CHAPTER IV
HISTORICAL PERSPECTIVE:
POLICY REGIME

In continuation to perceiving the computer industry historically in the previous Chapter, the attempt here is to provide a historical perspective on the policy regime pertaining to the industry in India. The past and present of India's policy framework governing the computer industry in general and software industry in particular, comprise the coverage of the Chapter. It has been broadly divided into four sections: section 1 relates the evolution of policy regime in general and specifically for computer industry; section 2 narrates the policies evolved exclusively for the software sector till the 1990's; section 3 throws light on the policy developments in the sector during the nineties as well as its present state; and section 4 attempts a review of the policy set-up.

Policy initiatives of government are instruments to achieve national objectives. They may offer new opportunities, remove constraints, or give direction to the process of development. To be successful, there should be complementarity of the national policy with the strategic interests of enterprises, consistency of strategic signals that various national policies send to the enterprises, and continuity in national policies which could enable enterprises to develop long-term competencies. Presently, IT has come to occupy increasing importance in the policy agenda of most advanced and industrialising countries. (Karki and Cameron, 1994, p.95; Harindranath & Liebenau, 1996).

4.1.1 Policy Framework--Initial

In India, initially, there was no separate policy either on computers alone or even electronics sector as a whole, and the sector was governed by the overall industrial policy framework. Hence, the Industrial Policy Resolution (IPR) of 1948 may be taken as the first policy initiative. This contemplated a ‘Mixed Economy’ comprising both the public and private sectors. The Industries (Development and Regulations) Act of 1951
was the main statutory instrument for channelising and regulating industrial growth as per national priorities, through licensing provisions. Thereafter, on a review of economic situation in the country, the IPR of 1956 was adopted, replacing the IPR of 1948. This made a new classification of industries, defined the categories more sharply, and broadened the role of State. Licensing regulations reserved the production of certain items for either small-scale or public sector producers. Very large corporations were prevented from entering into certain industries through provisions of the Monopolies and Restrictive Trade Practices (MRTP) Act of 1969. Foreign investments were also regulated, mainly through the Foreign Exchange Regulation Act (FERA) of 1973, which, excluding exceptions, limited foreign equity holdings in India-based companies to 40 percent. The various aspects of industrial policy as a whole were reviewed in 1973, 1977 as well as in 1981, for simplifying procedures and promoting growth.

4.1.2 Setting up Electronics Commission and Department of Electronics

Any determinate State effort towards establishment of the electronics industry on modern lines was initiated only in the early seventies when two permanent bodies were established, a policy formulating wing (Electronics Commission) and a policy executing body (Department of Electronics). These bodies were given the brief to streamline production of the electronics industry. (The Electronics Commission was wound up towards the late eighties). The underlying objective was the establishment of a viable electronics industry with self-reliance in the MRTP and FERA environment.

4.1.3 New Computer Policy, 1984

Apart from the general policy framework for the electronics sector as a whole, a specific policy for the computer sector was ushered in during November, 1984 as the New Computer Policy (NCP). NCP purported to achieve the following:

-- Enable manufacture of computers based on latest technologies at internationally comparable prices, and progressively increased indigenisation consistent with economic viability.

-- Simplify existing procedures to enable users to obtain computers of their requirement from indigenous or overseas sources mainly regulated through fiscal measures.
--- Promote appropriate applications of computers which are of a development catalysing nature.

Accordingly, provisions of the Policy, inter alia, were:

--- Regulation of all clearances through an Inter-Ministerial Standing Committee (IMSC).
--- Reduction in import duty on hardware.
--- Liberalisation of import of computers.
--- Granting permission to foreign equity participation.
--- Recognition of software as a separate industry and formation of a Software Development Agency (SDA) for its overall growth.
--- Allowing all Indian companies to produce micro/mini computers including PC.
--- No SSI reservation.
--- No restriction on capacity, but MES and PMP stipulated.
--- No MRTP clearance required under Sections 21 and 22.

On the whole, the direction of Policy was towards partial deregulation of various licensing provisions.

Even though thrust of the Policy was towards hardware, there were also some major liberalisations in the software segment. A boost was imparted to software development by underlining the need for institutional and policy support on a number of fronts, like setting up SDA. Import of inputs for software development was made more liberal. It was also laid down that “Effective software export promotion on a sustained basis can be effective in the long run only if it is planned as a part of an overall software promotion scheme covering both export and internal requirements including import substitution. Also planning for software development is integrally connected with the plan for hardware development and system engineering”*. With NCP, procedures for importing hardware became quicker and easier. Imports became cheaper since basic customs duty on hardware was slashed from 135 to 60 percent, and on software from 100 to 60 percent, with an allowance of duty-free import for source code on paper.

There were also provisions for improved access to imported software and spares. Software industry was delicensed. Further, as for hardware, MRTP and FERA

companies were allowed to become software producers. Piracy was also made punishable by placing software under the Copyright Act.

