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Regulation, Institutions, and Commitment

The Jamaican Telecommunications Sector

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The apparently inefficient pricing schemes and regulatory structure in Jamaican telecommunications are a second-best alternative that reflects a pragmatic response to the commitment problem Jamaica's government institutions have with public utilities.

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Summary findings

Jamaica's telecommunications sector today is much more dynamic than it was before and provides much better service. There is widespread skepticism about the current regulatory framework, which is criticized for encouraging a tight telecommunications monopoly, little administrative discretion, and continuous price adjustments to satisfy what many see as a high rate of return requirement. But Spiller and Sampson suggest that the regulatory framework is a "second-best" alternative, a pragmatic response to Jamaica's institutional realities.

Spiller and Sampson analyze why the reforms of the late 1980s took the form they did, and whether they could have been better. They find that the changing nature of regulatory institutions, ownership arrangements, and sector performance in the past 50 years is traceable to intense contracting problems between firms or interest groups and the government. Attempts to resolve these contracting problems have continuously constrained the government's (and firms') ability to implement efficient pricing schemes.

In the abstract, Jamaica's regulatory structure looks inefficient. In the context of Jamaica's political system, politics, judiciary, bureaucracy, and interest groups, the regulatory framework developed in the late 1980s emerges as a fairly pragmatic, welfare-improving set of policies.

Perhaps it could have been better, but its current design reflects basic commitment problems Jamaica's government institutions have with public utilities, conclude Spiller and Sampson.

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REGULATION, INSTITUTIONS AND COMMITMENT:

THE JAMAICAN TELECOMMUNICATIONS SECTOR

by

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I. Introduction.

1. The Jamaican telecommunications sector has been subject to a massive reorganization since the late 1980s in both its structure and regulatory framework. Whereas today a single private company operates subject to a regulatory framework characterized by a license that substantially limits both the discretion of the government and the pricing ability of the company, just five years ago it was composed of a domestic and an international company, both publicly owned, both subject to a regulatory framework characterized by almost total ministerial discretion,

2. Most observers will agree that today's telecommunications sector in Jamaica is a much more dynamic one, providing Jamaicans with a much better service than anytime before. On the other hand, there is widespread skepticism about the benefits of the current regulatory framework: tight monopoly over all telecommunications (including equipment supply), very little administrative discretion, continuous price adjustments to satisfy, what is seen by many, as a high rate of return requirement. This paper attempts to provide an answer to why the reforms of the late 1980s took the form they did, and to whether they could have been done any better. In attempting to answer these questions, there is a need to understand the workings of the political institutions in Jamaica, the nature of the contracting problems that may have given raise to the need for government intervention in the sector, and how the contracting problems are affected by the politics and the political structure and institutions of Jamaica.

3. The analysis that we develop below suggests that the intensity of contracting problems between the government and interest groups, and between the firm(s) and the government explain much of the evolution of the regulatory institutions, ownership arrangements and performance in the Jamaican telecommunications sector over the last fifty years. Furthermore, attempts to resolve contracting problems between the government and the firms and between the government and the interest groups, have continuously constrained the ability of the government (and of the firms) to implement efficient

pricing schemes. Thus, a major policy implication from this paper is that while, in the abstract, this regulatory structure looks quite inefficient, once the institutional characteristics of Jamaica (its political system, its politics and interest groups, the role of the judiciary and of the bureaucracy) are understood, the regulatory framework developed in the late 1980s can be seen as, perhaps, a third best alternative. While it could certainly have been designed better, its current features respond to basic commitment problems that Jamaica's governmental institutions have in their relations to sectors characterized by large sunk investments with a domestic consumption base (i.e, public utilities). In other words, the politics and institutional structure of Jamaica generate an unavoidable tradeoff between providing incentives for private sector development and growth, and implementing the "a-institutional," theoretical, first or even second best regulatory policies.

4. Jamaica is a fascinating case to explore the roles of institutions because in the 50 years since Jamaicans were granted the right to vote there have been several important regulatory institutional changes accompanied by changes in the performance of the sector. Not only has Jamaica experienced different regulatory regimes, it also has experienced different ownership arrangements -- from private ownership, to public and to private again. The variety of regulatory institutions and ownership arrangements, coupled with the extraordinary stability of Jamaica's political system, provides, then, an opportunity to explore, at least qualitatively, some of the main hypotheses of this research project. Table 1 provides the key periods and events in the evolution of Jamaican regulatory institutions and ownership arrangements concerning both the domestic and the international telephone companies (JTC - Jamaica Telephone Company, and, since 1971, JAMINTEL, the Jamaica International Telecommunications Inc., respectively).

5. The main hypothesis that we will try to provide evidence about in this paper is that given the nature of Jamaica's politics and political system, a legislation based regulatory mechanism (e.g., U.S. regulatory style) constitutes an implicit contract that is too flexible and incomplete to provide the

required safeguards for investment and growth. Instead, regulatory mechanisms based on specific long term contracts between the government and the companies may, if properly designed, provide such safeguards. These long term contracts, however, cannot be designed to be fully contingent. As a consequence, they will necessarily contain *ex-ante* rigidities and inefficiencies.

6. Decentralized constraints on regulatory agencies or ministerial departments are usually not binding in Jamaica as its Parliamentary system with two strong and competitive parties, assures the party in power full control over legislation. As a consequence, regulatory laws, either sector (e.g. the Electricity Act, the Telephone Law) or agency specific (e.g. the Jamaica Public Utilities Act) will usually not serve as *ex-ante* constraints on the administration/regulators. Thus, for example, a ruling by the Courts that a particular administrative decision violates the statute can be overturned by appropriate legislation during the same administration. On the other hand, operating licenses are contracts between the government and the company. While the government can change the law, it cannot unilaterally alter the terms of the contract. Furthermore, because of the nature of Jamaica's Courts, independent, with long lasting tenure and with a final appeal level at the Privy Council in London, they can be called upon to determine alleged violations of the contract by either party. To be sure, specific long term contracts between the government and firms are not the only feasible ways of restraining administrative discretion. Nevertheless, as we will show below, they have been the most important instrument used throughout the last fifty years. Thus, in trying to provide an assessment of whether the current regulatory and ownership regime could have been designed better, an understanding of both the reasons for the prominent use of this particular type of legal form and of its consequences is required.

7. Both governments and firms have seen the importance of these regulatory instruments and they have been used during different periods with different results.[1] A major result of our work is that the nature of those licenses, given Jamaica's political structure and politics, have been key determinants of the performance of the industry. In particular, we will find that the sector developed relatively well during the periods of time when the licenses constrained the ability of government to set rates with political considerations in mind (before independence and after 1987). On the other hand, the formalistic but substantively unconstrained regulatory structure defined in the 1966 Public Utility Act, under which the 1966 domestic license was granted, set the stage for the large extent of discretion taken by the newly created regulatory commission. Such regulatory flexibility increased the contracting costs between the government and the company, triggering the eventual sell-out of the domestic company to the government in 1975.

II. Political Institutions and their Implications for Telecommunications.

8. There are three major reasons why legislation-based regulatory schemes do not provide enough commitment power in Jamaica: first, Jamaican political structure (a strong two party parliamentary system) is such that the party in government has the ability to unilaterally change laws; second, Jamaican social structure and the political bases of its two main parties imply that the pricing of domestic telecommunications is a highly political issue; and finally, while the judiciary can and does uphold contracts, it has a limited ability to uphold the original legislative intent against the wishes of the current administration. As a consequence, legislation-based regulations will tend to be unstable, and alternative institutions have to be developed to provide stability and credibility to regulatory arrangements.

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[1] Shareholders' agreements between the private investors and the government have also been used as regulatory safeguards. Cable & Wireless and the government of Jamaica (GOJ) used shareholders' agreements to regulate their relation in JAMINTEL (in 1971), and again concerning the regulation of Telecommunications of Jamaica (TOJ) in 1987. The second shareholders' agreement was eventually written into the licenses given to TOJ to operate both the domestic and international communications networks.

TABLE 1
KEY EPISODES IN JAMAICA'S TELECOMMUNICATIONS SECTOR

Period	Regulatory Institution/Ownership/Event
Pre-1962	• *Telecommunications Policy Under Colonial Rule* • All Island License (domestic operations license) granted in 1945 to the Jamaican Telephone Company, with the Telephone & General Trust (T&GT), a British Concern being the majority shareholder. • License requires: - specific minimum returns - use of ad-Hoc Rate Boards - Court enforcement of License • Private ownership of domestic and international companies • Modest but continued growth in service
Independence 1962-1967	• *Issuing of New Licenses to JTC and the Creation of the JPUC:1962-1966* • Requirement of Jamaicanization of ownership • New License in 1966: - specifies maximum rate of return - regulation by a new independent, and permanent, commission (the Jamaican Public Utilities Commission) - promotes participation by interest groups - requires Jamaicanization by 1971 • *The Takeover of JTC by Continental Telephone Company: 1967* • CTC agrees to: - terms of 1966 license - specific expansion and financing plan - extant pricing levels • Stagnation of service
1968-1975	• *The JPUC and the Quasi-Expropriation of JTC's Assets* - Absence of judicial review • *Creation of JAMINTEL (1971)*: a joint venture between Cable and Wireless (a British government owned company) and GOJ to take over C&W (West Indies) international communications facilities (and international communications operating license) in Jamaica.
1975-1976	• *The Takeover of JTC (1975)*: Transfer of ownership of JTC to the Government • Disbandment of JPUC • Regulation by the Ministry of Public Utilities and Transport
1979-1985	• Introduction of International Direct Dialing • *Boom in the Profitability of International Communications and the Beginning of the Policy of Subsidization of the Domestic Network* • Increase in profitability of both the domestic and international companies
1987-1990	• *Creation of Telecommunications of Jamaica and the Divestiture of GOJ's Holdings* • Telecommunications of Jamaica (TOJ - a joint venture of GOJ and C&W) to take over all of JTC and JAMINTEL assets and licenses • New domestic and international telecommunications licenses granted to TOJ: - Guarantee real returns on equity in a narrow band equal to current levels - Restrict governmental discretion in approving rate increases - Introduce binding arbitration - Allow judicial review - Regulation by Ministry with no participation of interest groups • Boom in investment

9. Jamaica is a two party Parliamentary system characterized by strong party politics. The JLP

(Jamaican Labor Party) and the PNP (People's National Party) have dominated the political scene since the early 1940s, and they have alternated in power every other election. Their hold in power has also translated, through the use of patronage and fund raising, into a hold on their legislators, to the point that Parliament, today, is more a deliberative than a policy-making body. The two parties, until the late 1960s/early 1970, were quite similar in their politics, with the middle and upper classes representing the swing voters, while the poor composed both of their core constituencies. As a consequence, until the mid 1970s and again from the mid 1980s, both parties have had very similar policies, although they have differed in their rethoric. Because of the parties' hold on their legislators, governments have controlled, to a large extent, the parliamentary agenda. Unless the issue is constitutional, where parliamentary super-majorities are needed, the government of the day can carry its policies through either administrative or parliamentary decisions. Judicial restrain of administrative decisions through statutory (rather than constitutional) interpretation, then, may not be very effective as the party in government could easily reverse the Court's interpretation through the introduction of appropriate legislation. Jamaica's Courts, though, are highly professional. Supreme Court judges are appointed with long tenure and are quite independent of politics. The fact that Jamaica is part of the British Commonwealth may have helped in further removing Jamaica's Courts from the politics of the day as the final Court of Appeals resides in London. Furthermore, Jamaica's legal tradition is rooted in common law, with its strong respect for property rights and the enforcement of contracts. The absence of important bicameral divisions, of differences among the executive and the legislature, and the lack of power of the backbenchers, imply, then, that while Jamaican Courts may be expected to uphold contracts even when the government is a party to the agreement, they may not be expected to have too much discretion in restraining administrative decisions through statutory interpretation.[2]

[2] For a similar interpretation of judicial power in Great Britain, see Salzberg (1990 and 1991). For an analysis of the role of political institutions in determining the extent of judicial discretion, see Gely and Spiller (1990).

10. Local telecommunications in Jamaica, as in most developing countries, differ from other public services, like water or mass transport, in that their main customers are middle and upper class households and businesses.[3] As we will see, though, these are precisely the marginal (or floating) voters. Thus, the availability and pricing of telecommunications becomes a relatively important political issue. In other words, in a contested political environment as the one in Jamaica, political parties will be sensitive to telephone users' demands. On the other hand, the composition of the demand for international communications is slightly different. In particular, foreign trade business and tourism are more important than local households. As a consequence, the pricing of international calls should be slightly less politically sensitive. Furthermore, since until recently Jamaica's foreign trade regime discriminated against dynamic export oriented sectors, the pricing of international telecommunications was not of major concern for businesses.[4] Thus, policies attempting to keep domestic telephone prices low and expanding the network so as to provide access to the growing middle class, would be key features of both parties' policies. Thus, the Jamaican politics and political structure imply that we should expect relative stability in telecommunications policy. Changes in government or ideology, then, should not be expected to be key determinants of telecommunications policy.

11. The middle class demands for network expansion at low prices require the development of institutional structures that provide incentives to the firms to invest in highly specific assets. Given Jamaica's political structure, though, legislation based constraints on administrative discretion may not be credible. Telecommunications politics in Jamaica, however, have traditionally been played in the shadow of the various licenses (and Telephone Acts) governing the company/government relationship. Thus, it is not surprising that major turning points in Jamaica's telecommunications regulation have

[3] For example, today more than three quarters of all JTC's customers are located in the Kingston area, and the penetration is less than 4 telephones per 100 residents. As mentioned above, the main changes in the distribution of the labor force from the early 1940s to the early 1980s are in the increase of the highly paid professional, technical and administrative personnel (from 2% to 11% of the labor force), while farm and casual workers fell from 55% to 38%. Blue collar workers' participation also increased from 13% to 19%. Stone (1986).

[4] The development of the data entry sector during the 1980s created, however, a highly telecommunications sensitive sector. Estimates of demand for international services show some minor increases in the elasticity around 1978/1979.

followed the timing of key license renewals. The emphasis the companies and the different governments have traditionally given to the text of the licenses represents the recognition that Jamaican governments have had latitude in interpreting laws. Thus, regulation of public utilities through legislation may provide too much discretion to the party in power. On the other hand, a change in a license cannot be done unilaterally by the government as requires the consent of the company. Thus, a violation of a clear license stipulation could be, and has been, seen by the Courts as a breach of contract.

I. The Parties and Their Constituencies.

12. Essentially, all academicians will agree that since 1962 (and to some extent, since 1944, the date when Jamaica was granted universal suffrage) Jamaica has had three periods: a period of rapid growth, fueled by import substitution, bauxite exports, and tourism, that ended in 1972, a period of stagnation, social-conflict and attempted socialization through democratic means from 1972 till 1980, and a period of restructuring following the old, pre-1972, private sector oriented policies, from 1980 till today.

13. These three periods also reflect the electoral politics of Jamaica. Since 1944, Jamaica's politics have been dominated - and affected - by the fierce competition between its two main parties, the Jamaican Labor Party JLP, and the People's National Party PNP. Both parties have been alternating in power every other election, with an electoral cycle, in principle, of five years.[5] Thus, since 1944, the JLP was in power from 1944 to 1955, from 1962 to 1972, and from 1980 to 1988. The PNP has been in power from 1955 to 1962, from 1972 to 1980 and from 1988 till today. Thus, power is highly contested between these two parties, and following an electoral defeat, each has serious expectations of returning to power in less than a decade.

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[5] The legality of the electoral cycle seems to have been challenged by the call for new elections by the JLP in 1983, which allowed it to continued in power until 1988. The PNP claimed that the call for new elections was illegal, as it was based on the old voters registry, and hence it boycotted the election. This gave the JLP a total control of the lower house until the 1988 elections.

14. Most academicians will also agree that until 1972 the differences between the two political parties were mostly of style and personalities than of substance. While the JLP championed the private sector as the leading promoter of growth, and thus has been seen as a "conservative reform party," the PNP also supported the private sector, but saw the government's role as more important than the JLP. It also aligned itself with the Democratic Socialist tradition of Great Britain. As a consequence, until 1972 electoral changes did not bring about important political or economic policy changes. This policy stability arose from the fact that the constituency of both parties was (and still is) essentially the same. Both are poor people's parties. The hard core party loyalists are approximately 40 to 50% of the electorate, evenly divided between the two parties (with a slightly higher number for the PNP). This hard core group is overlyrepresented by the very poor black segment of the society. The leadership of both parties came (and still comes) from the educated Jamaican middle class.

15. Both parties have engaged in substantial politically based patronage at the local level as a substitute for a welfare state. Local level patronage provided jobs and contracts in <u>local</u> projects, access to <u>local</u> housing, as well as contracts and even overseas jobs. Local level patronage was (and is) organized by the local party bosses, safeguarded by the local party youth gangs, and effected by the local Member of Parliament. Because power alternates every eight years or so, so does the distribution of the spoils.[6,7] As a consequence, the very poor segments of the society see the continuation in power of their own party as crucial for the maintenance of their welfare.

16. While the hard core loyalists are the very poor, neither party can win just with their hard core loyal support. They need what are called in Jamaica the "floating voters." These voters, representing the middle and upper classes of the society, are more influenced by the economic performance of the

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[6] There is some evidence, though, that the minority party is also able to distribute some spoils. One academic piece claims that it is up to 40%, but most other writers suggest a much lower participation by the minority.

[7] Several authors claim that the distribution of patronage goods is at the heart of the post election violence, where the new majority gangs takes over their respective districts and try to coerce the minority to give up jobs, housing, etc.

country than by either patronage or political rhetoric.[8] The floating voters are predominantly urban and middle class. These voters have provided the large swings in votes that the two parties have received (Stone 1981, 1986).

17. For the parties to win, they also need financial support from their trade unions and upper classes contributors. Thus, until 1972 the richest segments of the society could be found supporting and even participating in both parties' governments.[9] The extent of financial support is unknown, though, as it is not reported, but it is believed to be widespread. It is clear, nevertheless, that financial support has not provided the richest segments of the society with control over those parties' policies. The governments, not just until 1972 but until today, have undertook economic policies that have been strongly opposed by their own supporters among the richest segments. What financial and political support seems to have provided the upper segments of the society is access and also an equivalent sort of patronage as the poor segments get with their votes. Several scholars[10] claim that Government contracts, import rights and licenses have been handed out in an unrepresentative (and uncompetitive) way to the rich supporters of the respective parties, as a form of "rich people's patronage." To a large extent, until the mid to late 80s, import controls and licenses have provided this segment with a steady source of profitable opportunities in both import substitution and distribution activities.[11] The opportunities that the import substitution process of the 60s and 70s provided to the members of the richer segments of society implied that senior government jobs moved during the period from the upper class to the middle, educated, and upwardly mobile black groups. These individuals made, until the

[8] To some extent, the intelligentsia seems to have shared with the very poor segments a strong interest in political rhetoric.

[9] For example, during the PNP government of the early 1970s, Eli Matalon was a member of cabinet, while at the same time, Mayer Matalon was the Chairman of the Jamaican Bauxite Commission that negotiated with the Bauxite companies the royalty to be paid.

[10] See, e.g., Edie (1991).

[11] This explains their initial opposition to the Seaga liberalization program of the 1980s, which has continued during the subsequent Manley administration.

mid 1970s, the core of a stable, conservative, senior bureaucracy, characterized by strong seniority system and professionalism.

18. Thus, until the 1970s, there was a political consensus that can be described as follows: both parties catered to the poor segments through their own different rhetoric and through patronage. They catered to the richer segments through maintaining import substitution policies, as well as through the continuous expansion of government.[12] The middle class also benefitted from the growth of government, through their encroachment in the bureaucracy and in the small business - also government related/dependent - sector.[13] The growth in the professional bureaucracy and in the small business sector was accompanied by the growth of professionals in general. While in 1943 only 2% of the employed labor force were professional and technical employees (11,000 in total), by 1980 professionals reached 11% of the employed labor force (or 81,000),[14] making the small business and professional middle class a stronger and more vocal political force.[15]

19. Not only there was a political consensus, but party politics were also quite similar in both parties. The control of the national party resided with the national leadership. MPs seem to have very little representativeness, as their contact with their local constituencies was mostly through the local bosses (and armed party activists). Furthermore, the fact that there are very few districts where local voting outcomes substantially differ from national outcomes, implies that voters did not see their

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[12] Government employment grew from 4,500 in 1943, to 57,000 in 1968 and to 110,000 in 1980. Similarly, public expenditure's share of GDP was 13% in 1950, 17% in 1962, 21% in 1967 and 42% in 1977. Similarly, fiscal deficits as a share of GDP were less than 3% until 1970, it increased through the decade reaching 20.8% in 1980, falling back to 13.7% by 1984.

[13] By 1980 the small business sector had grown significantly both in terms of the number of enterprises and employment. By 1980 there were 50,000 small businesses (with less than 50 employees), occupying 31% of the labor force. In contrast, there were only a thousand large enterprises (employing more than 50 employees), employing 23% of the labor force. The petty commodity sector, though, employed the largest number (46% of the labor force), and having the largest number of enterprises (300,000). The growth of the small business sector is a result of the change in the structure of Jamaica's economy. While in 1938 agriculture contributed 36% of GDP, by 1983 its share was only of 7%. On the other hand manufacturing increased from 6 to 19%, while government and other services (apart from trade and commerce) increased from 18 to 41%. Stone (1986).

[14] The number of gainfully employed increased during the 1943-1980 period from 505,000 to 737,000.

[15] See Stone (1986).

representatives as particularly important for their welfare. Local party bosses performed the distribution of the spoils. As a consequence, the governing party will usually have a strong majority in Parliament, with no MP being able to extract particular rents from the leadership itself. Parliament, then, serves today mostly as a forum for discussion rather than as a place were policy decisions are made. These are made as the result of the interplay of the Prime Minister, the different ministries and their respective bureaucracies. Parliament has played (and still plays) a definitely minor role in Jamaican politics.[16]

20. As Table 1 shows, two major changes in the regulatory structure of the sector occurred during the decade 1965-1975. This is a decade of large social and political changes in Jamaica. During the mid to late 1960s as the growth rate started to fall, urban unemployment to grow,[17] and social unrest developed, the consensus between the two main parties started to crumble, as a gradual change started to develop in both the governing JLP and the PNP in their populist policies. The JLP government, then under the influence of the Finance Minister, Edward Seaga, pursued a process of Jamaicanization of some of the major sectors of the economy, e.g. the financial sector, but also the telecommunications sector. Jamaicanization, though, did not mean nationalization. Instead, it consisted of pushing towards partial ownership of the companies by Jamaican nationals. Seaga pushed for this process to be undertaken through the stock market. Thus, foreign holding companies were supposed to sell part of their stock in the domestic company in the local stock market, with the purpose of achieving 51% of domestic ownership.[18]

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[16] This, however, was not the case during the colonial period, even in the interim period between full adult suffrage and independence. During that time, politics were more local, as the central government was not much involved in income redistribution in a major scale. Thus, local independent candidates were able to achieve substantial support. This support, diminished, though, as independence approached. Thus, while independent candidates obtained 35% of the vote (and five out of the 32 seats) in the 1944 elections, they only gained 11% of the popular vote (and no seats) in the 1955 election. The declined continue, and since the 1959 elections, independent candidates have not gained more than 1% of the total vote.

[17] From 1950 to 1960 GNP grew by an average of 8.1% per year. From 1961 to 1972 at an average of 5.8% per year, from 1973 to 1980 at -2.3% per year, and from 1981 to 1986 it grew at the rate of 1.15% per year.

[18] As we discuss below, the application of this Jamaicanization process to the international telecommunications company involved the outright creation of a joint venture with C&W, while for JTC it required the expansion of the capital base of JTC through sales in the Jamaican stock market so as to reduce the foreign company's ownership share to no more than 20%. This however, was never achieved.

