investment are optimal responses to a trade liberalisation which is considered fully credible, trade reform in Africa often is imperfectly credible.³ In that case trade liberalisation may not lead to desirable resource shifts since this would involve long run commitments in the form of structures investment. If this interpretation is correct then the failure of a significant export supply response in structural adjustment programmes is not the result, as has often been suggested, of rigidities in factor markets. Our models suggest that the explanation rather lies in the combination of imperfect credibility of reform and the fact that the optimal response involves a substantial increase in construction at the expense of equipment investment.

³Reinikka (1993), Gunning (1994), Collier and Gunning (1994, 1995), Oyejide *et al.*, forthcoming.

Appendix

In the Appendix Table we present the data for Nigeria, Uganda and Tanzania on which Table 1 is based. Here “premium” denotes the premium of the parallel over the official exchange rate as reported in the World Currency Yearbook, except for Tanzania in 1985 which is from survey data in Maliyamkono and Bagachwa (1990). “Equipment” denotes investment in transport equipment and machinery at constant prices. The data are for Nigeria (in 1984 prices) from: *National Accounts of Nigeria*, 1984 and Table 249 of *Annual Abstract of Statistics*, 1993, Federal Office of Statistics, Lagos, and previous issues; for Uganda (in 1991 prices) from *Background to the Budget*, Ministry of Finance and Economic Planning, Government of Uganda (1994), Table 4b; for Tanzania (in 1976 prices) from *Tanzanian Economic Trends*, Government of Tanzania (1993), Tables 4 and 15.

Appendix Table:
Investment, Construction and Trade Policy

	premium (%)	equipment (index)	structures (index)
Nigeria			
1984	321	100	100
1985	323	108	103
1986	187	87	110
1987	18	48	121
1988	44	47	131
1989	46	45	140
1990	20	81	169
Uganda			
1986/87	664	100	100
1987/88	376	122	127
1988/89	179	111	132
1989/90	121	108	145
1990/91	43	101	157
1991/92	23	84	159
1992/93	20	81	169
1993/94	0	87	192
Tanzania			
1985	809	100	100
1986	248	91	118
1987	139	110	169
1988	100	98	201
1989	35	105	144
1990	78	64	274
1991	71	123	244
1992	19	99	252

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