The general perception is that NCP set the guidelines for a brisk developmental pace. It introduced liberalisation in the industry by removing capacity constraints, allowing foreign participation, permitting liberal imports and providing incentives to computer equipment and peripherals manufacturers. The replacement of maximum capacity restrictions by minimum capacity requirements, was an endeavour to promote economies of scale in production. Nevertheless, the policy remained within the bounds of an import-substituting, state-directed strategy of IT development. It is widely held that this policy announcement along with the impetus from the then Prime Minister of India to dovetail India into the 21st century on high technology areas, was one of the critical factors that prompted the growth of computer hardware industry as a whole. A large number of enterprises were attracted into the field which led to competition and easier and cheaper availability of computers. A number of foreign collaborations were approved for mini-computers, microcomputers and computer peripherals. Within an year of the release of NCP, computer production registered a rise of about 100% in physical terms. NCP also facilitated imports of thousands of PCs into India. All these led to the formation of a large number of software and computer maintenance companies. (Khan, M.U., 1987; Karki & Cameron, 1994, ps.99, 104; BICP, 1989, p.32; Parthasarathy & Joseph, 2001; Dataquest, 1988; Dedrick & Kraemer, 1993, ps.479-80).

4.2 POLICIES FOR SOFTWARE DEVELOPMENT

4.2.1 Pre-1980: Building Software Exports

As regards the policy planks pertaining to software, during the 1970s, Government policy was limited to providing imported hardware for would-be software exporters. A few other policy elements of the early 1970s included:

(1) Investment by DoE in public sector R&D projects which involved software development.

(2) Preference to Indian companies in software procurement by the public sector (though most contracts for software packages preferred imports).

(3) Government encouragement and initiation of computing and software-related training courses in universities and similar institutions.
In June, 1976, the existing policy was partly liberalised but mainly expanded and relaunched. Hardware import duties were reduced from over 100 percent to around 40 percent; banks were advised to extend loans for software projects, and software exporters were promised faster clearance of their applications. A new scheme was created so that NRIs could pay to import computers for software export and only take on a 100 percent export commitment. Software was made eligible for export incentives such as location of production in EPZs, tax concessions, and cash compensatory support.

Now the question arises as to why there was no separate policy on software earlier. This was, probably, because in the early seventies, the share of software in a computer system was negligible as compared to that of hardware. Also, a view prevailed that software and hardware are complementary and, therefore, separate initiatives are not required. The lack of demand due to the limited diffusion of computers, was another factor. Thus, till the mid-eighties, while there were explicit policy pronouncements towards promoting the computer industry in general, there was hardly any specific policy towards software development. It was the computer policy of 1984, which for the first time, explicitly appreciated the needs and requirements of software development. Simultaneously, the rapidly rising global demand for software signalled its emerging export potential. Effective and exclusive policies for software development and export promotion, became the need of the time. Accordingly, in 1986 an explicit software policy was announced. (Heeks, R., 1996, ps. 42-43; Joseph & Harilal, 2001a).

4.2.2 Software Policy of 1986

In December, 1986, Government announced the specific policy on software, viz., ‘Policy on Computer Software Export, Software Development, and Training’. The main objectives of this Policy were:

-- promote software exports and carve out a niche in the global software market.
-- promote integrated development of software for domestic as well as export markets.
-- simplify procedures to enable faster growth.
-- establish a strong base of software industry in the country, and promote various developmental applications of computer as well as computerisation in the country.

The policy carried the concept of 'flood-in flood-out'. That is, let in US-developed software in abundance, especially software development tools, to enable Indian programmers to develop better software for export back to the US and Western Europe. The main features of the policy were:

-- Any unit setting up export-oriented software company, and requiring import of hardware and/or software or computer/computer based systems for the purpose, could meet the FE requirement of such import through a combination of means like directly from the Government of India, through NRI participation, excess export FE entitlement, etc. However, export obligations, to be extinguished over a period of four years, would depend on the source of FE.

-- Fulfillment of export obligations to be based on Net FE earned.

-- Software export will include exports on magnetic media or on paper or through satellite data links and consultancy delivered at the location of the clients abroad.

-- Failure to meet export obligations will invite stringent penalties.

-- The imports under the software export schemes will be on non-transferable and on actual user basis.

-- Customs duty of 60 percent ad valorem will be charged for the imports under software export scheme. However, the proposals through EXIM Bank will enjoy a customs duty rebate of 50 percent. All computers imported for 100 percent export would be eligible for zero duty subject to custom bonding.

-- EXIM Bank to finance FE requirements for software exports subject to an export obligation of up to 350 percent over 4 years.

-- Software packages/programmes can be imported under OGL by an actual user or manufacturer or by a software company on stock and sale basis, subject to a duty of 60 percent ad valorem.

-- Software to be governed by the Copyright Act, and hence non-excisable.

-- Excess export earnings over and above the obligation could be used for further imports of systems/software etc., with added export obligations of up to 150 percent.
-- Whereas FERA regulations will apply for software collaborations, 100 percent export companies will be permitted with over 49 percent foreign equity participation.