21. The consensus was finally broken following the 1972 ascension of PNP. While the PNP saw itself, as mentioned, as a Democratic Socialist party, in 1974 PM Michael Manley declared its government to be a socialist one, aligned with Cuba and the Third World, and started to pursue aggressively a socialist path to Jamaica. This policy was opposed vigorously by the JLP and the upper middle and rich classes. The main ingredients of the domestic part of this new policy was land reform, nationalization of large industries, job creation and new welfare programs. The legal system's defense of property rights, and the independence of the judiciary,[19] though, turned extremely expensive the land reform and nationalization policies, as they had to be done through outright purchase rather than direct expropriation. The PNP, tried to pass a change in the constitution that would have eliminated property right protection in selected sectors, but it was abandoned facing substantial opposition from the JLP, as well as disinterest from the public at large.

22. The Manley government lasted until 1980 when the JLP, this time under PM Edward Seaga, regained power. As mentioned above, the new government started a liberalization process, strongly supported and encouraged by both the IMF and the World Bank, that involved privatization of previously nationalized companies as well as foreign trade liberalization. During the 1980s the opposition, sensing popular disenchantment with its previous policies, came back to its traditional pre-72 mode, to the point that when it regained power in 1988, it followed, and to some extent deepened, the policies initiated by the JLP, including the total privatization of the telecommunications sector.

II. The Judiciary and Administrative Discretion.

23. We claimed above that Jamaica's political structure provides substantial discretion to the party in power. We claimed, furthermore, that Jamaican governments are potentially constrained by the

[19] Several factors contribute to the independence of the judiciary. First, while the judges are appointed by the government of the day, the judges of the Supreme Court have long lasting tenure status. As a consequence, they are not easily removed. Second, appeals to Supreme Court decisions go directly to the Privy Council in London, further isolating final judiciary decisions from local politics.

Courts upholding of property rights and of contracts. In this section we provide evidence on the role of the judiciary in constraining administrative decisions.

24. As briefly mentioned above, the judiciary played a minor role in the 30 years of independence, except during the 1970s where its adherence to property rights partially contributed to restrain the PNP government from outright expropriating land and industrial enterprises. The judiciary, though, did not completely restrain the government in its regulation of the private utilities. For example, while the license granted to the Jamaica Omnibus Service specified that the decisions of the Public Passenger Transport Board of Control could be appealed to the Court of Appeal (the Jamaican Supreme Court), during its contentious relation to the Board the JOS never actually appealed.[20] Also, the regulation by the recently created JPUC of the electricity company, Jamaican Public Service Ltd (JPS),[21] seems to have been so contentious that during 1970, following a very long rate hearing, the stock price of the company was at an all time low, at one tenth of (revalued) book value. The JLP government took the opportunity and nationalized the utility through direct stock-market purchases.

25. The fact that JPS did not obtain relief from the judiciary reflects the basic limitations of the judiciary in restraining administrative decisions by the government in a parliamentary system. Since the government has majority in Parliament, any judicial interpretation of the act which differs from the government's can be reversed by Parliament by a re-interpretation of its previous legislation. This was aggravated by the way Jamaica's regulatory commissions and boards were organized. The members were political appointees, who rotated with the party in power (see Mills (1981)). Thus, for example, upon the PNP coming to power in 1972, the members of the JPUC were replaced by PNP affiliated commissioners. Thus, regulatory agencies in Jamaica are not immune from local politics and in

[20] According to Swaby (1981), JOS repeatedly threatened the Board with a judicial review, but was never carried out. Swaby raises concerns about the grounds under which the Court of Appeals could overturn a Board's decision. Since the Board functioned as a semi-judicial entity, adjudicating rate increases based on the presented facts collected by both the company and the Board's staff, the grounds for overturning a Board's decision must be based on "manifest impropriety in dealing with the issues."

[21] The JPUC was created by an Act of Parliament in 1966. Until then, JPS was regulated by the Ministry.

particular from the political tendencies of the party in power.[22] The populism of both the JLP and the PNP, then, translated into very activist regulatory agencies, which the judiciary could not be expected to effectively restrain.

26. The Courts, however, seemed to have been able to restrain outright "impropriety" in dealing with the issues. For example, JTC's 1945 license stipulated that the company's rates should provide a return of 8% over rate capital. Deficit earnings below those levels could be accumulated, and should be counted towards earnings in the next rate review in front of a Rate Board. The license also stipulated that both the company and rate payers had the right to appeal the Rate Board's decisions to the Supreme Court. In 1956 the Rate Board disallowed JTC's claim to increase rates to compensate for past deficiencies. JTC, represented by a former attorney-general of Great Britain, appealed to the Supreme Court, and in December 1956 the Court determined that JTC was entitled to recover those amounts. This was the last time that the Jamaican Supreme Court actually restrained the administration in its relation with the Jamaican public utilities. For example, following a JPUC decision in 1974 to grant only 2/3 of the requested price increase by JTC, the Jamaica Tax and Ratepayers Association, a consumer group that participated in the proceedings filed an appeal with the Court of Appeal to have the rate increase reversed. In that instance, the JTC appealed to the Court as well.[23] The appeals were not granted.

27. The judiciary could also be expected to constrain the government on constitutional decisions, or on specific contracts the government entered with private parties. In the case of the regulated utilities, the regulatory framework was based on the enabling law (i.e., the telephone act, the telegraph law, the electricity act, etc), the license provided to the firm, and following 1966, the PUC Act. Only the license

[22] The length of service of commissioners (JPUC's length was three years), however, cannot be seen as exogenous. Instead, the 1966 PUC Act purposely made the JPUC commissioners politically accountable.

[23] As we will discuss below, it is unclear whether JTC appealed to block the consumer group's appeal, or whether it appealed so as to obtain a larger price increase.

could have been seen as a contract between the government and the firm on which the company could appeal to the judiciary for a breach of contract by the government. In the case of the electricity company, neither the act nor the license specified a particular minimum rate of return. Instead it stipulated that the company was supposed to charge rates so as to obtain a reasonable return.[24] In the case of the telephone law, the act stipulated that the licensee should be allowed to obtain a net return of 8% on its rate base. Thus, in principle, the telephone companies (both the international and the local) could appeal to the judiciary for administrative decisions which did not allow the company to recover its stipulated rate of return. The fact that, as we will see, under the JPUC, the JTC seldom achieved such a rate of return, and that JTC only appealed to the Courts following an amendment to its license that stipulated a minimum rate of return, suggests that the Courts effectiveness in restraining legislation- based administrative decisions may be quite different from their effectiveness in upholding license stipulations, further suggesting the incompleteness of legislation as a contract.

III. A Contracting Analysis of Key Periods and Events in Jamaica's Telecommunications Sector: 1880-1985.

28. The purpose of this section is twofold: first, it serves as an "empirical test" of our main hypotheses. Thus, in this section we explore, for selected periods and events, to what extent contracting costs between the firm(s) and the government, and between interest groups and the government, affected the performance of the sector, and to what extent attempts to resolve those contracting problems may have affected regulatory policies. A second purpose of this section is to provide the background information necessary to be able to analyze the regulatory and structural changes of 1987.

29. There are six major distinct periods in the evolution of Jamaica's telecommunications. The major events of these periods are presented in italics in Table 1. In this section we explore the first five

[24] Only rate increases required governmental approval.

of these events and periods in the light of the discussion in Sections II and III. Until the mid 1980s, Jamaica's regulatory framework and policy evolved differently for the domestic and international segments. Thus, we analyze the main events and regulatory changes for each of the two segments separately.

I. Domestic Telecommunications.

a. Telecommunications Policy under Colonial Rule: 1880-1961.

30. Telecommunications's regulatory policy under colonial rule was based on the specific provisions of the different licenses under which the various firms operated. The regulatory reforms introduced in the mid-1960s drastically changed the regulatory environment and the performance of the sector. Thus, to understand the implications of the regulatory changes of the mid-1960s an analysis of the colonial "status-quo" is required.

31. Several companies operated telephone systems in Jamaica until the mid 1940s. The Jamaica Telephone Company (JTC) was incorporated in 1892 and took over the small operations of the West Indies Telegraph and Telephone Company. JTC was granted a non-exclusive license to operate throughout the island; initial shareholders of JTC included well-known Jamaican business families. Other companies also received during the 1890s non-exclusive rights to operate small scale telephone systems. Eventually, JTC obtained in 1925 a 40 years exclusive license to provide telephone services in Kingston and St. Andrew. The Jamaican Post Office operated the All Island Telephone System in the remaining parts of the island. JTC's 1925 license provided the government with specific takeover conditions. In particular, the Government had the right to take over the company at license renewal time at a price to be agreed upon by the company. If there was disagreement, the takeover price should reflect the revalued assets of the company. The 1925 license included two other important provisions: first, the company (or any twelve ratepayers) could file for rate reviews to be undertaken by a three member ad-hoc Rate Board, named by the Governor of Jamaica. Rate Board decisions could be

appealed to the Supreme Court. Second, JTC was allowed to obtain an 8% return on its rate base. Current year earning deficiencies (or excesses) would be entered into a "Excess and Deficiency Account" to be kept for future rate variations. As long as the rate of return was not below 7% the company was not entitled to insist upon an increase to make up for the deficiency. The Board was not entitled to insist on a reduction unless rates of return exceeded 9%.

32. In 1945, one year after the introduction of universal suffrage, JTC acquired the All Island Telephone System from the Post Office and received an exclusive license to operate telephone services in the whole island. The 1945 license was granted for the remaining part of the 40 year Kingston and St. Andrew license, and reflected the general terms discussed above. As in the 1925 license, Rate Boards were created for each rate review. They had no institutional memory, nor permanent staff. The Rate Boards employed ad-hoc consultants, paid by the company but selected by the Rate Board, to review JTC accounts following an application for a rate increase.[25] The Rate Boards were supposed to deal expeditiously with rate increases, and at least during the 1950s there were rate increases in 1950, 1952, 1956, 1957, 1958 and 1960. Rate Boards, suffered, then, from a structural informational asymmetry vis-à-vis the company, which, to some extent, may have served the company. In between rate reviews the company was essentially left alone, and the company's development plan was of its own design.[26]

33. The 1950s saw sustained growth in the number of subscriber . For example, the number of telephones[27] increased from 13,437 in 1950 to 41,152 in 1962. Accounting rates of return on rate base

[25] An interesting altercation developed following a 1950 rate review in which the company refused to pay the bill of the consultant because it disagreed with the consultant's actual work. Mr R. Swaby, an accountant, tried to separate, against the company's complaints, total costs into Kingston, All Island and Toll charges. Eventually the GOJ had to pay one third of Mr Swaby's bill.

[26] There was a modicum of quality regulation through an inspector appointed by the Governor. The task of the inspector was to supervise the conditions of the plant.

[27] Number of telephones are main lines plus extensions. As Figure 1 shows, there has been a relatively stable ratio of two telephones per main line.

during the last part of the 1950s were in the range of 5-7%. While strong disagreements between JTC and the different Rate Boards of the 1950s were not unheard off, license, low real interest rates and inflation, and free capital flows made the 1925 and 1945 domestic licenses relatively appropriate instruments to support private development.[28]

34. To summarize, colonial regulatory institutions were based on contract law rather than on public utility legislation. Furthermore, the strict specifications of the license, provided incentives for the domestic company to invest and develop. The end of the colonial era, though, was also the end of JTC's licenses, which were due to expire in 1965, and their renegotiation during the early 1960s is crucial to understand the development of the sector during the 1970s.

b. The Issuing of New Licenses to JTC and the Creation of the JPUC:(1962-1966).

35. The regulatory stability of the colonial period ended with independence and the granting of new licenses to the domestic and international operating companies. The granting of the new licenses serve as a particularly interesting event as it exemplifies the hazards of using licenses as safeguards. As long as licenses have finite terms, "end games" will develop, in which both the firm(s) and the government will take actions so as to improve their bargaining positions in the license renewal (or granting) process, as well as to safeguard their assets. If renewal is uncertain, and the valuation of the assets is not sufficiently advantageous, the firm may hesitate to invest in any more specific assets. Similarly, the government may attempt to extract a commitment to a better investment program through delaying the renewal. Uncertainty about the resolution of the licensing renewal process has, then, predictable performance implications.

[28] Observe that the 8% real rate of return could have been completely inadequate in the 1970s when real interest were in the two digits levels. Thus, the adequacy of the 1925 license is subject to the particular stable economic environment for which it was designed.

36. Independence, the growth of the two national political parties, and the disappearance of the independent politician (all forces centralizing power in the Prime Minister) changed the political calculus at the time when the terms of the main telecommunications licenses were to expire. Cable & Wireless was granted a license relatively easily in 1961 just before the declaration of independence. JTC, however, did not fare as well. Since independence in 1962, JTC (under the control of the Telephone and General Trust Co, -T&GT, a British concern) refused the government request to expand its services unless a new exclusive all-island license was granted with a specific pricing policy in place. The effects of the company's refusal to invest and expand can be seen in Figure 1. Figure 1 shows that the number of main lines remained stagnant from 1962 to 1967, while the number of telephones increased steadily. Stagnation was also visible at the debt level of the company. Its long term debt remained relatively constant in J$ from 1960 to 1966 (around J$3M). T&GT loans to the company fell from J$1.2M in 1963 to $.8M in 1966. Finally, while in 1969 there were 66,500 telephones in service, customer demand was estimated to be 184,000.[29]

37. The company's refusal to invest and expand after 1961 reflects the uncertainties surrounding the renewal of the license following the declaration of independence. In 1962, following the first elections under independence, the company made a request for a substantial rate increase to compensate for previous revenue deficiencies (as allowed by the 1945 license and the Supreme Court decision of 1956). The government, however, requested the rate review to be postponed and decided to start negotiations about license renewal.[30] Renewal negotiations started in October 1963, and a Rate Board was established on June 1963. The Rate Board, however, did not allow any important rate increase during its existence, and the next rate increase came only in 1971 following the creation of the

[29] World Bank Report, "Current Economic Position and Prospects of Jamaica," February 1974, p.52. This figure, though, is substantially above the number of requests for main lines. See Figure 21.

[30] Since the company had the right to request a rate hearing, the company agreed to postpone only if the Government in turn agreed to several conditions: a) to appoint a Rate Board; b) to allow wage increases to be recovered; and c) to recognize the company's right to recover earning deficiencies, as specified under the 1945 license.

JPUC in 1966, and following the transfer of T&GT's shares to the Continental Telephone Company - CTC.

38. The negotiations over the renewal of JTC's license lasted three years, during which time the relations between the principal shareholder (T&GT) and the GOJ became very contentious. A new license was granted in 1965 but was amended in 1966 to accommodate the formal creation of the Jamaican Public Utilities Commission (JPUC). A government paper of May 1966 sets out the terms for the renewal. The 1966 license included several new features: a) a PUC style regulatory system; b) a term of 25 years (starting January 1, 1967), renewable for another 10; and most importantly, that c) the Jamaican public should hold a large proportion of the company's shares, with no individual (including the current owner) could hold more than 20% of the company (T&GT owned 50.2% of the stock). T&GT was given six years to dispose of the 30.2% excess holding. Differing from the 1945 license, the 1966 license did not provide for a minimum rate of return on the rate base, but rather provided for a fair return.[31] The rate base to be determined by the JPUC.[32]

39. By the end of the negotiation period, T&GT was looking to divest its interest in JTC, even though it was granted a new license. The long negotiations for the renewal of the license, coupled with the de-facto freeze on prices[33] following independence and the uncertainty over the outcome of the renewal negotiations, reduced JTC's incentives to invest and to maintain the outside plant. Thus, by

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[31] The Public Utilities Commission Act, though, determined that the JPUC should set rates that will provide the utilities not more than 2.5% above the redemption yield of Government long term bonds issued in the UK. Thus, the PUC Act did not require a minimum rate of return either. The Telephone Act, though, provided for an 8% return on the rate base. The JPUC interpreted this provision to mean "permitted" rather than "entitled." See the discussion in the next section.

[32] This is not a trivial provision during periods of high investments. In those cases whether works in progress are counted towards the rate base or not has non-trivial revenue implications, as it affects the rate base and the total amount of depreciation. Right after CTC's takeover of JTC, this issue arose, with (predictably) JTC claiming that investments on works in progress should be counted in the year they are undertaken, while the JPUC requiring those investment to be included in the rate base only upon completion.

[33] Adding to the uncertainty felt by JTC about public policy towards telecommunications is the refusal by the newly elected government in 1962 to include the company in the list of basic industries so as to qualify for investment allowances under the Tax Law.

1967 the system that experienced continued growth during the 1950s was in need of major investments, both because of unsatisfied demand as well as because of badly maintained equipment.

40. The renegotiation of JTC's license provides a basic insight on the role of licenses as safeguarding institutions: their finite term implies that the company will face substantial uncertainty about its investments unless either the license clearly specifies how the company's assets would be valued at expiration time,[34] or the company is able manipulate the political process appropriately. Since expiration time is the main time for government to change the nature of the license, the company faces substantially more uncertainty at expiration than at renewal time. JTC's 1945 license stipulated that if the government does not want to issue a new license to the licensee, then it has to announce a year ahead that the licensee has to sell to the Government its assets at a fair market value plus 10%. The 1945 license, though, was silent for the case when the Government does not force a sale but the company does not agree to the new license. The failure to specify the liquidation terms for that contingency implies that the Courts may have to be called to arbitrate these terms. Meanwhile, the company would be operating without a license, in a precarious legal environment and -- with overwhelming foreign ownership -- limited political support. T&GT seemed to have realized this eventuality by a) stopping its investment plans early in the negotiation process, b) agreeing to the new license even though it did not intend to operate under it, and c) looking for another company interested in operating the domestic network under the new conditions.

41. The new license, which was issued in 1966, made the JPUC the regulator of JTC. The JPUC was granted wide powers and responsibilities, both in terms of service supervision, planning and rate setting. The JPUC was created as a statutory corporation, its decisions subject to review only by the

[34] We have to differentiate between renewal and expiration. In a renewal the government may decide not to renew, and the license will usually detail ways to dispose of the company's assets (either through a sale to another company, or through a governmental takeover). Expiration requires a new license to be written, and the government may grant the new license to another company. The old license, though, will usually stipulate ways by which the assets have to be disposed of. Licenses usually allowed for one renewal period.

Jamaican Supreme Court. It was to hold public hearings in relation to rate increases, to publicize its intended decisions and to subject its decisions to particular formal delays. The PUC Act also attempted to bridge the gap between sector legislation and licenses, by requiring the PUC to take industry legislation intc account as it relates to minimum rates of return.[35] The nature of JPUC's powers, responsibilities and procedures made bargaining between the company and the government more difficult. Any deal between the company and the government had to get, in principle, the approval of the JPUC, who in turn, would be subject to pressure from interest groups participating in its determination. While the commissioners were appointed only for three years, short term discrepancies between the JPUC and the government could easily develop, increasing bargaining costs.

c. The Takeover of JTC by Continental Telephone Company.

42. The license renewal process that culminated with the regulatory change of 1966 changed T&GT calculus. It not only decided to stop its development plan, but also to leave the island. In this uncertain environment, the Continental Telephone Co. (CTC - a Canadian based holding company, which had been established in 1961, and was undertaking an extremely rapid acquisition program in the U.S., Canada and the Caribbean) expressed, in mid 1967, interest in taking over T&GT's holdings in JTC. The conditions under which CTC agreed to take over T&GT are important as they, in turn, influenced the development of the GOJ/JTC relationship.

43. As a condition to the transfer of shares and of the license, Continental agreed to undertake several financial and developmental obligations. Some of the most important ones were: a) to refinance a 1966 15 year World Bank loan for US$11.5M into a 25 year loan at rates not to exceed .5 above the NY prime rate; b) to lend to JTC US$ 5M under similar conditions (the loan was to be redeemed through selling JTC shares to the public - except to CTC); c) to reduce its ownership share

[35] Thus, the JPUC should have considered the 8% minimum rate of return on rate stipulated by the Telephone Act, even though the 1966 license does not specify any minimum return.

to 20% by January 1971; d) to expedite the completion of JTC's development plan (of J$13M) to within three to three and one half years. The development plan had very specific quantitative goals in terms of new service and expansion.

44. Continental involvement in JTC was greeted by the GOJ with enthusiasm. First and foremost, having a large telephone holding company becoming the parent of JTC seemed to the GOJ to relieve JTC of its liquidity constraint and lack of access to capital. Second, CTC's commitment to the investment program and to a particular increase in service generated substantial expectations of improvements in service after several years of stagnant service and increasing demand. Continental, however, seems to have overvalued the quality of JTC's equipment. This can be seen from the price it paid for T&GT's shares, as well as from the evolution of its investment plan.[36,37]

45. As we will see below, CTC's investments did not pay off very well. Furthermore, the conditions under which CTC took over JTC were such that it should not have been expected to be profitable. Thus, CTC's involvement under the conditions of the 1966 license is puzzling. One feasible explanation is that it simply reflects CTC's "growing pains." Since CTC was under a very rapid acquisition plan, this may have simply be another case of mismanagement in acquisitions. On the other hand, it may reflect the differences between the operations of PUC systems in the US and in Jamaica. Since the JPUC was crafted to resemble US style regulatory proceedings, CTC may have expected to be treated in Jamaica in the same way that its US telephone utilities were treated by the US state regulators, without recognizing the basic institutional differences between the two countries

[36] Continental paid T&GT in 1967 J$1.19 per share, implying that JTC's equity was valued at J$11.6 Million. Our computation of JTC's real assets imply that its 1969 equity was J$8.8 Million (at 1969 prices), a price premium of at least 30%. Thus, CTC must have either assumed that the operation of the domestic network was going to be very profitable, or it valued JTC's assets at least $3M over the real value. Since the debts are usually more transparent than the value of assets, CTC may have overvalued JTC's fixed assets by at least J$3 M in 1969 prices. Since we value JTC's fixed assets in 1969 at J$20M (1969 prices), CTC overvaluation of fixed assets must have been at least 15%.

[37] Immediately after taking over JTC, the company revised upwards its expansion plan to J$25M. In 1969 it was further increased to J$42.2M, because, it was claimed, the poor quality of the outside plant. Also, the maintenance costs of the company in the early 1970s became a contentious issue with the JPUC.

(e.g., Jamaica's lack of legislative checks and balance, the diminished role of the judiciary in restraining administrative discretion). Finally, CTC might have expected to be able to renegotiate the terms of its participation once it was in. If this is the case, though, then CTC clearly did not understand the workings of the regulatory and political structure in which it was supposed to participate. In any case, CTC's entrance into Jamaica's telephone sector remains a not so easily explainable puzzle.

d. The JPUC and the Quasi-Expropriation of JTC's Assets:1968-1975.

46. The period that follows the regulatory change of 1966 is crucial for our understanding of the role of particular institutions in providing commitment power. What we will see is that given Jamaican politics after independence, a regulatory framework characterized by a) substantial administrative discretion, b) decentralized regulatory processes with interest groups participation, and c) concentrated (foreign) ownership, did not provide sufficient constraints to avoid the quasi-expropriation of the company's specific assets.

47. In 1968 JTC started a development program (see Figure 1 for number of lines and Figure 5 for investments). At the same time JTC started to demand rate increases[38] which received substantial opposition from the JPUC. JTC also started to change its forecast of investment and revenue needs. The JPUC also questioned the actual extent of investments that JTC was undertaking. Figure 1 shows that there was an increase in main lines in 1969 but that until 1974 main lines increased only slowly, while at the same time, number of telephones increased continuously, even during the stagnation period of the early 1960s. Figure 7, on the other hand, shows that the lack of growth in main lines was accompanied by an increase in fixed assets until 1970. Fixed assets remained constant until 1972, and started to grow slowly until the nationalization of JTC 1975. The JPUC claimed that JTC was reneging

[38] The last important rate increase before CTC's takeover was in 1958. In 1960 there was a minor adjustment. The first rate increase requested by JTC was in 1968 for two particular exchanges. The JPUC rejected the application outright, indicating that it wanted to undertake a major revision of the whole tariff structure, rather approve increases on an exchange by exchange basis.

on its development plan, and as a consequence no rate increases would be granted.[39] In the wake of these disagreements with JPUC, JTC halted its investment program in July 1971, at the same time that it formally applied for a rate increase of 17%. The JPUC granted a rate increase of 15% effective December 1971. Soon after that, in April 1972, JTC applied for a new rate increase of 54%. In August 1972 the commission granted an average price increase of 35% as of September 1972. During these difficulties with the JPUC the price of JTC's shares fell to 28 Jcents by March 1972, well below our book value estimate of J$1.3 for December 1971, and of the J$1.13 paid by CTC.

48. In its August 1972 report, the JPUC stated a policy of making prices contingent on the quality of the service. It furthermore stated that the license reference to the Telephone's Act stipulation of a "permitted" rate of return is "not an absolute entitlement." This decision by the JPUC seems to have triggered substantial negotiations between CTC, JTC and the government for changing the way JTC was regulated. In March 1973, and as a consequence of the JPUC's decision not to grant rate increases as desired by the company, the government decided to impose a temporary stamp duty tax of 12.5% on international and domestic calls and to transfer those funds to JTC as a direct subsidy.[40] As quite an explicit return to that direct subsidy and to the GOJ decision to guarantee loans, JTC issued shares and transferred those to the GOJ, such that GOJ held 10% of JTC outstanding stock.[41] Following the agreement with the GOJ, JTC started in June 1973 a new development program. At the same time, the license was amended to provide for a minimum return equivalent to "the high point in the immediately preceding year of the gross redemption yield of the last external long term loan bonds

[39] JTC claimed that its investments were going into replacing obsolete and badly maintained facilities, rather than in increasing nominal capacity. See, The Gleaner, June 9, 1971. The JPUC also regulated JPS, the electricity company. A similar approach of not granting rate increases until service improvement was achieved was applied for a short period of time to JPS. See, The Gleaner, August 6, 1971.

[40] The PUC objected to the temporary Stamp Tax. In a letter to Minister Bell (12/4/72) the PUC claimed that the Stamp Duty was against the law, as it was decided without the public having the right to object. At that time, the government also wanted to guarantee a certain return to JTC (Comment on the notes of the Managing Director of JTC by Ministry of Finance, December 1972).

[41] Soon after the PNP came to power in 1972, the company expressed in a meeting with the then Minister of Public Utilities, Eric Bell, that it would not object to equity participation by the state (Notes of meeting between Minister Bell, CTC and JTC, March 30, 1972). The JPUC also objected to the issue of stocks to the government as, it contended, such an issue will dilute the ownership shares of the minority shareholders.

of the Government issued in the United Kingdom." In April 1974 JTC requested a rate increase of 81%, and the commission granted in July 1974 an average increase of 53%. This was the last rate increase before the takeover of JTC by the government in 1975.

49. The introduction, then, in 1966 of a PUC style regulatory system substantially changed the way telecommunications regulation was undertaken. It made the regulatory process more formal and more antagonistic. While previous Rate Boards were ad-hoc and were designed to make expeditious determinations, the JPUC was an independent commission, with a permanent staff, that was charged with overseeing all aspects of the operations of the company. The regulatory challenges facing the JPUC were not simple. While it was given powers very similar to those of the Public Utility Commissions of the United States, it had a much less experienced and smaller staff. It faced, furthermore, an industry whose accounting procedures, information services, and procurement practices were not transparent. Since before 1967 the company was regulated by a Rate Board without institutional history and with no in-house analytical expertise, its accounting and information systems were designed to facilitate control by the holding company rather than by the regulators. Up until the takeover by the government, JTC's board of directors was composed of the who-is-who in Jamaica's business and professional elite.

50. Against this background, the JPUC was supposed to set rates and standards of service. The company's regulatory environment was now totally changed. The company, now, faced a traditional rate of return system -- yet one with no implicit or explicit juridically protected minimum rates of return. Indeed, despite substantial inflation, no rate increases were granted during the period 1960-1971.[42] During the negotiations for the transfer of ownership to JTC, Continental stated that it believed the pricing to be adequate. Soon, though, the company started to claim that because of the inadequate status of the outside plant, the investment needs greatly surpassed their initial expectations, and that as

[42] For examle, between 3/69 and 3/71 prices doubled in Jamaica.

a consequence rate increases were needed.[43] The company's claims were received with skepticism by the JPUC. A series of conflicts involving the definition of the rate base (whether the investments undertaken were actually proper),[44] on accounting procedures (e.g., whether depreciation should be computed at beginning of period or at beginning of each month), on what was the cost of capital of the company,[45] on what were reasonable costs, and according to Swaby (1981), on procurement practices.[46] These issues were all raised with substantial hostility.

51. Apart from the hostility in the relations between the company and the PUC, a major change from the way Rate Boards made determinations was the participation of third parties in the rate hearings. For example, in the 1972 rate hearing, the Jamaican Tax and Ratepayers Association (JTRA) presented evidence. In the 1974 rate hearing the JTRA was joined by the Jamaican Hotel and Tourist Association in providing evidence against JTC's request. Subsequent to the Commission's decision the JTRA filed an appeal to the Supreme Court.[47]

52. Another change was the diminished role given to the Courts in the regulatory process. While, as mentioned, the Supreme Court reversed in 1956 a Rate Board decision that did not allow the

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[43] The Gleaner, June 9, 1971.

[44] The JPUC's main complaint was that the rate of expansion of the number of lines was slower than the rate of expansion of the rate base. Essentially, it seems that the company was replacing technically and physically obsolete equipment without yet expanding at the same rate its network.

[45] Because of some of these disagreements, the license was amended in early 1974 to settle the way depreciation has to be measured, and further specifying the minimum allowed rate of return.

[46] As mentioned above, Swaby was a consultant to the 1950 and 1953 Rate Boards. His fleeting comment on the non-transparent procurement procedures were not confirmed by other sources. But essentially, given that JTC now faces a binding rate of return constraint, the majority shareholder would have an incentive to organize procurement through its own subsidiaries so as to transfer profits through overcharged transfer prices. This claim is not very convincing for the JTC case as Continental's initial holdings were just above 50%. The remaining shares were in local hands, possible among the local board members. Furthermore, the local board members controlled the Board. For example, the 1971 Board has as Chairman and Deputy-Chairman well known business persons. As a consequence, for the claim to be valid, Continental and the local board members have to devise a system whereby part of the profits that Continental would accrue from transfer pricing would be syphoned to the board members. No one has claimed such a collusive arrangement actually was organized in Jamaica. Parris (1981) claims that such transfer pricing scheme was organized by Continental for its Trinidad-Tobago investment, a 50-50% government-Continental joint venture. Even here, though, the extent and complexity of the scheme suggest that the government appointed board members must have been part to the scheme.

[47] As mentioned above, JTC also appealed the JPUC decision.

company to recoup its past profits deficiency, following the 1974 review both the JTRA and JTC appealed the Commission's decision to the Supreme Court, but it denied both motions. This is the only case when JTC actually tried to act against the PUC through legal channels. The question remains as to why JTC did not attempt to reverse JPUC's decisions in the courts. Two aspects of the new regulatory environment may have affected the Court's implicit approach to JPUC decisions. First, the 1966 license was less forthcoming in providing minimum rates of return. The license, however, was amended in 1973, and the next year JTC appealed a JPUC decision. Second, while the Rate Boards were ad-hoc commissions, the JPUC was a fully staffed, semi-judicial, organization. Thus, unless the JPUC violated a particular procedural form or clear license stipulation, the Courts would not find it proper to intervene. Furthermore, since the JPUC was directed by political appointees, its decisions could be thought to reflect the will of Parliament.[48]

53. To summarize, JTC's poor performance and lack of incentives during the first half of the 1970s can be understood in the light of two basic factors: first, the initial conditions under which it consented to buy T&GT's shares, and second, the passage and implementation of the PUC Act. The former implied that JTC would have to undertake a substantial development program, which to a large extent was supposed to be underwritten by CTC itself. The workings of the JPUC, however, implied that JTC would not want to expose any more funds than already done, and as a consequence it will want to finance the expansion through rate increases, which were, in turn, restrained by the JPUC. Thus, by the mid-1970s JTC's financial situation was precarious, and the market essentially saw its assets as quasi-expropriated already. This, can be seen, to some extent, by the response of the domestic stock market to JTC's issue of new stock to the Jamaican public in 1969 and in 1973 to fulfil its Jamaicanization obligations. Both issues preceded the PNP's statement of a change of policy towards socialism. Not only did Jamaicans shrewdly choose not to buy the shares that were being offered, but

[48] This statement, however, should be taken with great caution, as the incident concerning the imposition of a 12.5% stamp duty so suggests.

since CTC was required to be the underwriter of both issues, by the end of the process CTC was holding 68% of the outstanding shares, rather than the 50% initially it acquired from T&GT.[49]

e. The Takeover of JTC.

54. In 1975 CTC sold its stake in JTC to the government. This episode is a key event in the evolution of Jamaica's telecommunications sector, and, in particular, is most useful to understand the role of regulatory institutions in supporting private investment. We will claim that the nationalization of JTC was less the result of the ideological shift by the Manley government of the mid 1970s than of a series of institutional design failures of the regulatory regime: first, the political changes that occurred surrounding independence seem to have made telecommunications a much more politicized sector, thus complicating the license renewal process. The fact that T&GT stopped investing five years before the expiration of its license shows the uncertainty felt by T&GT concerning the terms under which renewal would be granted. Second, the new regulatory system introduced in 1966 seems to have made the regulatory process even more politicized, substantially disadvantaging the firm. Third, the lack of a coherent conflict resolution process between the JPUC and JTC essentially granted full discretion to the JPUC, dooming JTC to continuous financial difficulties. Finally, it seems that CTC's expectations about its ability to renegotiate its operating and financial conditions with the GOJ were overly optimistic, exacerbating the financial situation of JTC to a precarious level.

55. By 1975 CTC's experience in Jamaica was not a very happy one. Figures 11 and 13 show that JTC's real profits were stagnant during the period 1970-1975, barely sufficient to cover the real depreciation of its assets. The Figures show that only 1970 was a profitable year. JTC paid ordinary dividends only in 1969. Furthermore, as Figure 9 shows, JTC's value of equity during the period 1969-1975 increased mostly because of the issue of stock to CTC in 1973 (J$8 M in 1973, or J$100 M at

[49] Recall that in 1973 JTC granted the GOJ a 10% ownership share (4.5 million shares) as a counterpart for the government's decision to subsidize the company through revenues from the stamp-duty tax and through the issue of loan guarantees.

1991 prices),[50] and with the revaluation of the J$ that reduced (at least transitorily) the real value of its foreign debt. Nevertheless, as Figure 14 shows, the operating return on fixed assets did not exceed the real cost of its long term debt. Thus, CTC's difficulties in attracting capital were not imaginary. The company was not sufficiently profitable to attract private investors, neither Jamaican or foreign. By 1971 CTC was already asking for direct government investment in JTC. A first step was taken, as mentioned, when the government took a 10% stake in 1973.

56. The government's decision in 1973 to support JTC, though, did not go far enough. First, the subsidy originating from the stamp-duty tax was to end in June 1974. Furthermore, the JPUC's attitude towards JTC did not change. Figure 3 shows the evolution of real prices for domestic calls. Through the 1971/1979 period real prices increased in steps, with nominal price increases, granted by the JPUC until 1976 and by the Ministry of Public Utilities since then, compensating for past domestic inflation. The 1971/1975 does not seem to be too different from the 1975/19. 9 period in the evolution of prices. In 1974, though, the PNP government made public its change of policy towards a socialist economy, which included government ownership of the main enterprises. This change in government attitude provided JTC with an opportunity to negotiate a takeover by the GOJ. In September 1975 CTC agreed to the sale of its holdings in JTC to the government.

57. The final event on the takeover of JTC was the dismantling of the JPUC in 1976, and the transfer of regulatory responsibilities to the Ministry of Public Utilities and Transport, even though the PUC Act remained in the books. Following the takeover, the financial situation of JTC did not improve, with JTC showing an economic loss in 1977, after essentially breaking even since 1973 (see Figure 11). The GOJ pricing policy until 1979, though, did not differ substantially from that of the JPUC. Figure 3 shows no break in pricing around late 1975-1976. Furthermore, the expansion in the network

[50] The issue of new stock to CTC did not involve a new inflow of funds to the company, but rather a cancellation of a short term bond to CTC.

since late 1973 seems to have stopped with the takeover as the increase in the number of main lines fell during 1977-1978 as compared to 1974-1976 (see Figure 1). Investment fell also during the 1977-1979 as compared to 1974-1976 (see Figure 5). As a consequence, JTC's real economic fixed assets fell slightly from 1976 to 1979 (see Figure 7). Finally, while consumer surplus was increasing during the 1973/1976 period, it remained constant, or fell, during the 1977/1980 period (see Figure 17). Thus, the takeover did not produce any short run positive effect, neither consumers benefitted, nor firms' profitability increased. Also, government's revenue from the domestic telecommunications sector remained constant, rising only in 1980 with JTC's first income tax payment in a decade.

II. International Communications.

a. Colonial Times.

58. International communications were started by the laying down of the first submarine cable by the West India and Panama Telegraph Company in 1870, which reached Holland Bay from Cuba. The WIPT eventually became Cable & Wireless (West Indies), and it operated international communications until its assets were taken over by the creation of the joint venture of JAMINTEL in 1971. International communications were not very important until the late 1970s, as revenues from international communications were less than half those from domestic services. See Figure 18. During colonial times C&W operated apparently without a license,[51] under a fixed price system. There is no record of a demand by C&W to increase prices during the late colonial period; indeed, international communications prices were held constant until the late 1970s.

59. The differences between the domestic and the international licenses reflect both politics and ownership. On the one hand C&W was an imperial (colonial) operation, while JTC was a privately held company. Thus, the Jamaica-C&W relation was, at the time, a government-to- government relation.

[51] See, for example, Baglehole (1970) and Barty-King (1979) for descriptions of the early years of Cable and Wirelss international operations.

Furthermore, international communications at the time were of very little public concern, while the users of telephones were upper and middle class urban residents. Thus, it is not surprising that ratepayers were given the right to call for a Rate Board review for JTC while such right was not granted to C&W's customers.

b. Independence and The Creation of JAMINTEL (1971).

60. JAMINTEL was created in 1971 as a joint venture between GOJ and C&W, to take over C&W (West Indies) operations in Jamaica and C&W's 1968 international communications license, with GOJ holding 51% of the shares. The fact that the joint venture was created just three years after C&Ws previous license was amended suggests that the 1968 license was not robust to some external events. Moreover, JAMINTEL itself operated on terms that left it with only modest profits. Investment, too, was limited. This episode, then, suggests that exclusive licenses per se do not provide an answer to the problem of commitment, but rather commitment, if at all, comes from the substance of the license agreement, and of the regulatory regime in general.

61. In the early 1960's C&W was operating under a license, granted in 1961. At that time it saw the need to undertake several new investments, in particular, the introduction of an earth station and the development of satellite communications. For that purpose, C&W requested a long term extension of its license.[52] In 1968 GOJ extended C&W license for 20 more years, but introduced several new features to the 1961 license. The most important of these was the GOJ's right to terminate the license at will, in which case C&W would be required to sell all its assets to the government at an agreed upon price or at a price set by an arbitrator. If the license was not renewed, then C&W could also be required to sell its assets to the government under similar conditions. Furthermore, the 1968 license stipulated that prices were to be set by the Ministry, with no minimum but rather a "fair" rate of return allowed to the company. Less than a year after the granting of the license negotiations started

[52] See Barty-King (1979, page 354).

between GOJ and C&W (West Indies) for the formation of a joint venture to take over C&W operations in Jamaica. In November 1970 a shareholders' agreement between C&W and GOJ was signed, with GOJ taking a 51% and C&W a 49% stake in the venture. The main features of the shareholders' agreement between GOJ and C&W are described in Table 2.

62. There is not much evidence on what precisely led to the government takeover of a majority share of C&Ws interests and the creation of JAMINTEL. But we know that at the time that the 1968 license was granted the JLP's nationalistic discourse promoting Jamaicanization of the large foreign owned companies was at its peak. That the JLP wanted to have the option of taking over not just a majority share but the whole enterprise is quite clear from the stipulations of JAMINTEL's shareholders' agreement (see Table 2). The reasons for nationalization of the international communications operations rather than its "Jamaicanization" through private ownership are uncertain, although the failure of JTC's 1969 public issue of $4M may have suggested that attempts to "Jamaicanize" C&W through JLP's preferred instrument (the stock market) would not succeed.

63. The joint venture with GOJ did not turn to be so profitable for C&W. First, while the shareholders' agreement seems to suggest that C&W fixed assets were valued at approximately US$16M (or approximately J$14M), our permanent inventory model puts the level of JAMINTEL's 1972 fixed assets at around US$20M (see Figures 8 and 10). Thus C&W may have given away US$4M, or 25% of its fixed assets.[53] Second, the rise in inflation during the 1970s (see Figure 4), the maintenance of a constant nominal price for international communications (see Figure 4), and the change in the settlement agreement with JTC that regulates the sharing of international revenues (in JTC's favor - see below), made the terms of the shareholders' agreement quite onerous for C&W. In particular, if we compute the present value of C&W's investment in JAMINTEL, then, we find that the investment broke

[53] As we will see below, JAMINTEL's accounting method did not revalue fixed assets. If C&W followed previously the same procedure, then it is possible that such difference implied that C&W contributed more than it was given credit for.

TABLE 2

MAIN FEATURES OF THE SHAREHOLDERS' AGREEMENT REGULATING THE CREATION AND OPERATIONS OF JAMINTEL

- JAMINTEL was to take over C&W's international communications license, which was going to expire in 1988. Thus, the agreement, itself, was valid only until 1988.
- C&W would contribute buildings, land and equipment for approximately U$4M.
- C&W would provide a loan of US$8 M to JAMINTEL (repayable in 7 years, with three years of grace, linked to the Pound paying 8% interest), which will be used (jointly with the Government's contribution) to buy the remaining C&W's assets and to provide working capital.
- The government's contribution of US$4 M (or J$3.4M) would be provided through a loan from C&W. This loan was supposed to be repaid through the use of up to 3/5 of the government's receipts from JAMINTEL's dividends, without charge nor interest.
- Annual dividends were not supposed to exceed 15% of equity.
- JAMINTEL was going to be directed by Jamaican personnel.
- The government had the option of further acquiring, at book value, the assets of JAMINTEL according to a prespecified formula:
  - up to 60% by 1981
  - up to 75% by 1986
  - up to 100% by 1988.

even only because of the increase in the value of JAMINTEL following the explosion in international communications that occurred around 1978/1979.[54] Furthermore, JAMINTEL's low profitability, and the poor quality of the local network, translated in a very slow path of investments, to the point that their fixed assets fell throughout the period.

64. The change in the sharing of international revenues may have been the most opportunistic action by GOJ in its dealing with C&W, and may have contributed to the quasi-expropriation of C&W assets. Until 1979, the sharing agreement between JTC and JAMINTEL was the same as that between JTC and C&W, whereby C&W retained 70% of all international revenues while JTC received 30%. By

[54] While the GOJ ended repaying its zero interest debt to C&W only by 1985-1986, rather than the J$7M (of 1971) that it lent, C&W received, in present value sense, less than J$1 M (of 1971). C&W also sold to JAMINTEL half of its fixed assets for a value of J$7 M (of 1971). C&W also received dividends for a present value of J$1.5 M (of 1971). Finally, in 1987 C&W contributed its shares in JAMINTEL to the creation of TOJ. Its shares were valued at approximately J$115 M (of 1987), which are equivalent to J$12 M of 1971, which in present value becomes approximately J$3.5 M. Thus, in present value C&W received J$13 M, or just about what it contributed according to the accounting valuation, or J$3.3 M (20%) less according to our permanent inventory model. All present value calculations were done assuming a real rate of discount of 8%.

1979, though, the government was the majority shareholder in both companies, and thus was able to negotiate a change in the settlement agreement so that JTC's share increased to 40%.[55] In 1984 JTC's share was increased to 60%, and in April 1987 it was increased to 68%.[56] Since the demand for international telecommunications increased rapidly during the 1980s, the change in the sharing agreement allowed the government to reduce the portion of those rents going to C&W.

65. To summarize, the creation of JAMINTEL shows that the granting of an exclusive license does not, by itself, facilitate private investment. Rather, what is crucial are the implications of the license concerning government discretion. In the case at hand, GOJ had total discretion on when to cancel C&W's license. That option most certainly was threatened to be exercised in 1969, triggering C&W's consent to the creation of JAMINTEL in such a way that it did not provide C&W with particularly high, ex-post, benefits.

c. The Boom in the Profitability of International Communications and the Beginning of the Policy of Subsidization of the Domestic Network:1979-1985.

66. As Figure 2 shows, international telephone calls started to boom with the introduction of international direct dial from the UK, US, and Canada in 1977, and to the US and the UK in late 1978. The growth of international communications was only slowed in 1984/1985 following the 1984 price increases. While the growth of international communications is also connected to the size of the domestic network, Figure 18 shows that the increase in revenue per line that occurred since the late 1970s is associated mostly with an increase in international revenue and number of calls per line.

[55] The Chairman of JAMINTEL's board until the creation of TOJ was Mr. Barber, a senior civil servant, who at the time of the creation of the company was the Financial permanent secretary, and who eventually became the President of the Bank of Jamaica (the Central Bank). To what extent JAMINTEL's board represented the interests of the minority shareholders is uncertain. Major changes in the regulatory set-up, though, like changes in the license, required, by the 1970 shareholders' agreement, the consent of C&W. The sharing agreement, though, was an operating decision left to the Board. We have no information about C&W's position on this issue.

[56] As we will see below, though, the financial performance of the company, however, started to improve following the 1979 price increase, as JTC's network increased and the demand for international communications boomed.

Together with the increase in international calls, there were two price increases in international services -- 50% in 1979/1980 and a further 50% in 1984. These increases reflected the JLP's determination, upon regaining power in 1980, to reverse the socialistic policies of the PNP. The growth in international communications plus the price increases drastically increased the profitability of international communications, bringing about a change in the profitability of both JAMINTEL and JTC. The year 1978 is the last one where their returns to fixed assets were essentially zero (see Figures 11 and 12). Since then, total profits increased rapidly. JAMINTEL's after tax return on fixed assets broke the 10% barrier in 1982, while JTC did so in 1984. See also Figures 19 and 20.

67. The increase in profitability arising from the boom in international communications, then, allowed all parties to be better off: consumers benefitted from an increase in communications, the companies benefitted from an increase in profits and the government benefitted from an overall decrease in its central deficit. The main beneficiaries of these developments, though, turned out to be the users of the domestic network. Domestic prices have been falling in real terms since 1980, even when taking into account a 1984 price increase of 50%. The real price decreases appear to be the result of two factors. First, as mentioned, the increase in international communications, arising from the introduction of international direct dial, provided a windfall to both companies, allowing their performance to improve even with falling real prices. Second, the takeover by the GOJ of JTC implied that there was no more pressure from the companies to pass rate increases when their prices were not compensatory.

68. While in 1978 international revenue was just above 20% of total revenue, by 1985 approximately 55% of total revenues were provided by international communications, and by 1991 the share of international revenues was close to 80%. Since international services made, in 1985 a direct

claim on fixed assets of around 20%[57] it is clear that a policy of cross-subsidization of the domestic network by the international sector developed around the turn of the decade.[58] The drastic price increase of international services in 1979 and the change in the sharing of international revenues between the two companies are behind this development.

69. By 1985, though, the current system was not sustainable. First, the companies' after tax rate of return on fixed assets were above 30% and 10% for JAMINTEL and JTC respectively. While the latter was not unusually high, JAMINTEL's returns were. Second, the growth in the use of the network that started in the late 1970s brought about an increase in the revealed demand for main lines, to the point that in 1986 there were as many main lines in held order as in operation. See Figure 21. The potential for maintaining and increasing the cross-subsidy towards the domestic network required either further increases in JTC's share of international revenues, or a consolidation. The government decided on a consolidation of both companies. Although a consolidation could maintain the cross-subsidy, pressure to reduce the combined profitability of the companies, which by 1985 was above 15% - see Figure 13, would naturally develop. This can be seen from the experience of the electricity sector following the increase in JPS' profit level in 1984. As a consequence of the 1984 increase of 50% in real electricity prices, JPS' return on equity exceeded 4% for the first time. This profitability level did not last long, as by 1988 JPS was already making losses as its real price continued to fall. See Figure 22.

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[57] This is the share of JAMINTEL's fixed assets in total fixed assets. Since the size of the domestic network clearly takes into account the amount of international communications, some amount of JTC's fixed assets may be directly related to the volume of international communications. By 1985, however, JTC's fixed assets increased from 1979 to 1985 by less than 50% while international communications increased by 300% in the same period. JTC's domestic revenue increased during the period also by less than 50%.

[58] To show that around 1984 there was cross-subsidization towards the domestic segment we have to show that a) combined profits were normal, b) domestic revenues would not cover the incremental cost of domestic service. The first issue can be seen from the fact that in 1984/1985 JTC and JAMINTEL's combined real returns on fixed assets were around 14-16%. Second, the incremental costs of domestic service is given by the difference of total costs minus the costs of operating the network only for international calls. Since most international calls arise from businesses, the size of the network could be substantially reduced without much of a reduction in international calls. Thus, the incremental cost of domestic service should be at least half the current costs. Since by 1984/1985 domestic revenue was less than half of total revenues, domestic revenue does not cover its incremental cost, suggesting the existence of cross-subsidization towards domestic service.

70. The high level of profitability achieved by the sector, however, allowed the government to transfer the companies to the private sector without having to increase real prices. This made privatization politically feasible -- in contrast to the power sector where drastic real price increases would have been required to attract private participation (and where real returns on equity marginally in excess of 4% in trhe mid-1980s triggered intervention and real price declines. But even with the increased profitability, private sector participation in telecommunications would not have been forthcoming without a change in the regulatory system that eliminated the ability of the administration to expropriate the sector's specific assets. Once that was achieved, then, the ability of the government to use telephone prices for political wealth redistribution became limited.

V. The Regulatory and Structural Changes of 1987-1990.

71. The structural changes of 1987/1990 represent major changes in the way Jamaican telecommunications sector was regulated and organized. Not only were the institutional changes the most important since the introduction of the JPUC in the mid 1960s, the sector subsequently has experienced an unprecedented vitality. The main hypothesis that we want to address empirically is that the performance of the sector responds to a large extent to the resolution of the government/firm contracting problem through the writing of a regulatory contract that was seen as credible and binding. Furthermore, this regulatory contract was designed so as to reduce short run political opposition. In the next section we explore to what extent these regulatory changes could have been improved upon, given the political, contracting and structural constraints.

i. The Creation of Telecommunications of Jamaica and the Divestiture of GOJ's Holdings.

72. In 1985, in part for the reasons given in the previous section, but also because of the coming expiration of JAMINTEL's license and of the shareholders' agreement between GOJ and C&W, negotiations began with the intention of merging the domestic and international operating companies.

In 1987 the two agreed on the creation of Telecommunications of Jamaica (TOJ) a joint venture between the GOJ and C&W. The shareholders' agreement had a few basic components: first, the two partners were to contribute to the enterprise their shares in the two operating companies, with the valuation of each contribution determining their share in TOJ (and with independent shareholders in JTC also receiving shares in TOJ); second, the two companies were to become wholly owned by TOJ; third, a new regulatory mechanism was devised stipulating the ways by which the government was to set JTC and JAMINTEL's prices; fourth, licenses were to be amended to formalize the new regulatory mechanism, and to make TOJ the licensee; finally, a certain divestiture of GOJ's shares in TOJ was also agreed upon.

TABLE 3

MAIN COMPONENTS OF THE 1988 TELECOMMUNICATIONS LICENSES

a) JTC is granted a monopoly over all domestic (both local and toll) telephone services, while JAMINTEL is granted a monopoly over all international communications;

b) Both licenses are for 25 years, with a renewal period of 25 years.

c) Both companies are regulated on a rate of return basis, with net after-tax (and special dividends) profits having to be not less than 17.5 nor more than 20% of (accounting) shareholders' equity, where assets are revalued annually;

d) Rate setting is as follows:
   i) if the company wants to adjust its tariffs, it proposes a new tariff to the Minister of Public Utilities and Transport.
   ii) if the Minister accepts, then that tariff goes in effect;
   iii) if the Ministry does not accept, and the Minister's offer is not accepted by the Company, there is a relatively simple arbitration procedure, with the arbitrator having to set rates that satisfy point c) above;

e) TOJ is not required to obtain permission to perform investments, nor the government can disallow

73. In 1988 the shareholders' agreement was formalized with the granting of licenses to TOJ. The main features of these licenses are summarized in Table 3. These licenses represent a regulatory turning point. They force the government to maintain the profitability levels of the companies at their pre-TOJ levels (see Figure 13), thus assuring that their operating returns will be sufficient to cover their cost of capital (see Figure 14). While TOJ will not be able to increase average real prices as its pre-

TOJ profitability was close to the upper level of the permissible profit range, in principle it is free to change its tariff structure, so it has an incentive to increase prices of the inelastic (domestic) segments. For this reason, upon privatization an agreement was reached between TOJ and the Government that domestic rates would not be increased.[59] This agreement, that TOJ has so far kept as domestic prices have not been increased since 1984, had three political consequences. First, by providing incentives to the sector to invest, TOJ has increased the rate of expansion of the local network, thus satisfying to a large extent the aspirations of the middle class. Second, by focusing the increases in nominal revenues on the international segment, it has not alienated the core supporters of either party concerning telecommunications policy.[60,61] Finally, government revenue through taxes has also increased, as its average tax collection from telecommunications has doubled in real terms from the period 1981/1985 to 1987/1991.[62]

74. Three issues require further discussion concerning the creation of TOJ and GOJ's divestiture. First, the regulatory principles on which the 1988 licenses are based; second, the way the divestiture was actually made, and finally, the possible effects that the creation of TOJ may have had on the performance of the companies.

75. Regulation. The 1988 licenses created a very simple mechanism for price adjustments and for dispute resolution. The government has a short period of time to answer TOJ's requests for rate

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[59] While there does not seem to exist a signed document on this respect, insiders mentioned to us the existence of a gentlemen's agreement to freeze domestic prices for, at least, five years. Furthermore, in the TOJ's 1991 Annual Report, the Chairman's Letter explicitly mentioned that increased revenues from network expansion and international communications will allow TOJ to maintain constant the nominal price of domestic communications.

[60] TOJ, though, has recognized the fact that the real price of domestic services is too low, creating too large a demand for the network. As a consequence, it has tried to increase domestic prices by shifting customers' billing away from flat service fees towards measured calls. We do not know yet the extent of this process.

[61] Stone (1992, pp:119-120) presents evidence that while initially, most JLP and middle and upper income voters supported the sale of GOJ's stock in TOJ to C&W, most PNP and lower income voters opposed it. Since then, though, there has been an increase in public support towards the GOJ divestment of TOJ shares. While in July 1991 54% supported the policy, in March 1990 only 36% did so. Most of the shift from negative to positive ocurred among the lower income and PNP voters.

[62] From J$97M to J$190M in 1991 prices.

TABLE 4

DISTRIBUTION OF OWNERSHIP IN TELECOMMUNICATIONS OF JAMAICA
(In Percentages)

DATE	GOJ	C&W	PUBLIC	PRICE IN US$
5/19/87	82.711	9.402	7.88	0.1811
7/23/87	72.111	20.002	7.88	0.1811
10/2/87	53.111	39.001	7.88	0.1818
9/28/88	40.00	39.002	20.99*	0.1564
7/13/89	20.00	59.002	20.99	0.2174
11/16/90	0+	79.002	20.99	0.2205

* TOJ employees hold 2%.

increase. If TOJ and GOJ disagree, then the issue goes to an arbitrator, who is required to set rates subject to the rates of return specified in the license. Furthermore, GOJ decisions do not have to be subject to public hearings. And TOJ may appeal to Jamaica's Supreme Court for any violation of the license. The emphasis of these regulatory arrangements on contract rather than on legislation reflects, to some extent, the characteristics of Jamaica's political institutions. In the absence of a strong judiciary and the consequent observance of property rights, it is uncertain to what extent this contracting approach could have provided the necessary institutional background to promote rapid private sector participation.

76. The license stipulates that rate of return is based on shareholders' equity rather than on rate base. As a consequence, if the rate of return allowed by the license is higher than C&W's opportunity cost of funds, then C&W will have an incentive to increase its participation in TOJ, as well as for TOJ to finance its investments through retained earnings rather than through long-term debt.[63]

[63] Since changes in equity equal operating profits minus dividends, larger dividends imply that equity grows less rapidly, and as a consequence that allowed total profits would increase less rapidly as well. Thus, by not distributing its earnings in the form of dividends, TOJ's working ca. 'tal should increase. The excess working capital could then be used to finance the system's expansion.

77. TOJ also has a strong monopoly over telecommunications in the island, including the domestic sale of terminal equipment.[64] The granting of such strong monopoly illustrates quite clearly the impact of the politics of the times on regulatory institutions insofar as cross-subsidization was used as a way to obtain political capital in support of the privatization, at the cost, perhaps, of a more dynamic and competitive sector. For the government to maintain, or even deepen, the extent of cross-subsidization towards domestic services, revenues would have to be generated from as many alternative sources as possible. In particular, since international communications is the main provider of subsidies, competition in the international communications sector would damage the ability to cross-subsidize. On the other hand, since the international communications sector has a relatively elastic demand, achieving revenue from all sort of other sources (e.g. surcharges for fax machines) allows the company to reduce the real price of international communications and still achieve its rate of return. Critics of the licensing arrangement have suggested that it may deter the introduction of new products and technologies. The cost of the cross-subsidy, then, is the maintaining of a strong monopoly situation in a time when new products are developing rapidly, and where technological convergence is prevalent.[65]

78. <u>Divestiture</u>. A number of the other country cases address the hypothesis that the nature of the privatization may serve as a safeguarding institution. In particular, they discuss how widespread domestic ownership and multiple providers rather than a single monopoly may serve as institutional safeguards, as they increase political support for maintaining private ownership and for restraining the

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[64] *This monopoly position was held previously by JTC, thus it is not a new feature of the regulatory process.* While users may attach to the network any equipment they want, they have to notify the company. This requirement holds also for fax machines, PBXs as well as for regular telephone extensions. The company, then, will add a rental charge/surcharge accordingly.

[65] Consider, for example, the problem that arose when a company wanted to provide cellular services in Jamaica. TOJ contended at that time that the license provides it with a monopoly over all telecommunications services, including cellular, and furthermore, that it had already performed several investments into cellular. The government eventually sided with TOJ and is presenting a bill to Parliament to amend the Telephone Law to include non-wire telecommunications in the monopoly sector. The government had at least two reasons to side with the company. First, even though the Telephone Law talks about wire-communications, the license is silent about it, and the meaning of the license was that the monopoly was over all telecommunications services, at least those that are so commonly called. A second reason relates to the cross-subsidization of the domestic services. If cellular turns to be very profitable, then providing TOJ with the monopoly over cellular would allow it to further reduce the price of international communications, reducing, then, the cost of the cross-subsidy. If cellular services do not turn to be sufficiently profitable, though, then prices of the remaining services would have to be increased, so as to maintain the minimum rate of return on equity.

government from directly or indirectly expropriating the sector's specific assets. For the most part, though, the creation of TOJ was not performed in that way. Instead, a single monopoly company was created, to which a strong monopoly was granted, and ownership was concentrated in a foreign principal.[66] At the time of the creation of TOJ, it seems that the intention was for GOJ to retain an important share in TOJ. But C&W saw the advantages of expanding its ownership share, and eventually took over 79% of TOJ stock.[67] See Table 4. Yet some moderate safeguards were built into the privatization, since 13% of the government's stock[68] was sold in a way that facilitated acquisition by workers and domestic households. For example, 2% of the outstanding stock (21.1 million shares) was reserved for employees, while 51,000 residential customers of JTC were granted priority for up to 1750 shares each.[69]

79. A comparison of the price of TOJ stock in relation to the company's revenues offers an indication of whether the 1987 license arrangements were viewed by investors as credible. Figure 23 shows that until April 1991 TOJ shares were being traded at less than 20 US cents. Assuming that the company achieves every year the lower bound allowed by its license (17.5%), we can compute the rate of discount that would generate a price equal to approximately US$.20. Comparing that rate of discount with the actual real rate of interest in Jamaica gives us a measure of how much confidence

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[66] Apart from C&W, the largest shareholders are the employees of TOJ (owning 2% of outstanding stock) and seven institutional investors, none with a larger stake than 2%. The largest individual shareholder is Joseph Mayer Matalon, the son of TOJ's Chairman of TOJ's Board, and also a member of TOJ Board, who owns .5% of the stock. See TOJ 1991 Annual Report.

[67] After legal costs and excluding dividends received during a period of two and a half years, the GOJ received US$ 155M, which after discounting (at 12%), represents US$130M, which is our valuation of GOJ's shares in JTC and JAMINTEL as of March 87. Thus, the GOJ seems to have received a fair value for its assets.

[68] By the time the privatization was completed, the government had sold all of its stock, aside from a few nominal shares enabling it to keep a representative on the Board.

[69] The employee share scheme implied some restrictions on resale. Employees purchasing shares through the "employee share scheme" could resale freely only those shares that were "priority shares." Discounted shares could be transferred within two years only to "eligible" employees, while free shares were not transferable during the first two years. Unsold "employee share scheme" shares were to be retained in a pool to be sold to "eligible employees" after the close of the application list. See TOJ prospectus. Almost all shares reserved for the employees were sold, either in the first on the second round. TOJ's 1991 Annual Report list 20,341,946 shares being held by employees, thus, approximately 750,000 shares that were originally reserved for the employees remained to be sold to employees by March 1991.

investors had in the performance of the license. Assuming that TOJ disburses 4% of its real equity in the form of dividends, then a discount rate of 20% implies a stock price equal to US$.187 in March 1988.[70] Now, in 1988 the average prime lending rate was 23%, while the rate of devaluation for the year was zero implying a real rate of interest (in US$) of 23% minus the US inflation rate (about 4%). Thus, a real discount rate of 19% for the private sector was quite reasonable for Jamaica in 1988. A real discount rates of 19% would imply a value for TOJ shares as of March 1988 of US$.212, a bit higher than the price of the public sale, but exactly equal to the price paid by C&W in the two latest acquisitions.[71] The similarity between the market valuation of TOJ and an estimate of the value of TOJ's stock on the assumption that the license holds for its complete period, provides support to the hypotheses that the 1987 regulatory regime was seen as credible by investors.

80. Impact on performance. The movement towards the creation of TOJ and the introduction of the 1988 licenses has implied large changes in the way the sector operates. First, Figure 4 shows that since the negotiations for the creation of TOJ were started in 1985, the real price of international calls has ceased to decline, and has remained more or less constant. Second, the profitability of the companies has been systematically high (see Figures 11-13), but well within the license-prescribed range. This high level of profitability has allowed the companies to increase their level of investment. The increase in the number of main lines has been quite rapid, as has been the increase in the value of the network's fixed assets. See Figures 1 and 5 to 10. As can be seen in Figure 9, furthermore, the increase in profitability has allowed JTC to finance a large part of its investments through long term debt.

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[70] This number is generated as follows: Take K_0 to be the value (in US$) of TOJ equity per share as of March 1991. The price of a share in TOJ is given by: $P = \Sigma_{t=1}^{25} d_t/(1+\delta)^t + K_{25}/(1+\delta)^{25}$, where δ is the discount rate. K_t is the value of equity as of period t, $K_t = K_{t-1}*(1+.175)-d_t$, where d_t represent the dividend distribution in period t, with $d_t=K_{t-1}*.04$.

[71] Slightly lower rates of discount imply substantially higher prices. For example, a rate of discount of 15% would imply a 3/88 price of US$.37, almost 100% above the public sale price.

81. The increase in the size of the network has implied substantial welfare gains for consumers. We can decompose the change in welfare as the sum in the changes in consumer surplus, government revenue[72] and firms' profits. Changes in consumer surplus, for each segment - international and domestic - have two sources: first, changes in prices faced by consumers,[73] and second, increases in the network.[74] Figures 15 and 16 show that until 1987, changes in consumer surplus from network expansion were almost always positive, and of the order of J$50 Million (in 1991 J$) per year. Increases in consumer surplus doubled to J$100M for 1988-1990, and in 1991 reached $350M. Figure 15 also shows that until 1987, changes in consumer surplus from network expansion were more or less evenly divided between domestic and international services, but following 1987 the great majority of the gains come from international services. Figure 17 presents the annual changes in total net surplus, in its division among consumers, government and the firms. Through the 1970s changes in net total

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[72] Government's revenue from indirect taxes is estimated. Government revenue from income tax is provided by the companies' annual reports. Government's income from its share of the dividends distributed by JAMINTEL appears as part of the changes in the profitability of the companies.

[73] This effect is simply the Slutzky effect, and can be computed as $-\Delta P^{*}Q$, where ΔP reflect the increase in real price from year to year, and Q reflects the previous year's quantity.

[74] Because Jamaicans' access to the telephone network is constrained by the availability of lines, increases in lines represents an upward shift in the demand curve for the network. Consequently, holding constant the quantity of calls, an increase in the number of lines increases total consumer surplus by the area under the two curves. This area can be approximated (assuming a linear demand) by the change in the number of lines times the elasticity of the inverse demand for the service times the average revenue per line. We estimated log linear inverse demands for both domestic and international services for the period 1972/1991. The estimated equations, correcting for serial correlation, are as follows:

	Log Int'l Price	Log Domesic Price
Constant	-10.42	8.75
	(4.96)	(4.30)
Log Real Int'l	-.64	-
Output	(.24)	-
Log Real Domestic	-	-2.01
Output	-	(.29)
Log Lines	1.75	1.43
	(.58)	.52)
Trend (Post 1980)	-.007	-.008
	(.02)	(-.01)

Standard errors in parentheses.

We use these estimated equations to compute the gains from changes in the number of lines from domestic and international service. Observe that we estimate the demand for international services to be more elastic than the demand for domestic services. There are two reasons for this: first, the growth in demand for international communications by households increased since 1979. Second, and more importantly, is the way international and domestic calls are charged. While international calls are charged by the minute, the pricing system for local calls differs across areas of Jamaica, with most households paying monthly flat service fees, plus intercity toll charges. As a consequence, unless substantial toll calls are made, the measured elasticity of the domestic demand would be lower than that for international services.

surplus were barely positive (seldom exceeding J$100M in 1991 prices). Firms, and the government have small annual gains compared to those of consumers. Note that the consumer welfare measure does not take into account several developments, all of which should provide additional welfare increases. First, the company has been installing fiber optic cables around the island and within all Kingston exchanges. Second, the island has been almost fully converted to digital technology. Third, cellular telephony was introduced in late 1991 (our 1991 measures go up to March 1991).

82. Undoubtedly, then, the post 1987 period has been good for consumers, the firms and the government. To what extent this welfare increase could have been replicated without the creation of TOJ and its privatization is unclear. While Figures 5 and 7 show that there was a drastic increase in investment in the domestic network in fiscal years 1990 and 1991, after the privatization, a five years capital expenditure project of US$600M was announced by the Minister of Public Utilities and Transport in 1988, before the public issue of shares,[75] to be financed, in part, by a loan of the Government of Japan. Eventually, these negotiations ended with the Overseas Economic Corporation Fund of Japan providing a loan for US$62M to cover equipment bought from Japanese suppliers. Whether the larger program could have been implemented under the pre-1987 regime is unclear. The history of the JTC includes several development programs that went nowhere, as financing and pricing problems delayed or preempted their implementation. On the other hand, the 1987/1988 regulatory change provided the company with a relatively stable regulatory environment that could have facilitated the implementation of such a large expansion program, even without the ownership changes.

83. As for the international network, all through the 1970s and 1980s JAMINTEL's rate of investment had been relatively slow, with working capital increasing during the 1980s, to the point that at the end of the decade its working capital exceeded its fixed assets. This experience suggests that neither C&W nor GOJ found it profitable (or could) extend their exposure in the company. As Figures 6

[75] The Gleaner, April 18, 1988.

and 8 show, the post 1988 experience has been quite different, with TOJ starting a rapid process of development of the international network. The implication is that the combination of privatization and regulatory reform provided C&W with incentives and confidence to invest in its Jamaican operation which the company did not have prior to 1987.

II. An Assessment of the Regulatory Reforms of 1987.

84. In this section we analyze the extent by which the regulatory changes of 1987 could have been instrumented better. We discussed above several shortcomings of the regulatory changes of 1988 and of the way the privatization was undertaken. We can classify them in three groups: competition, pricing and ownership policies. The regulatory and structural changes of 1987 provide for a total lack of competition even in the more dynamic segments of the sector; maintain a policy of cross-subsidization towards the domestic/household segment, and a generally inefficient pricing scheme; the enfasis in the privatization process on direct sales rather than public offerings provide for ownership concentration in a foreign concern with limited domestic ownership. All these features have, on the one hand, non-trivial income redistribution aspects, and may, also, impair the evolution of the sector in the future.

85. It is easy to describe an alternative, more efficient set of regulatory changes. The 1987 regulatory change could have provided TOJ with monopoly over the basic local network, but allowed competition everywhere else; instituted a flexible pricing scheme with small administrative discretion (e.g. price caps); and provided for widespread domestic ownership. This scheme would have, on paper, looked much more efficient given the rapid technological change in value added and long distance communications, would have, in principle, provided TOJ incentives to innovate and to reduce its costs, and would have, also in principle, provided for widespread political support for maintaining the privatization process. In this section we explore whether these three schemes could have been implemented in Jamaica.

86. Consider, first, the decision to provide TOJ with a total monopoly over all telecommunications, both domestic and interantional. We discussed already the political costs of introducing competition in value added and long distance communications (including international), and thereby undercutting the possibilities of cross-subsidization. These costs, though, depend on the extent of competition that is allowed. If international communications had been left in the monopoly sector, but competition allowed in the provision of value added services and terminal equipment, then the extent of cross-subsidization may not have been impacted so heavily and the costs of reduced revenue could have been smaller. The Jamaican government chose an extreme point on the competition-monopoly spectrum.

87. While a more narrow monopoly franchise could have been granted, it would have required some more institutional design. In particular, a narrow monopoly franchise, may grant the administration (ex-post) discretion on the definition of what the local/monopoly segment is. For example, assume that the monopoly is just for the local network. In that case, should fiber-optic cables be considered part of the network?[78] Should large users be allowed to by-pass the network? Should cable TV be considered part of the network? While, in principle, providing regulators with flexibility on these and related matters could motivate the firm to adopt proper pricing and to innovate, administrative discretion could also be used by the regulators to expropriate the company's quasi-rents. To counterbalance the extent of administrative discretion, a conflict resolution process, like arbitration, could, in principle, be developed. Alternatively, the license could have defined precisely the boundary between competitive and monopolistic sectors. Here, one option would have been to define precisely the set of activities that are open for competition, such that what is not explicitly mentioned is granted to TOJ. Thus, terminal equipment, value added services, cellular, cable TV, and even international communications, could have been carved out of TOJ monopoly. A second option would define precisely what TOJ has monopoly over and would open for competition whatever is not explicitly mentioned. Although undertaking a more pro-competitive policy would have limited the opportunities for

[78] This is not a theoretical question. See the discussion in footnote 65.

cross-subsidization and thereby had a short run political cost, the fact that the GOJ pursued a total monopoly policy was, to a large extent, a missing opportunity. Observe, however, that reducing the extent of the legal monopoly would have fiscal implications, as private investors would have been willing to pay less for the company. Thus, while society could have benefitted from a more rapid technological change and introduction of new products under a more narrow monopoly stipulation, it would have paid up-front with a reduction in the revenues collected from the privatization. Given the rapid technological change in this segment of the industry, such a societal tradeoff seemes worth taking.

88. Consider, now, the total liberalization of international or long distance calls. In principle, access pricing to the local network could have been designed so that TOJ's revenues from international operations would still be subsidizing the local network, so as to limit the political cost. Since TOJ would retain the monopoly on the local network, access charges would naturally be regulated. To restrain the potential for administrative discretion, though, access charges would have to be included as part of the rate of return system actually implemented. But then, competition would not have driven prices down, substantially limiting the gains from the liberalization of the international calls segment.

89. Consider, now, the introduction of alternative pricing schemes. There are several pricing schemes that could be implemented. The one chosen in Jamaica was a rate of return on equity, whereby the company requests rate increases wherever it believes its rate of return is not on the target zone. Disagreements with the GOJ are settled through binding arbitration. While this pricing scheme is behind the current incentives to invest, it also does not provide enough incentives to reduce costs. A more flexible pricing scheme, however, may -- given Jamaica's politics and political structure -- have increased contracting costs between the government and the company. Consider, for example, the introduction in the license of a price-cap system. Price-cap systems operate as automatic adjustments to prices over a base-price fixed ahead of time. Price-cap systems have so far been instituted for a

limited period of time since, in the absence of periodic adjustments, they will most probably lead to extremely high or extremely low returns. Price-cap revisions, however, provide substantial administrative discretion, and in the absence of a minimum expected rate of return, may provide incentives for the regulators to expropriate the firm's quasi-rents. As this paper has shown, Jamaica's political institutions are such that administrative discretion appears to be incompatible with attracting private investment, undercutting the viability of price-cap regulation in the Jamaican institutional setting.

90. Consider, finally, the way the GOJ disposed of its stake in TOJ. It is clear that at the time of the public offering, GOJ was interested in achieving widespread stock ownership by domestic residents. For example, the price of J$.88 was consciously chosen by the government so as to assure the total placement of its stock,[77] and, as discussed above, there were also special priority arrangements for household customers of JTC and for TOJ employees. Yet in practice the sale of GOJ's remaining stock to C&W went against widespread ownership. These sales may have been triggered by two important reasons: first, as mentioned above, JAMINTEL's experience showed that C&W involvement by itself does not assure strong C&W investments, even when it had almost 50% of the shares. Second, during 1988/1989 there were strong fiscal and foreign exchange pressures that may have convinced the government to sell its shares to a willing and ready buyer. The fact that C&W was willing and ready, though, shows the power of the licensing arrangements. If conflict with the government develops, though, the ownership structure of TOJ will not provide it with extra political capital to counter the administration's side. Thus, it is possible that a few years before license renewal time, TOJ may rationally forecast political problems, and restrain its investment program, triggering perhaps, an early renewal of the 1988 license. On the other hand, a more widespread stock ownership could, in principle, have served as a safeguard, and could have made possible a less rigid regulatory scheme than the one spelled out in the 1987 shareholders' agreement. Observe, however, that widespread ownership is not assured without restrictions on ownership of shares, as domestic residents could

[77] Private conversation with Richard Downer, consultant to the GOJ on the privatization.

easily end up selling their shares overseas, fully eliminating the advantages of widespread ownership as a safeguard.[78]

91. To summarize, first, because of the need to restrain administrative discretion, it is not at all clear that a very flexible pricing scheme could have been designed so that it would have produced drastically better cost efficiencies. To a large extent, given the nature of Jamaican politics and political structure, the license provision of a minimum rate of return seems to be crucial for assuring performance, thus restricting the type of incentive mechanisms that may be able to be used. Furthermore, our discussion above suggests that the range of allowed returns does not seem to be much above C&W's alternative use of funds, and thus this range may not be excessive. Second, as long as the political will to cross-subsidize domestic communications remains strong, competition in long distance and international communications would be constrained. This, however, may eventually translate in a large social cost as the segments that cross-subsidize domestic rates are among the most technologically dynamic segments of the sector. Furthermore, realignment of rates prior to the privatization may have substantially damaged public support for the privatization process. Finally, while GOJ could have tried to sell its stake in TOJ to the public rather than to C&W, it is uncertain whether in the long run diffused domestic ownership would have remained, given the openness of Jamaica's capital markets. Thus, the 1987 regulatory change seems to have erred in the preservation of a tight monopoly over all telecommunications segments. While allowing competition in some segments of the market would have required some realignment of rates with a possible short term political backlash, it could have had long term benefits in the form of a more dynamic sector and lower prices in a quite elastic segment of the market. This, to a large extent, represents the missing opportunity in the whole regulatory change/privatization process.

[78] For example, in early 1967 Jamaicans owned 9.1% of JTC. Shortly after CTC's acquisition of T&GT shares, the New York Stock Exchange quotation of JTC shares increased, and Jamaicans sold JTC shares to the point that by the end of 1969 5% of the shares were held by local residents.

VI. Final Comments.

92. The evolution of Jamaica's telecommunications regulatory and ownership institutions provide a fertile experience to explore some of the main hypotheses as to the relations between regulations, institutions and economic performance. We have provided evidence as to the importance of Jamaica's political structure in the development of regulatory institutions and on their performance implications. A major result is that given the nature of Jamaica's parliamentary system with a strong two party system, with very little independence of individuals members of parliament, decentralized decision making based on strong - statutory based - procedural requirements may not provide the necessary regulatory stability to promote private sector investment in sectors characterized by sunk investments and domestic consumption. Furthermore, very flexible regulatory schemes with strong incentives, à-la UK, may not be feasible either as, given the nature of politics and ownership of the utilities, political opportunism may be unavoidable. The Jamaican telecommunications sector may have found an intermediate way that while restraining administrative discretion, provides strong incentives for investment and restrains prices at their initial, although quite distorted, average levels. This outcome, however, was politically feasible because of the increase in international communications that occurred in the late 1970s and allowed the sector (mostly the international firm) to achieve high levels of profitability without having to increase prices. Privatization, then, was feasible and, to a large extent, painless.

93. The Jamaican regulatory system is based on a license which stipulates a price setting mechanism. Prices have to be such that the company achieves a particular rate of return on equity. A very specific procedure is spelled out, which triggers arbitration would discrepancies appear. Furthermore, GOJ violation of the license can be appealed to the Jamaican Supreme Court for breach of contract. The feasibility of this regulatory system is based on the independence of Jamaica's judiciary, its common law tradition and respect for contracts and property rights, including the fact that the final appeal level is with the Privy Council in London. Thus, the Jamaican experience may not be

easily transferable to other developing countries where the Courts are much less politically independent and professional.

94. The regulatory reform of the late 1980s, however, could have been done better, albeit at a short run political and fiscal cost. In particular, the maintenance of a strong monopoly over all telecommunications segments was not necessary to support the development of the network based on private ownership. It would have, however, reduced the extensive cross-subsidy towards the domestic segment, and reduced, perhaps, public support towards the privatization. On the other hand, it could have promoted the development of a whole array of new products and services, and increased the competitiveness of Jamaica's export oriented sectors. That GOJ did not open up those segments for competition, attests to the need for more careful design of regulatory institutions that take into account both the politics and political structure of the country and the economic and technological issues in telecommunications.

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TOTAL TELEPHONES AND MAIN LINES

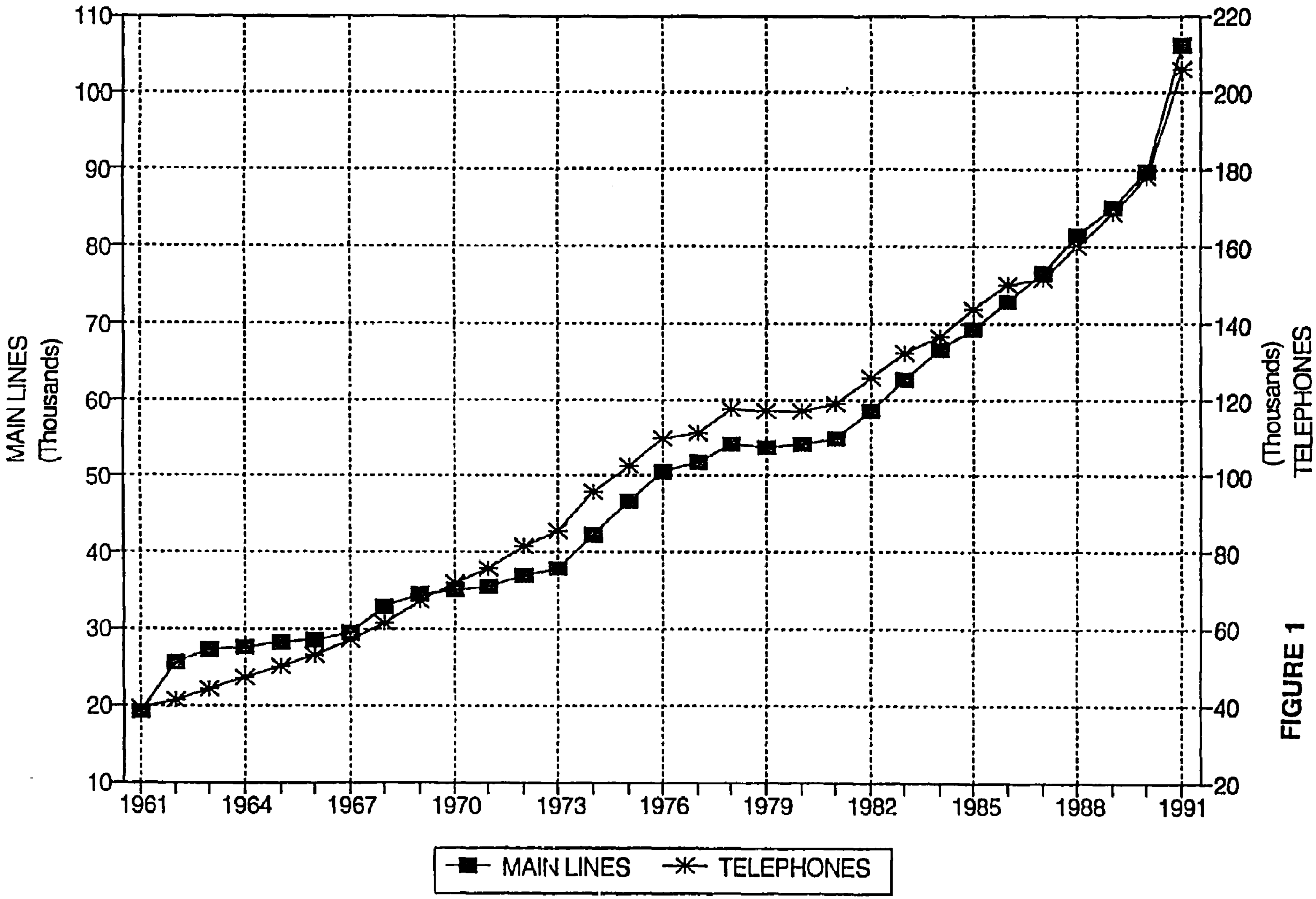

FIGURE 1

INTERNATIONAL CIRCUITS
AND INTERNATIONAL CALLS

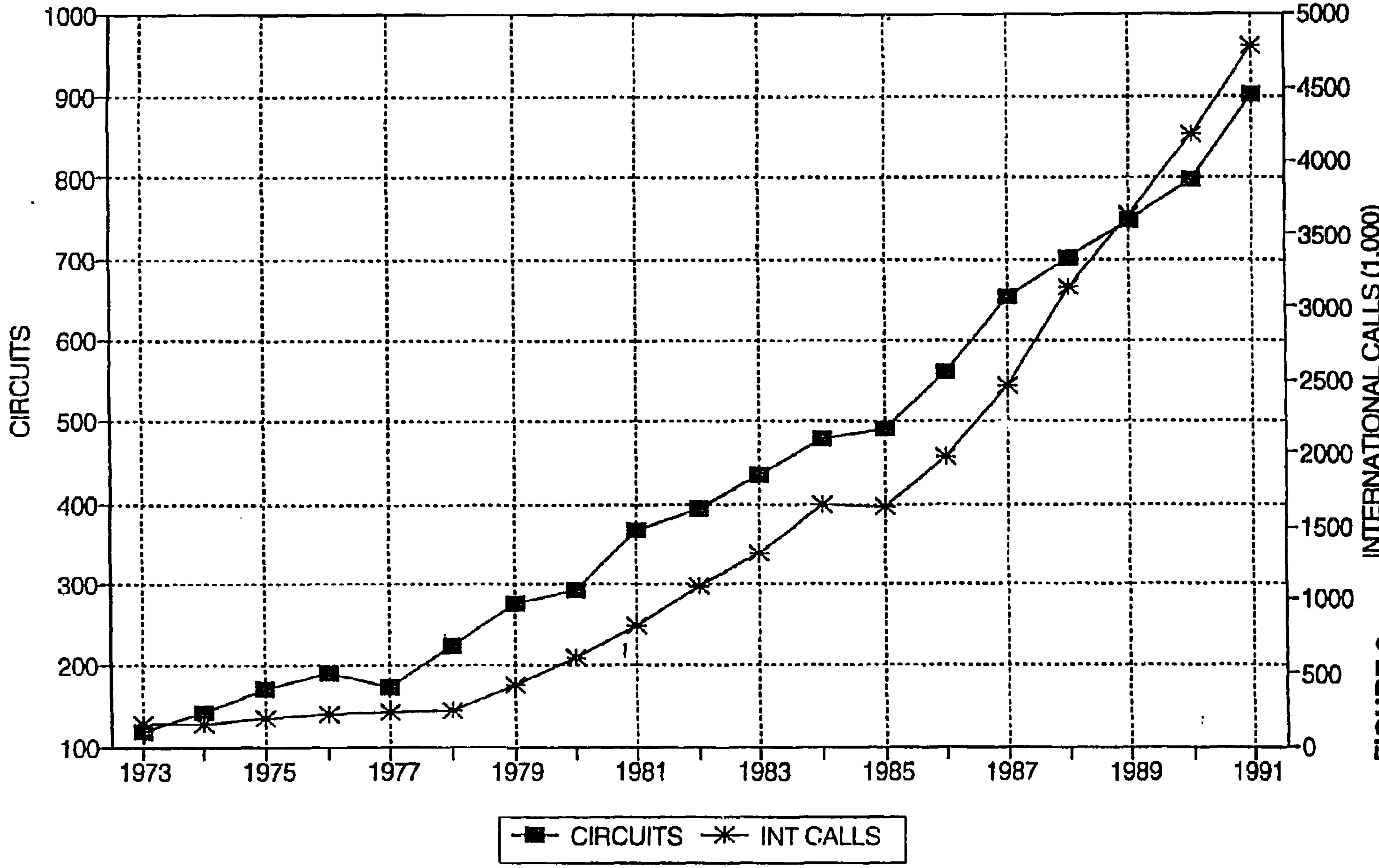

FIGURE 2

MONTHLY FLAT PAYMENT

RESIDENTIAL: IN J$ AND US$

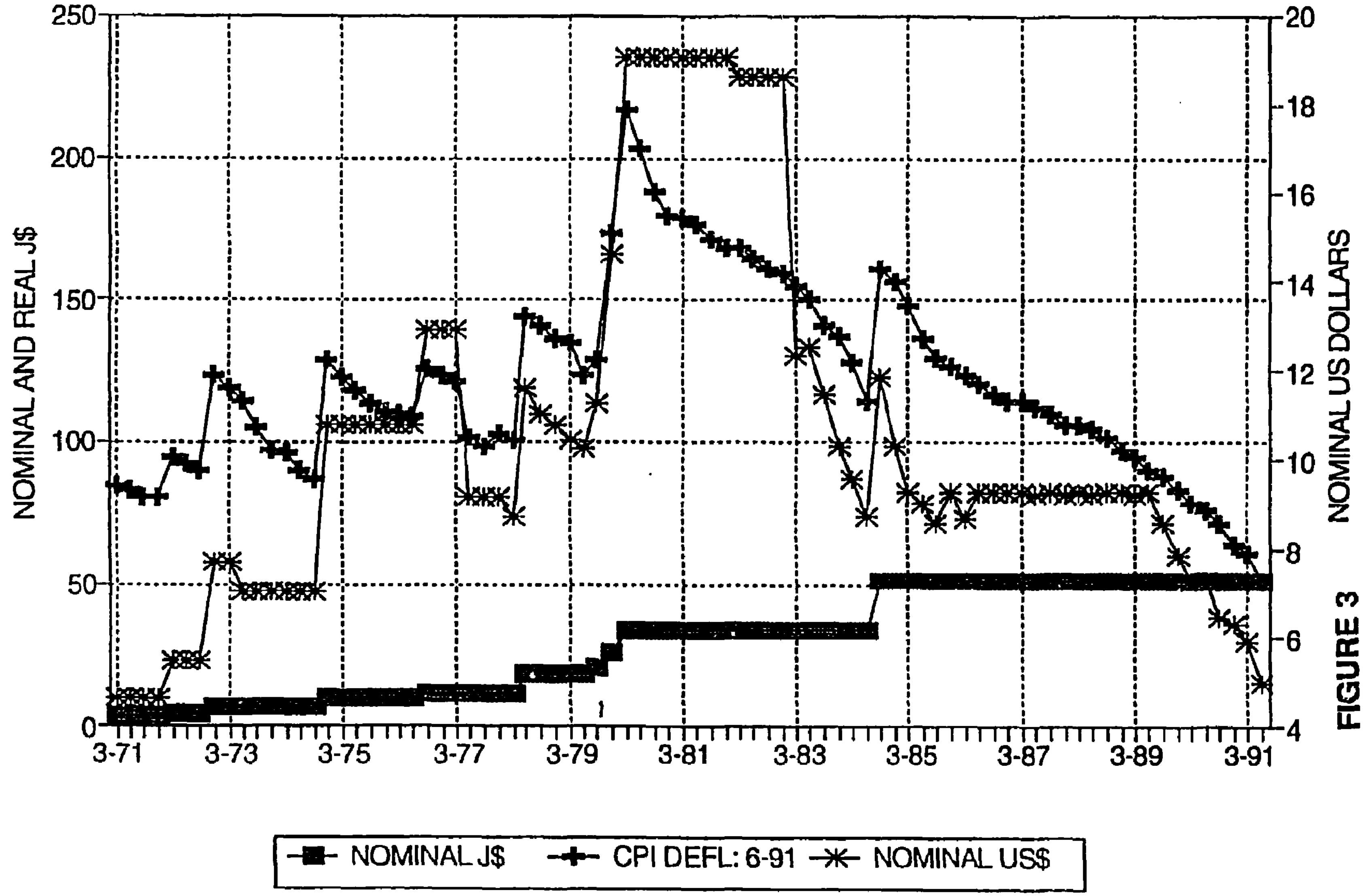

FIGURE 3

PER MINUTE INTERNATIONAL RATES

KINGSTON TO NY CITY: FULL ISD

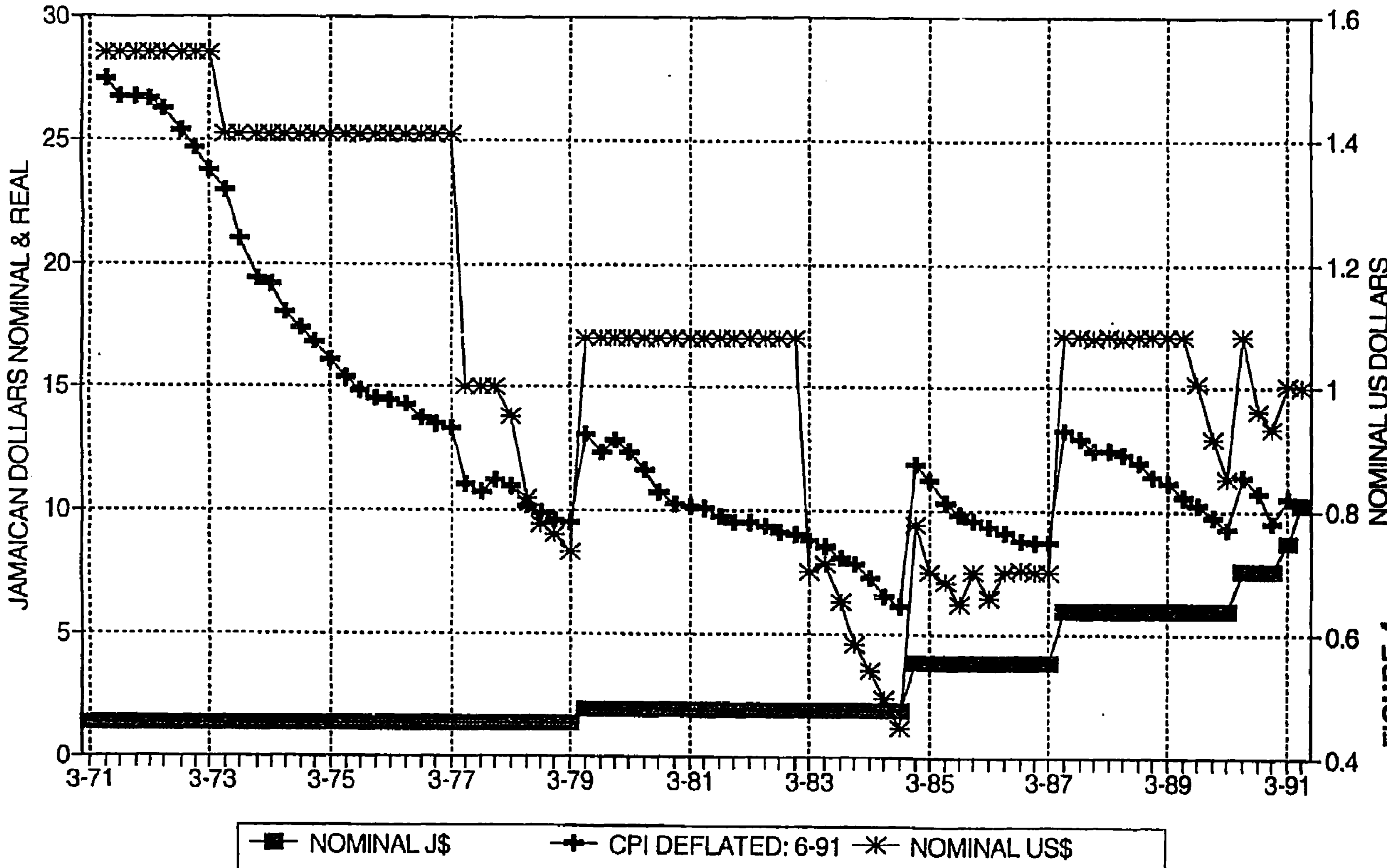

FIGURE 4

JTC: REAL GROSS INVESTMENT

1991 PRICES

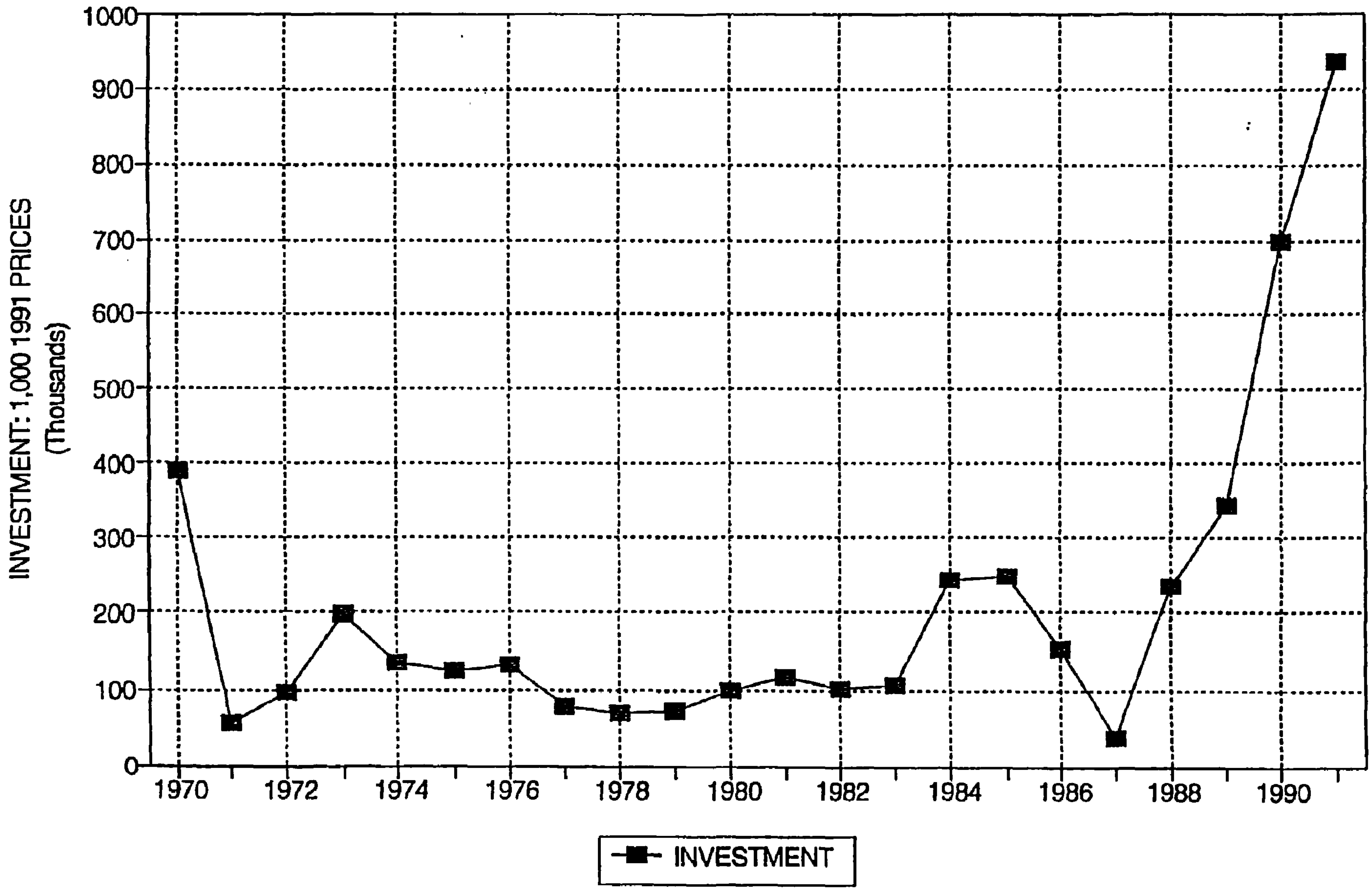

FIGURE 5

JAMINTEL: REAL GROSS INVESTMENT

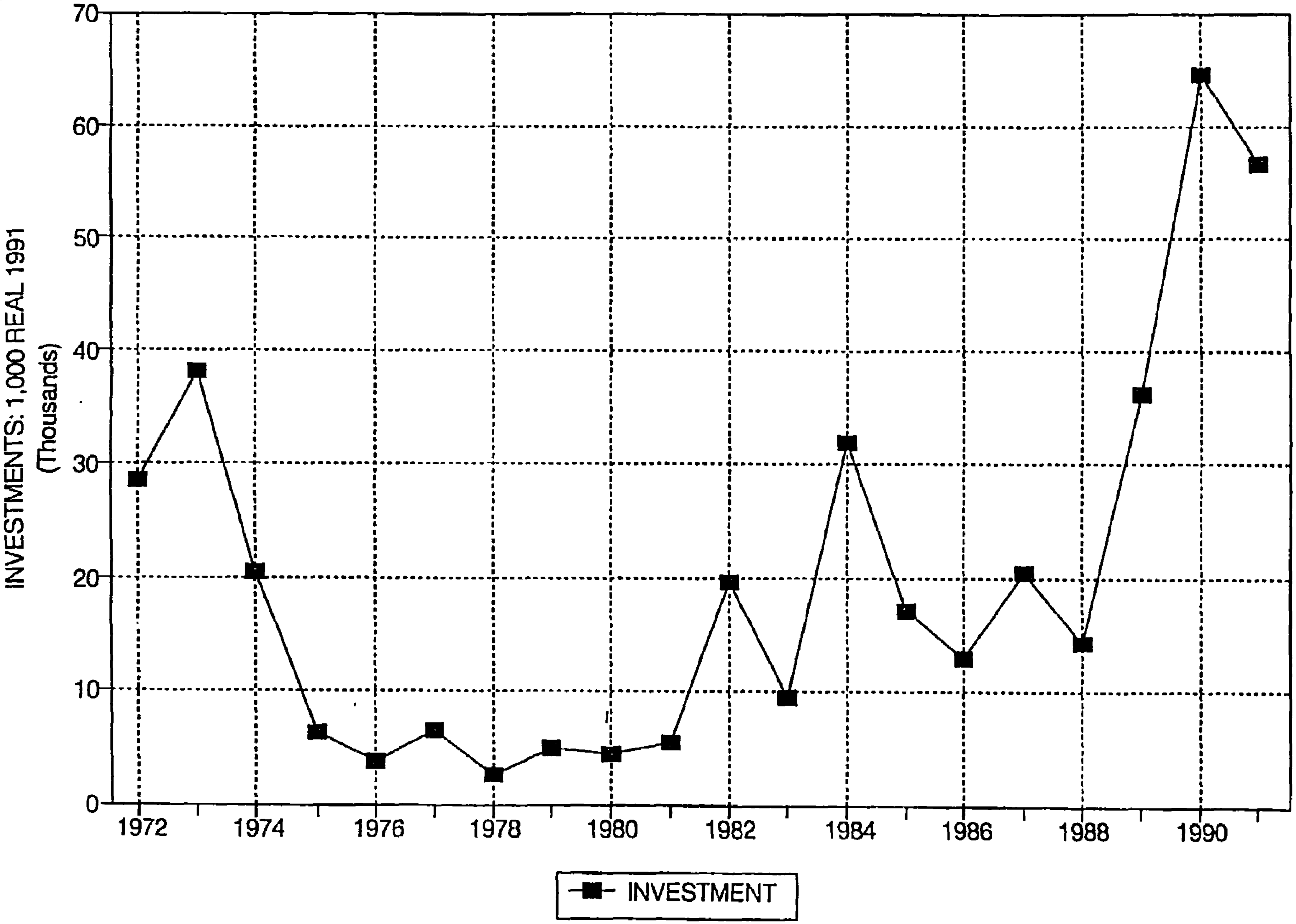

FIGURE 6

JTC: REAL FIXED ASSETS

ACCOUNTING AND ECONOMIC

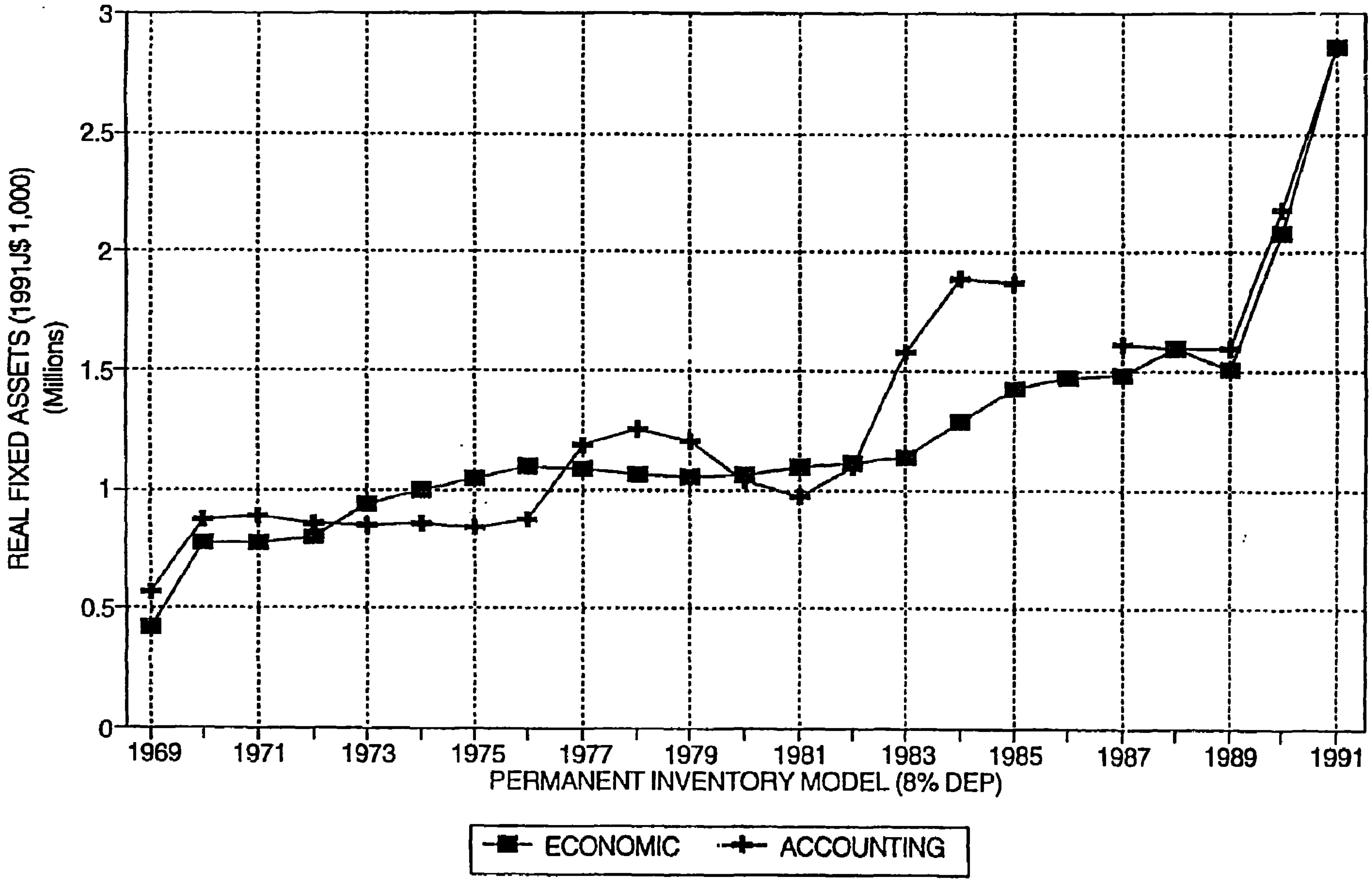

FIGURE 7

JAMINTEL: FIXED ASSETS

ACCOUNTING AND ECONOMIC; REAL 1991J$

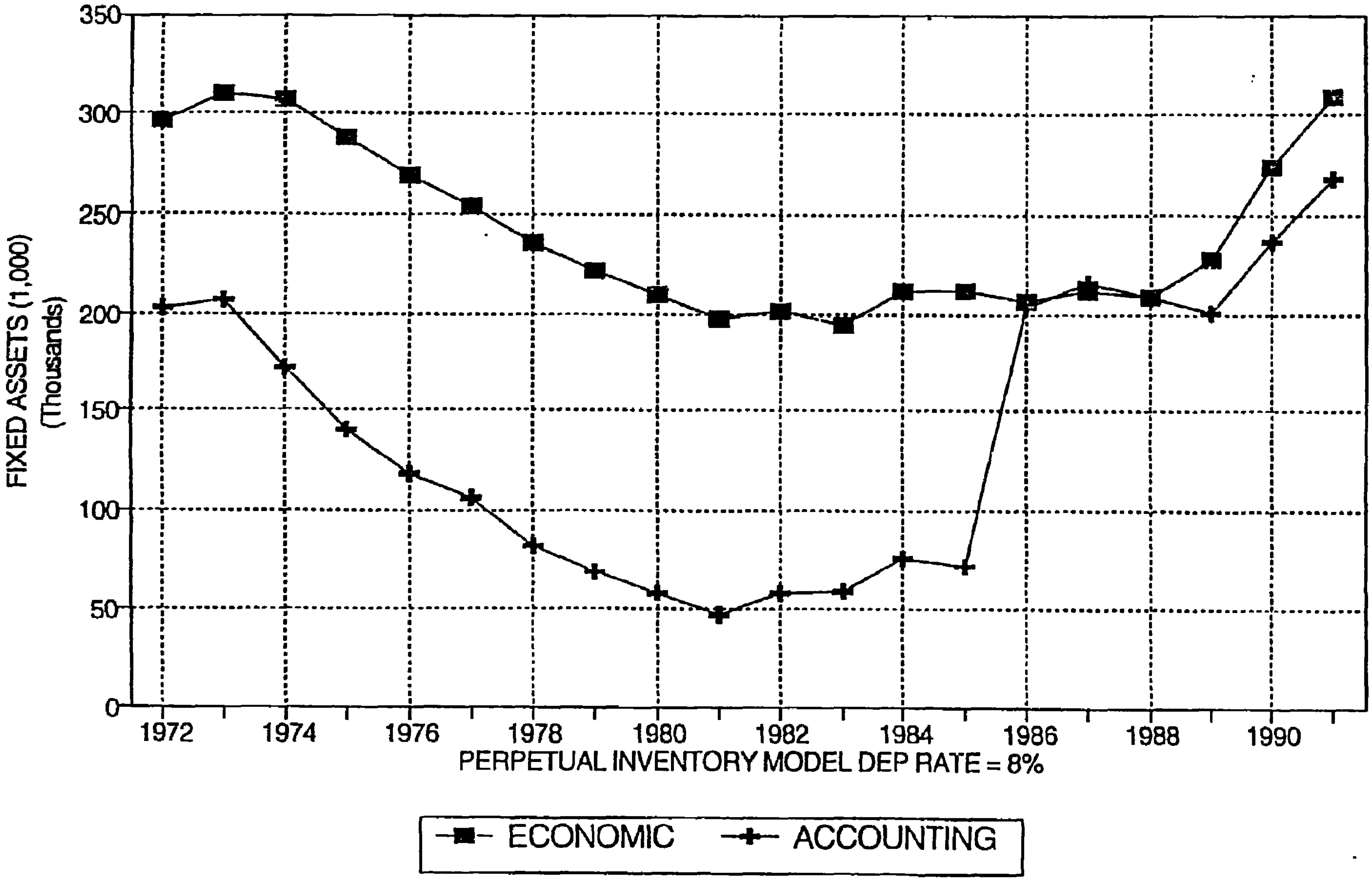

FIGURE 8

JTC: FIXED AND WORKING CAPITAL

LONG TERM DEBT AND EQUITY

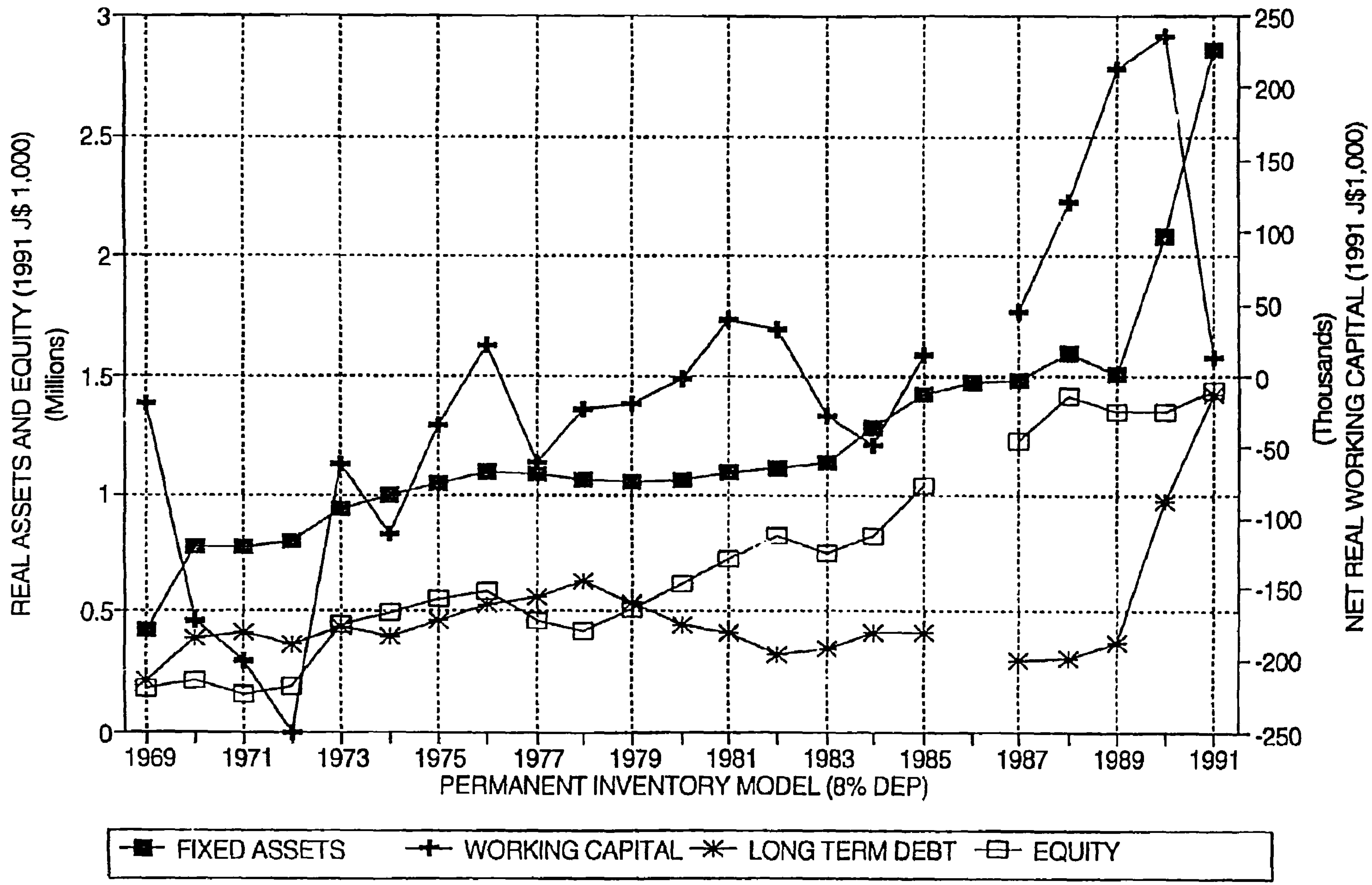

FIGURE 9

JAMINTEL: ASSETS, DEBT AND EQUITY

REAL 1991 J$; DEPRECIATION = 8%

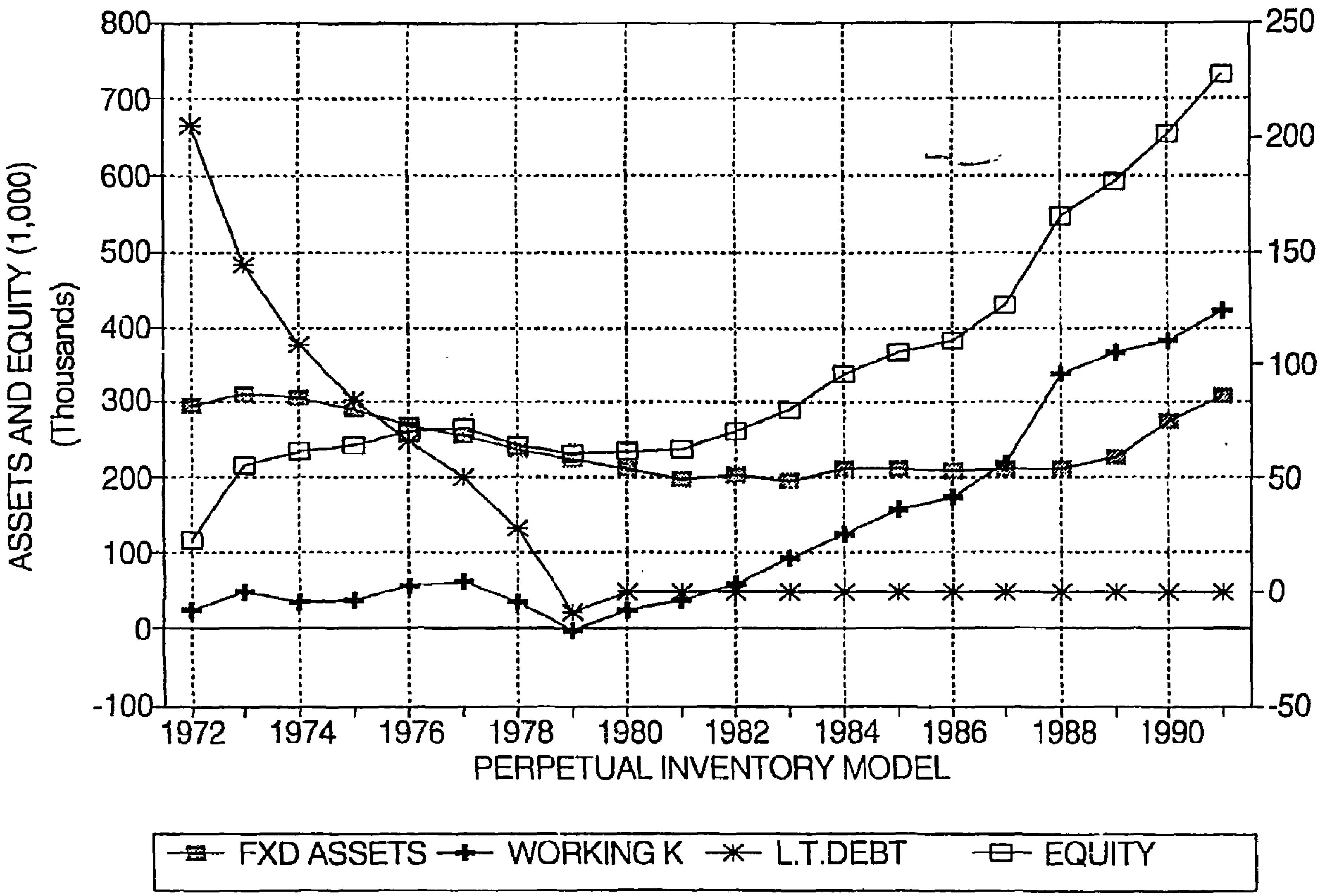

FIGURE 10

JTC: RETURN ON FIXED ASSETS

REAL 1991 J$ (8% DEPRECIATION RATE)

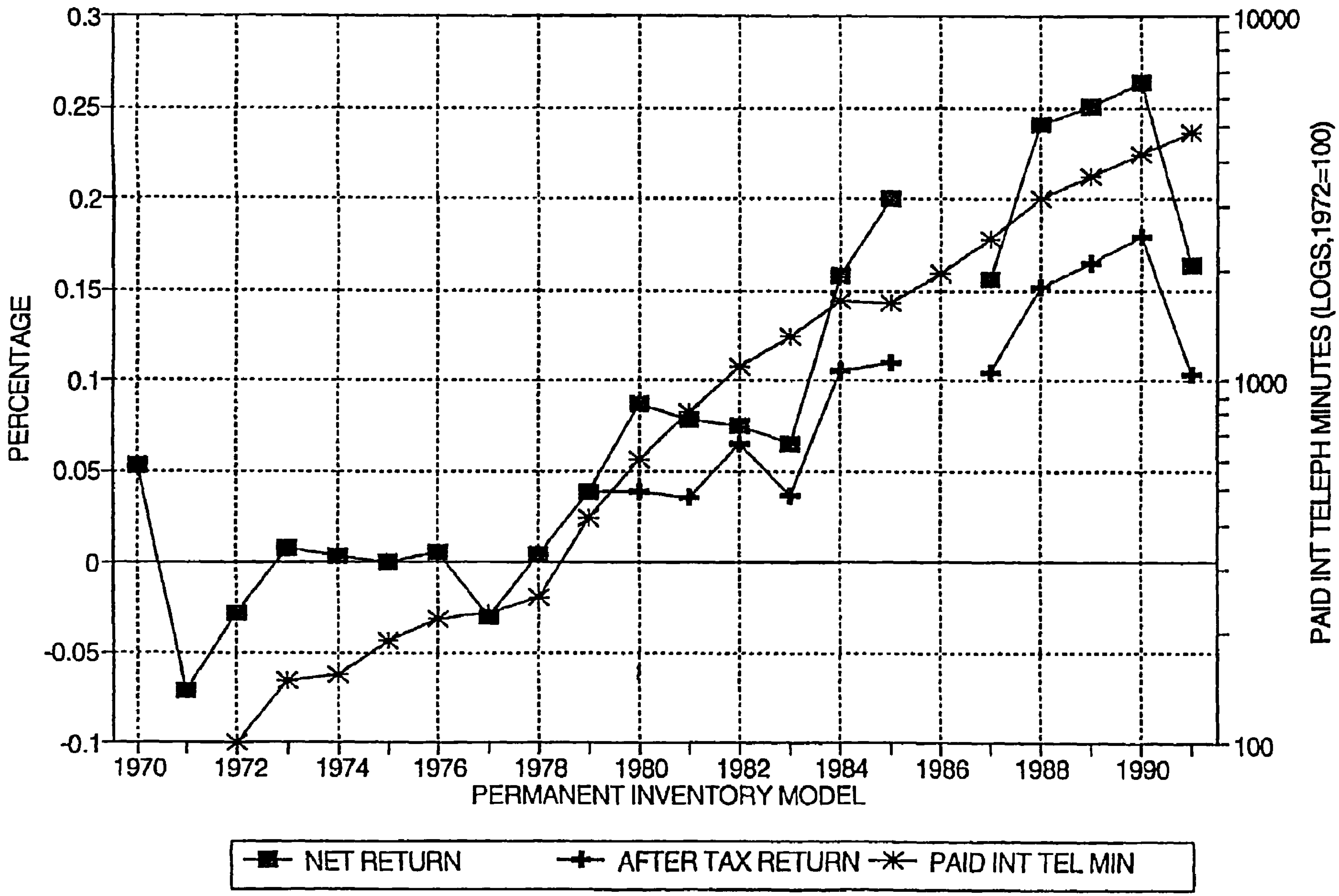

FIGURE 11

JAMINTEL: RETURN ON FIXED ASSETS

NET AND AFTER TAX; REAL 1991J$

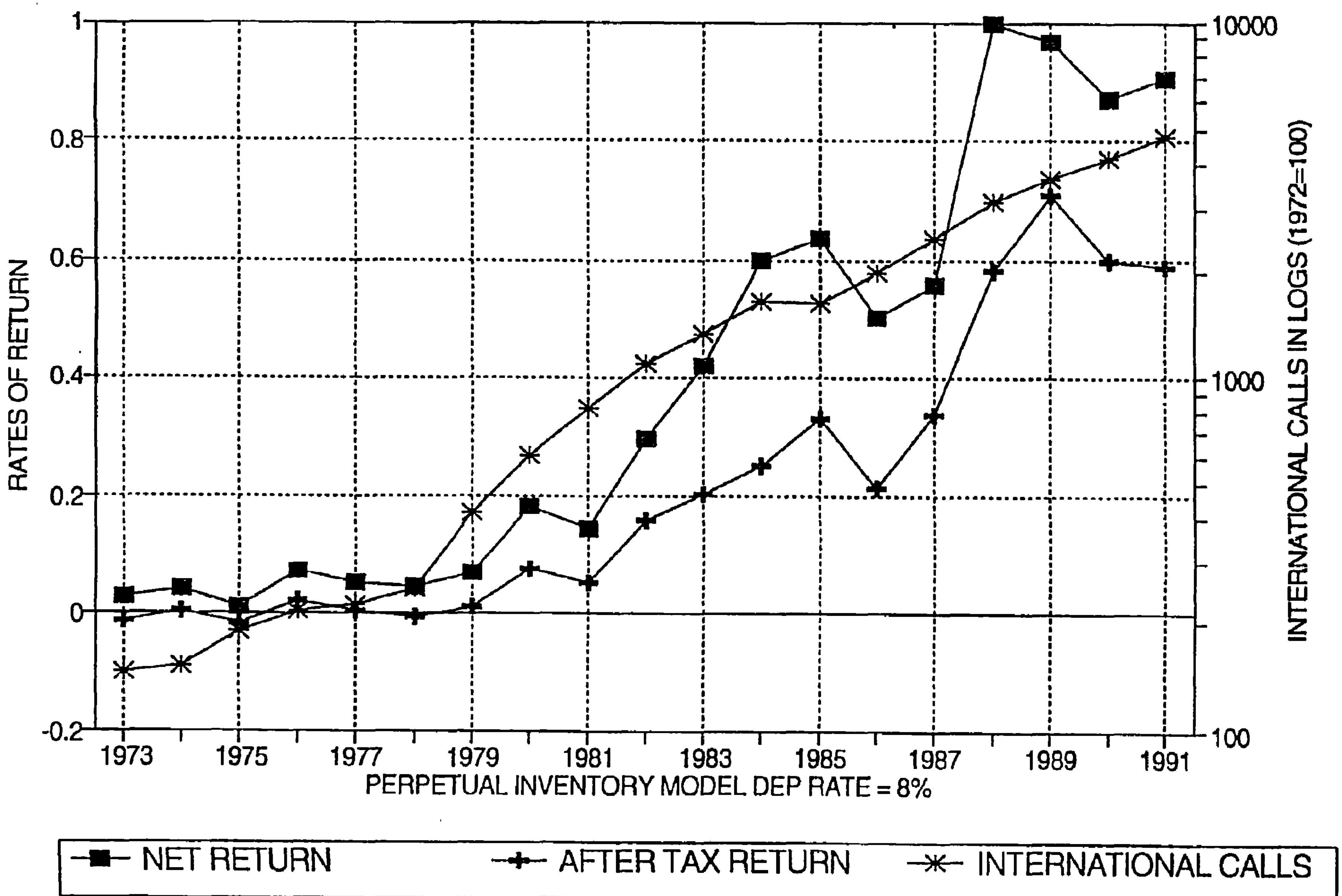

FIGURE 12

AFTER TAX RETURN ON EQUITY

1991 J$: COMBINED, JTC, JAMINTEL

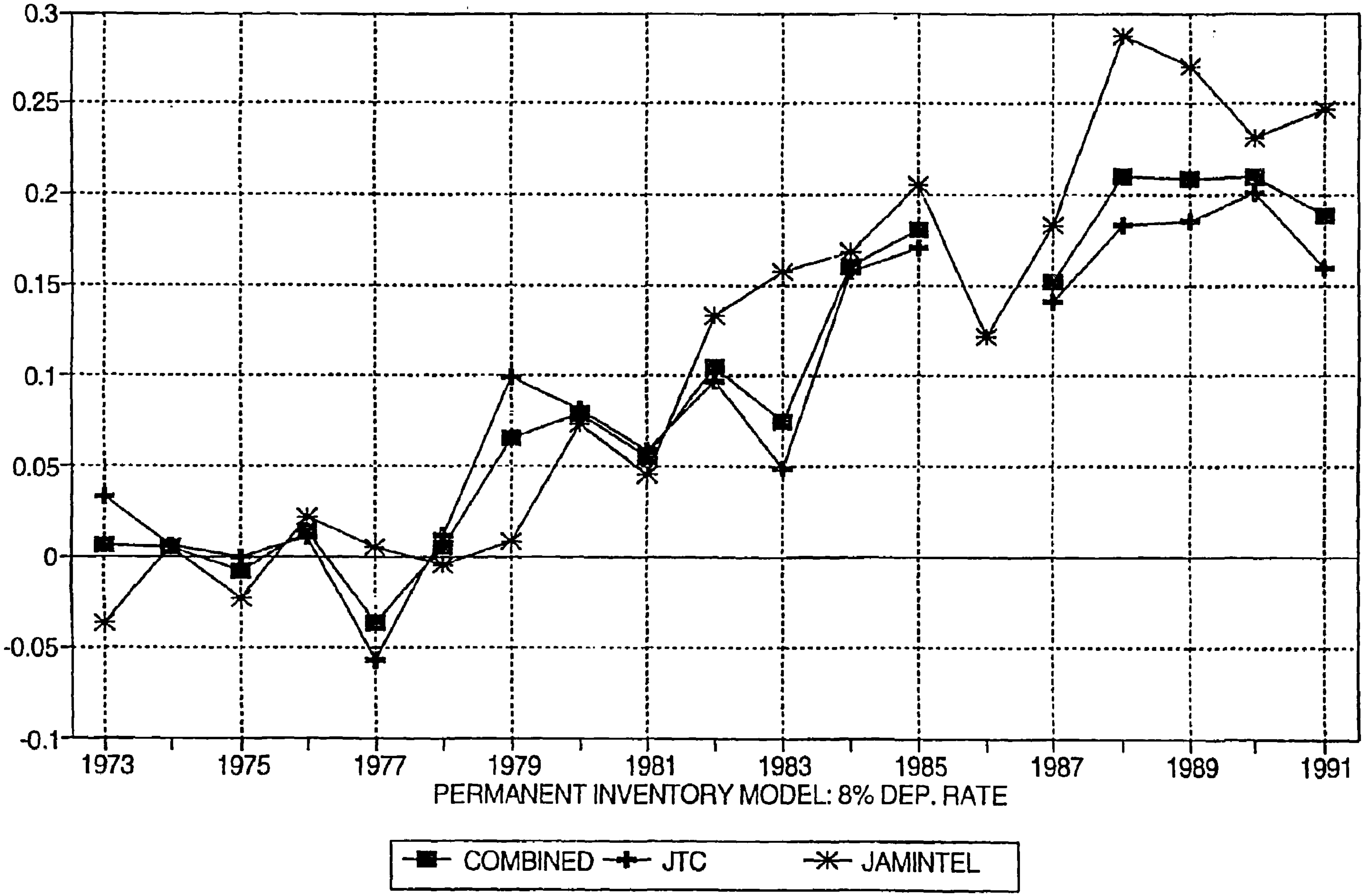

FIGURE 13

JTC: COST OF LONG TERM DEBT AND

PRETAX OPERATING RETURN ON FIXED ASSETS

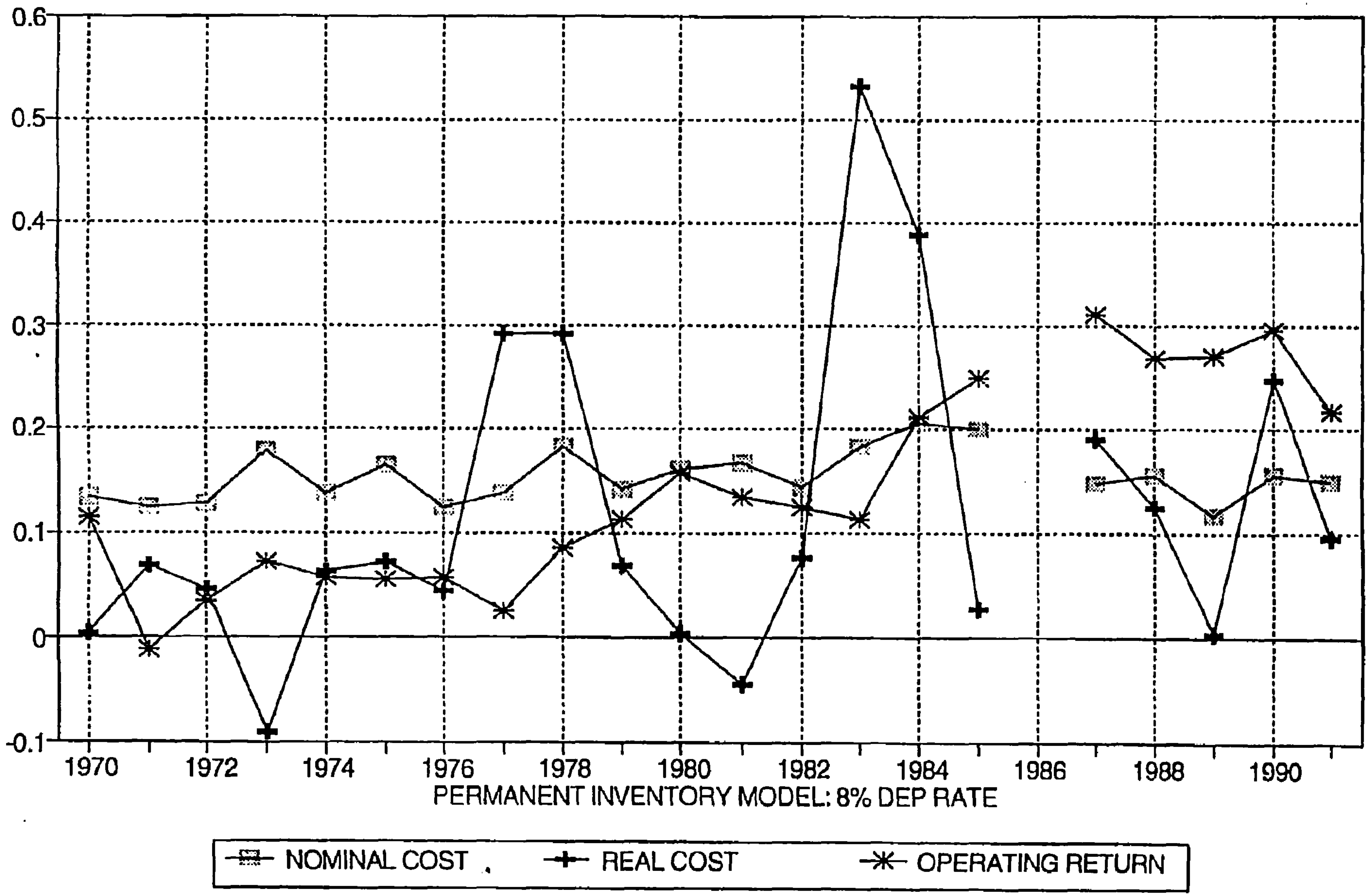

FIGURE 14

CHANGE IN CONSUMER SURPLUS

FROM INCREASE IN NUMBER OF LINES

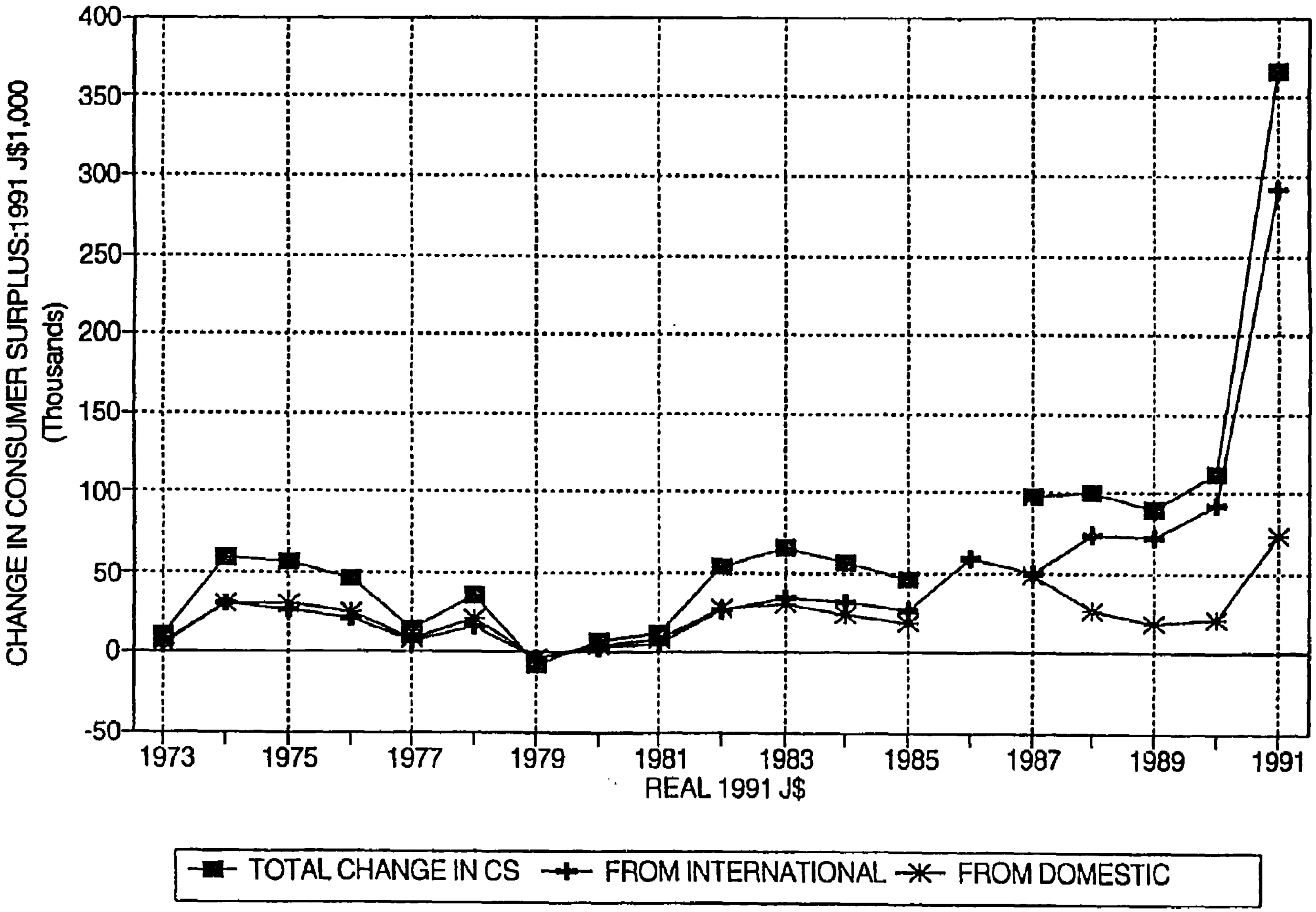

FIGURE 15

CHANGE IN CONSUMER SURPLUS
FROM INTERNATIONAL,DOMESTIC & LINES

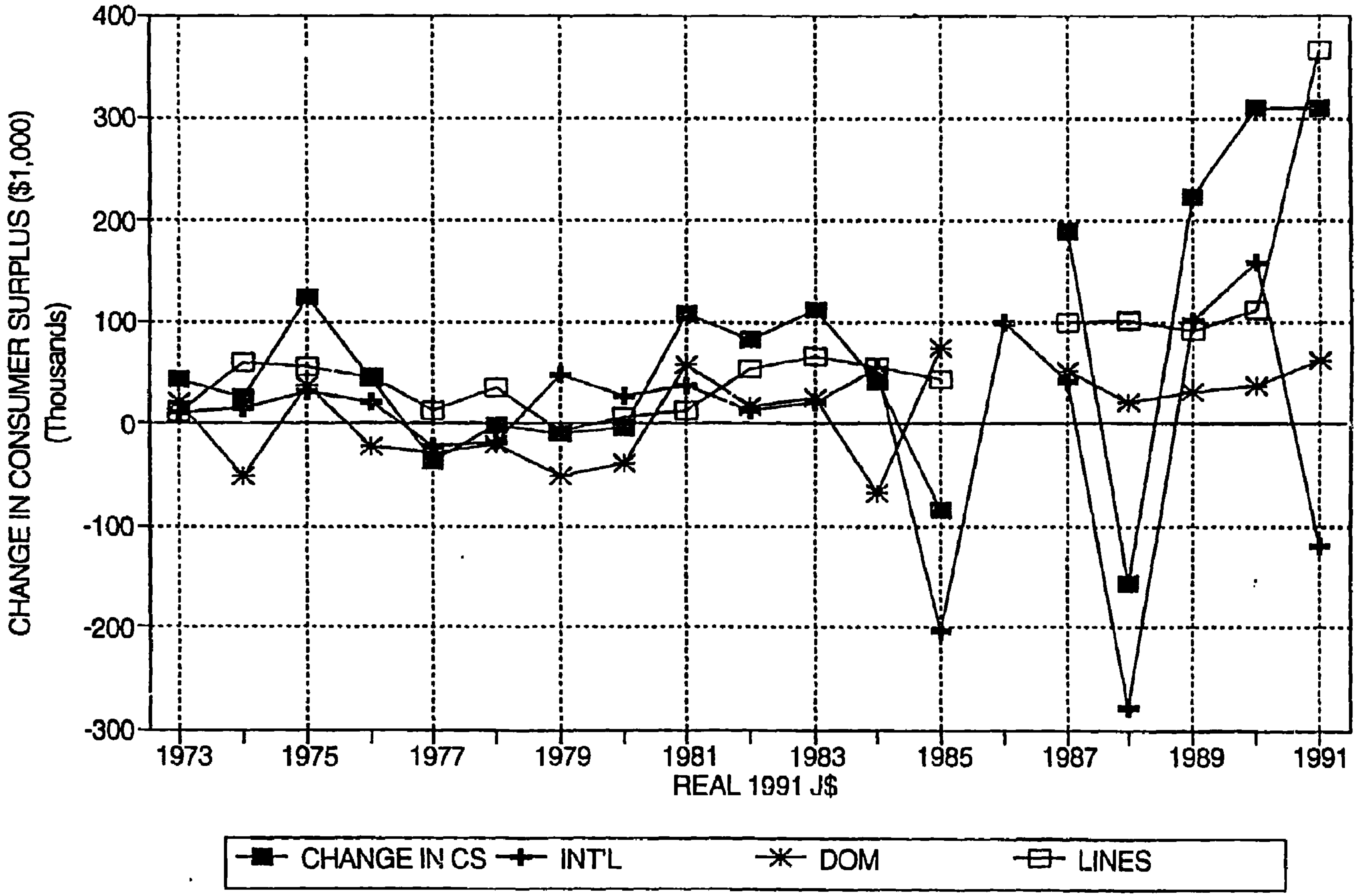

FIGURE 16

CHANGE IN TOTAL NET SURPLUS

CONSUMERS, GOVERNMENT, JAMINTEL & JTC

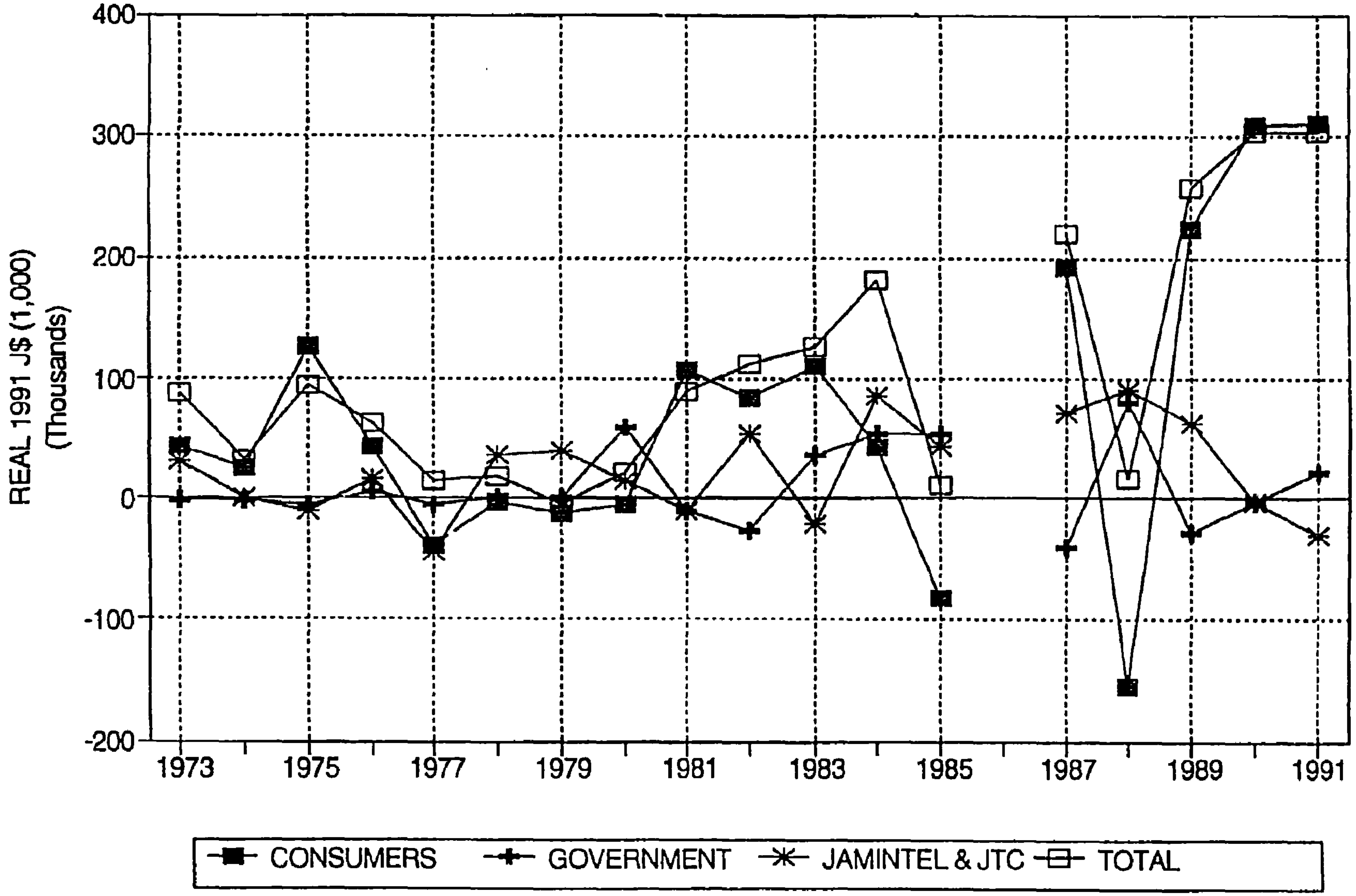

FIGURE 17

REAL REVENUE PER LINE

COMBINED JTC/JAMINTEL (IN 1991J$)

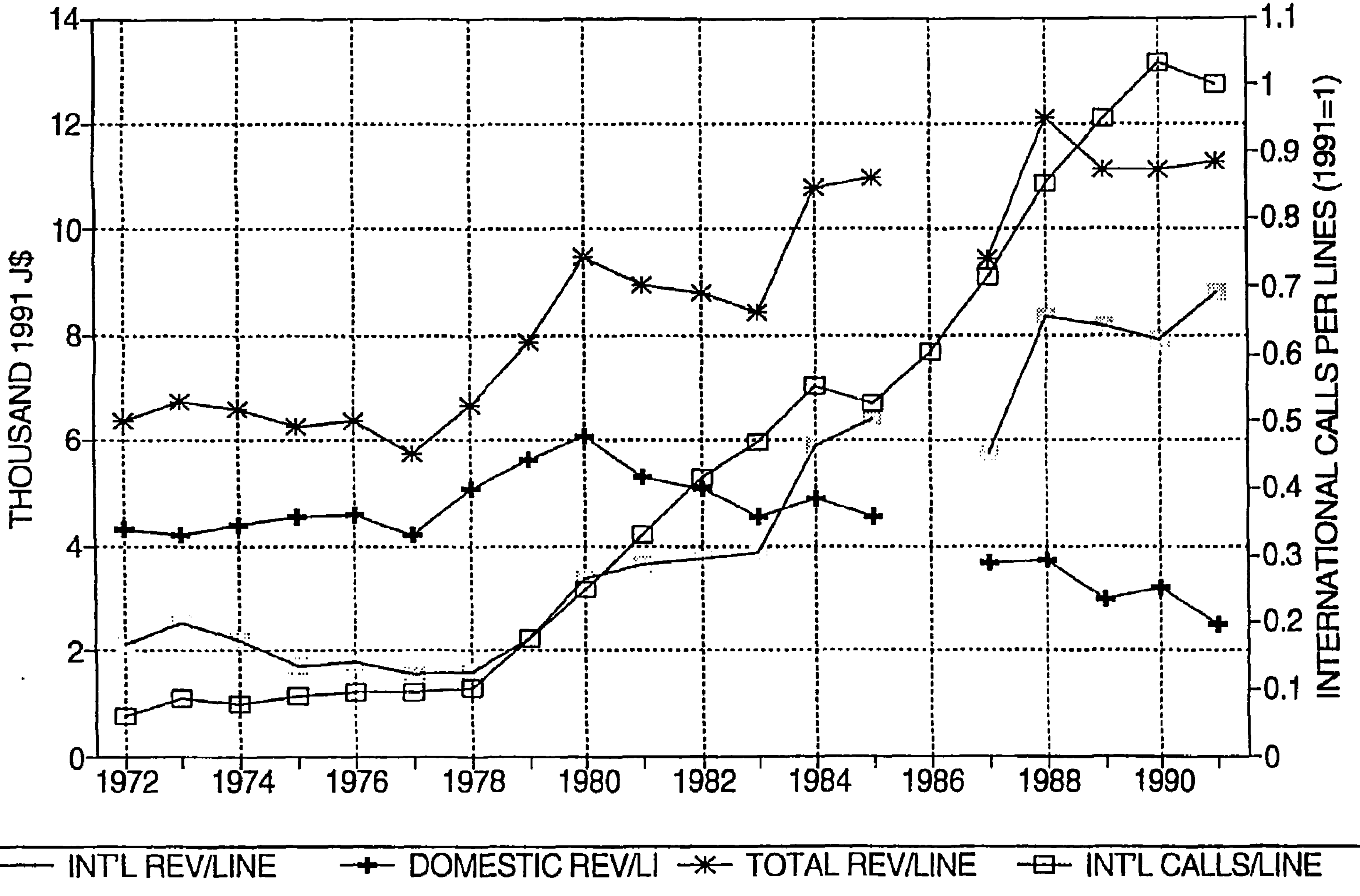

FIGURE 18

JTC: PROFITS GROSS AND NET

1991 PRICES (8% DEPRECIATION RATE)

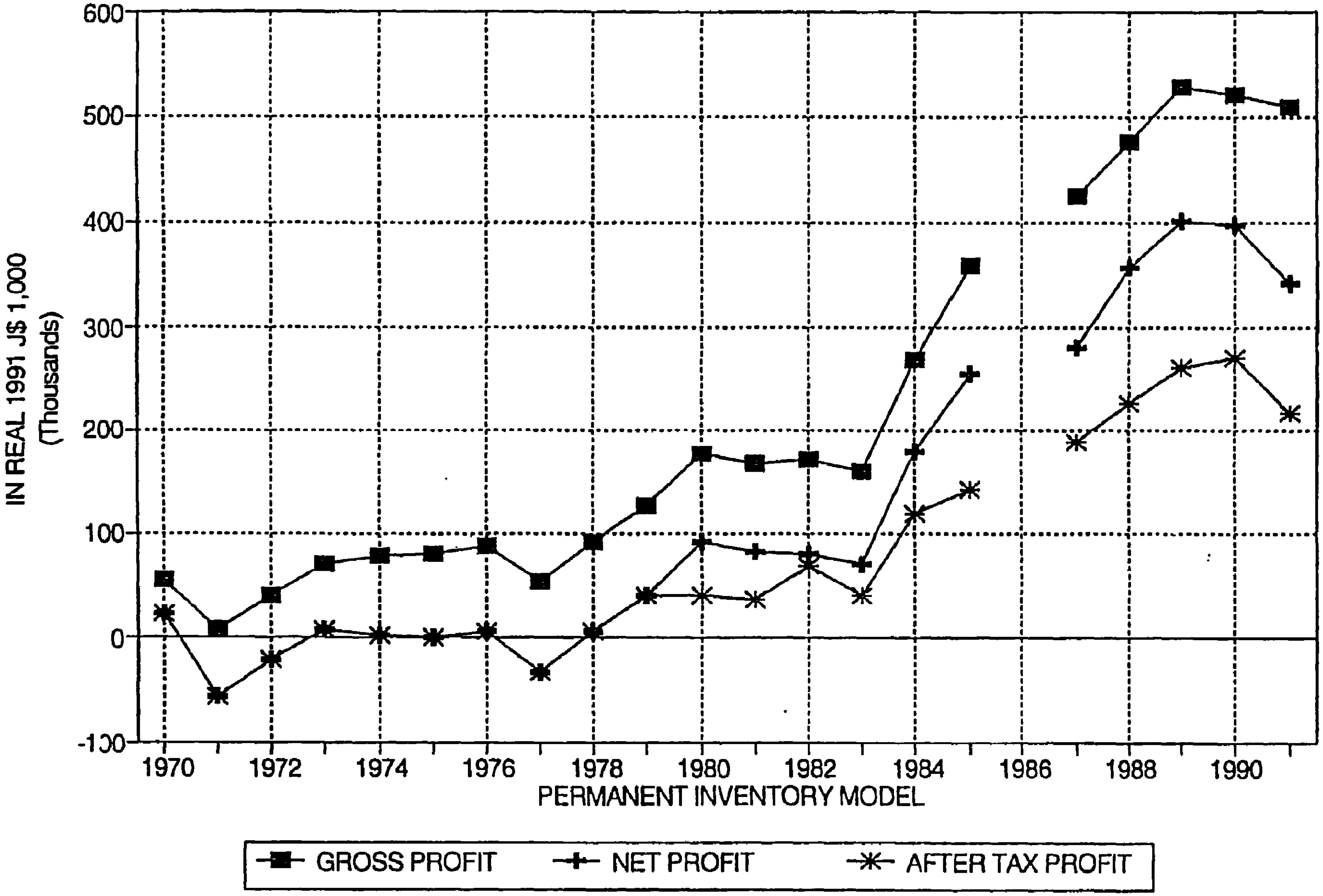

FIGURE 19

JAMINTEL'S TOTAL PROFITS

IN REAL 1991 J$; DEPRECIATION = 8%

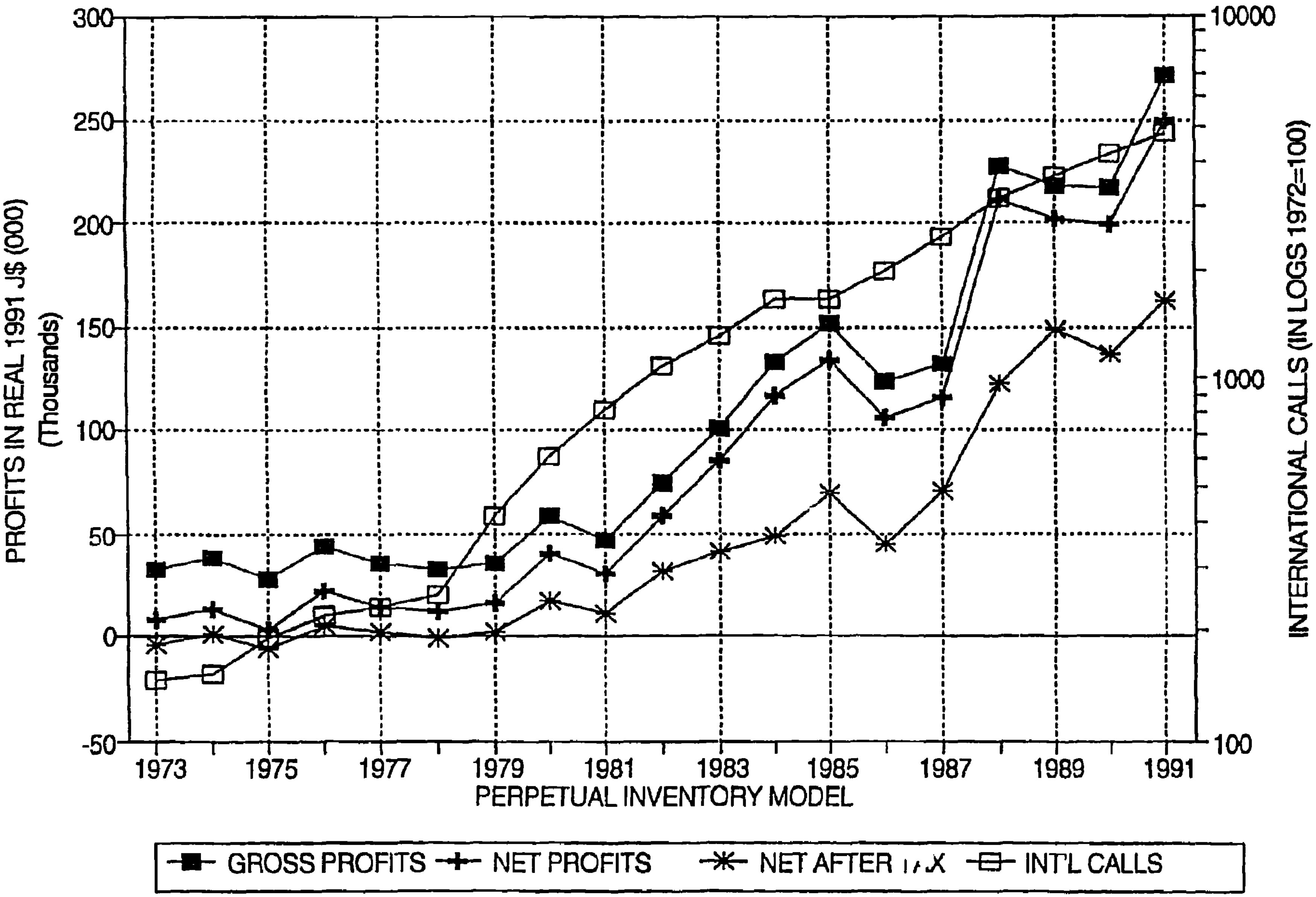

FIGURE 20

EVOLUTION OF DEMAND IN JAMAICA

MAIN LINES AND HELD ORDER COUNT

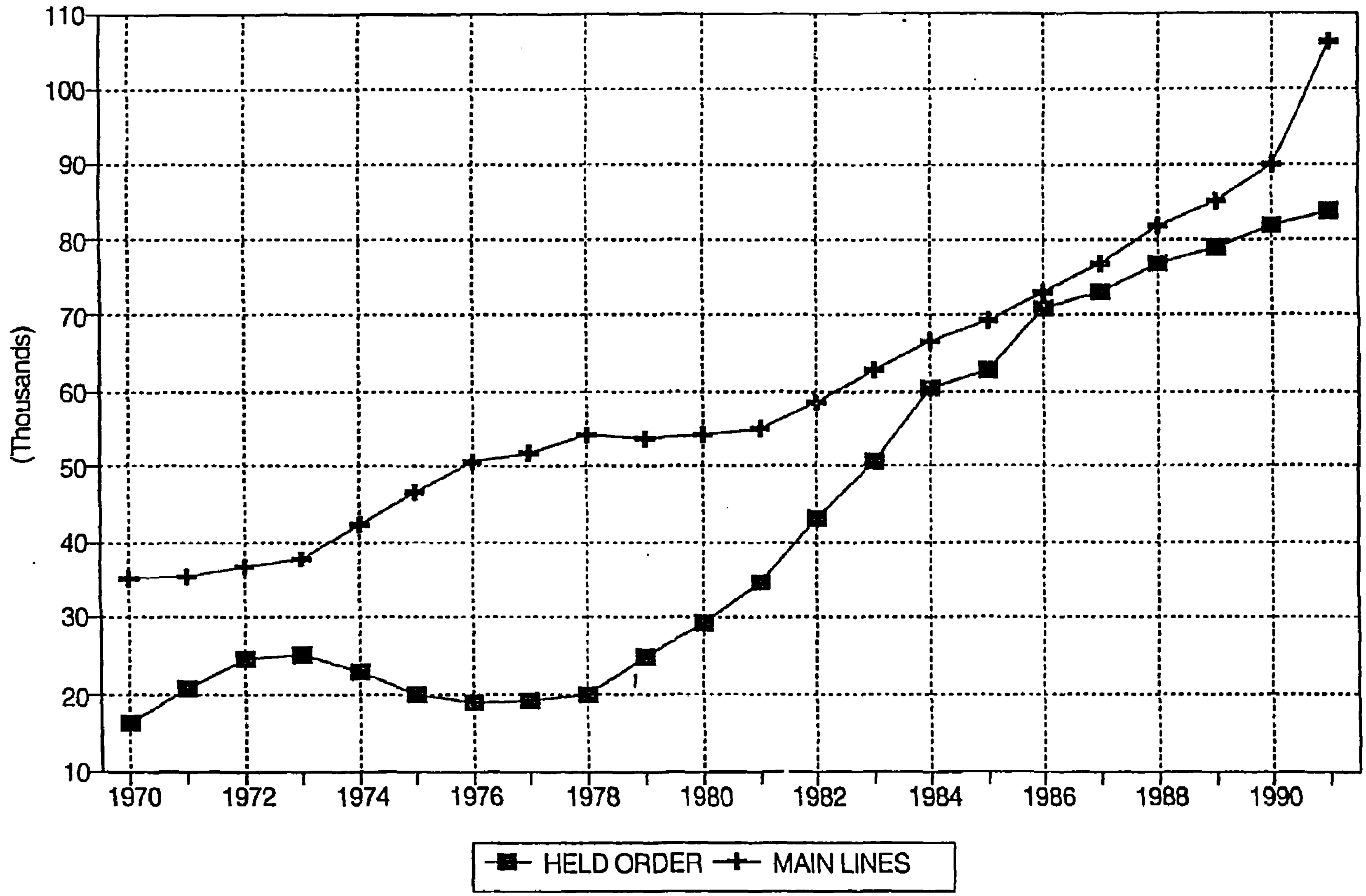

FIGURE 21

JPS: PROFITABILITY

RETURN ON EQUITY AND FIXED ASSETS

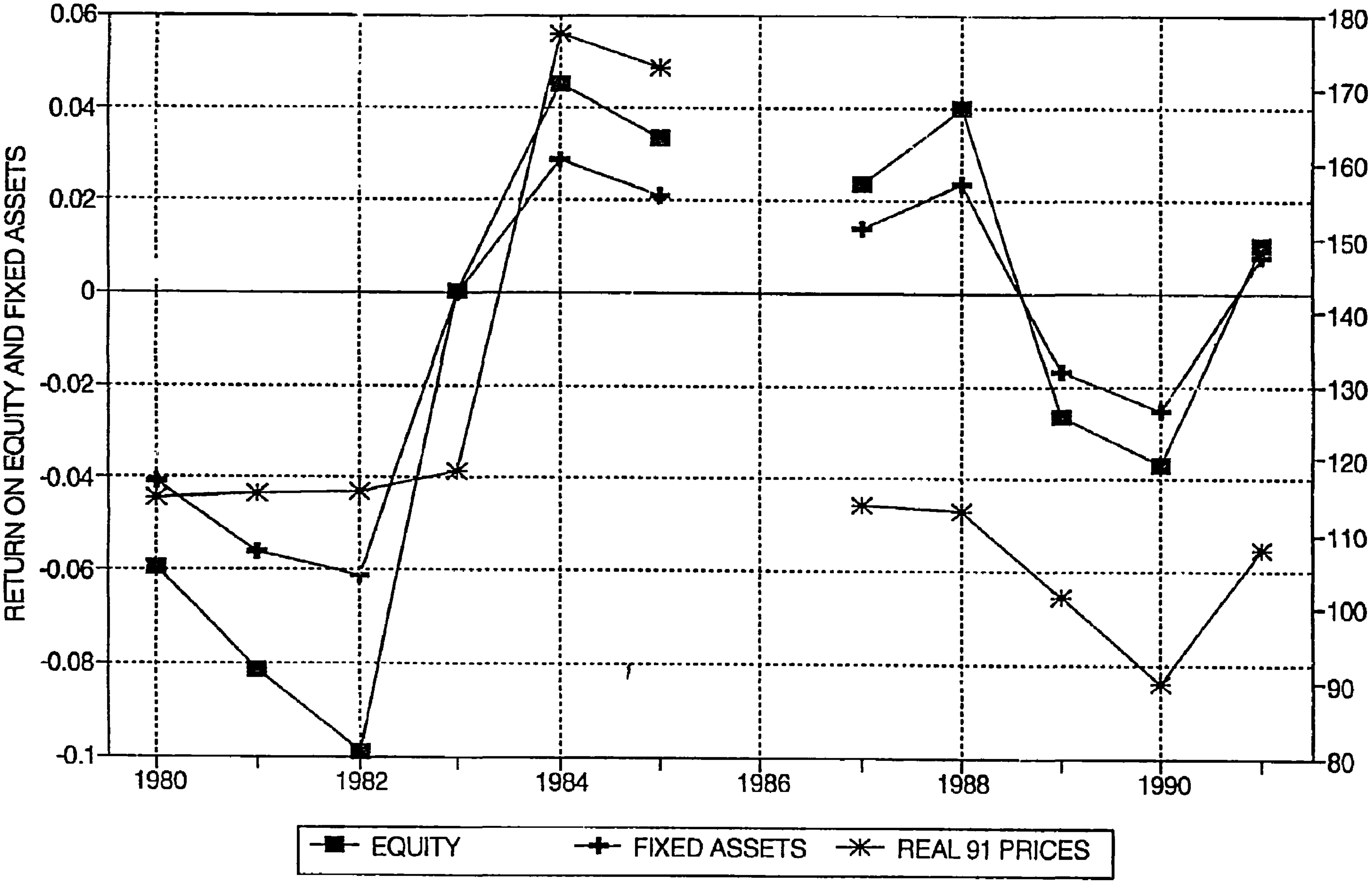

FIGURE 22

VALUE OF TOJ STOCK
AND JAMAICA MARKET INDEX (IN US$)

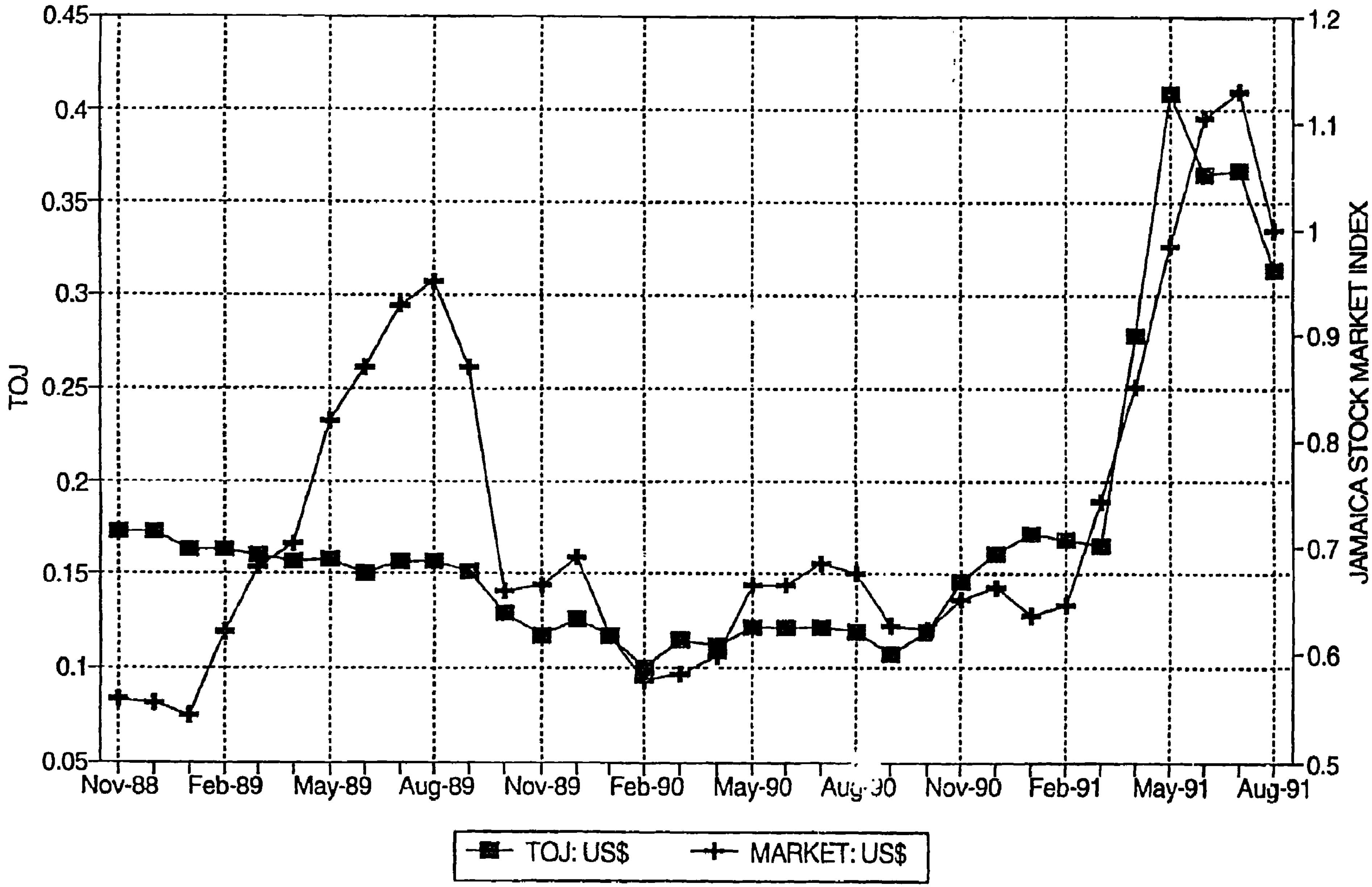

FIGURE 23

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