On the whole, thrust of the policy was towards simplifying existing procedures and providing various incentives. The Policy, dubbed by Dr. Seshagiri as a "flood-in, flood-out strategy", was presumably based on India’s manpower advantages in software. However, it is generally felt that while the policy favoured software exporters, it did little for companies developing products for the domestic market. Even for exports, whereas reaching out foreign markets involved lot of expense and risk, the policy provided little direct support on aspects like market intelligence or export finance. (Business India, 1988; BICP, 1989, p.64; Parthasarathy & Joseph, 2001, p.9).

4.2.3 Developments during 1987 to 1990

R. Heeks in his study of India’s software industry has remarked that this period was marked by a loss of direction in policy. (Heeks, R., 1996, ps. 46-48). This was because of reversals in the policy of liberalisation that were carried out during this time, mainly regarding tariffs and imports. However, there were also a few major developments which really helped the development of software industry. SDA was set up in 1986 for co-ordination of policies, and promotion of the industry. ESC was created in 1988 to facilitate marketing of electronics and software exports. An insurance scheme was introduced in 1987 to cover the clients of Indian software companies against malpractice or lapses. Export shipment credit and credit guarantees were also made available. The National Centre for Software Technology (NCST) is another organisation that was set up for software R&D, and development of software tools. Furthermore, during this time, venture capital became available, and the concept of STPs, in the making since 1986, took a concrete shape.

4.3 POLICIES DURING 1990’s

4.3.1 New Industrial Policy, 1991 and Policy Measures Thereafter

A major landmark in the field of India’s industrial policy was the New Industrial Policy (NIP) announced by the Government on 24th July, 1991. The main features of the Policy were as follows:

-- Abolished licences for all industries, except for a few industries of strategic nature.
Raised the limit of foreign investment equity from 40 to 51 percent, except in cases of a few industries of strategic significance.

Automatic approval for foreign technology agreements.

No MRTP Act limit for industrial companies, and several industries made open to private sector.

FERA companies permitted to use their foreign logos and trade marks in India.

As regards the computer industry in general and software in particular, NIP facilitated the entry of a number of foreign firms with equity participation. No wonder, as of now, almost all the leading computer firms abroad have their presence in India in the form of technical or financial collaborations. Most firms replaced technical collaborations with financial collaborations. NIP impacted the software sector principally through the following aspects: raised foreign equity limits; change of export incentives to EXIM Bank, 1992 scrips; partial currency floatation which ended up as full current account convertibility; devaluation of the Rupee; extension of normal export and domestic sales incentives to export units, and their subsequent ability to retain part of their earnings in foreign currency accounts.

The devaluation of Indian Rupee gave a boost to software exports through the provision of competitive international prices. Several promotional measures were brought in subsequently such as reduction in telecommunications charges for satellite links, duty-free import of telecommunication equipment into export processing units, excise duty exemptions and income tax concessions on export revenue. Duties on software imports were reduced from 110 to 10 percent in 1995 and altogether eliminated by 1997. (Joseph, K.J., 1997, ps. 76-77).

4.3.2 Technology Parks

A major policy initiative of the government for promotion of software exports has been the setting up of Software Technology Parks (STPs). This was intended to provide state-of-the-art data communication infrastructure along with an industry-friendly single window approach. The STP scheme in the evolving since the mid-eighties, was finally concretised in 1991 as the Software Technology Park of India Ltd. (STPI), an autonomous organisation under DoE (later MIT and now DIT). The scheme offers zero import duty on import of all capital goods, a special 10-year income tax
holiday, infrastructural facilities like high speed data communication links, etc. Some of the Parks provide incubating infrastructure, so that start-ups are not handicapped in commencing operations. In fact, STPs seek to provide centralised infrastructural facilities for small software houses, and thus eliminate entry barriers. Corresponding to STPs, the Government have also implemented an Electronics Hardware Technology Parks (EHTP) scheme for building up a strong electronic hardware industry in the country with focus on enhancing its export potential. But, this is not detailed here, since focus of the study is only on the software sector.

4.3.3 Tax Incentives/Fiscal Policy

There is 100 percent Income Tax exemption for export of ITes. This is in addition to the tax exemption already granted to software exports; zero duty on all kinds of IT software; no withholding tax on remittance of money of royalty on computer software; and no service tax on the computer software industry. EOU/EPZ/STP/EHTP units are exempted from payment of Income Tax on export profits, up to 2010. This exemption would also be applicable for on-site development of computer software and services. Customs duty on computers and peripherals is @ 15 percent. There is no customs duty on storage devices, integrated circuits, microprocessors, etc. Customs duty on several items especially Information Technology Agreement (ITA-I) items of WTO (IT and Telecom products), is 15 percent. The Central Excise duty structure has been rationalised from multiple rates to a single rate of 16 percent and single rate of Special Excise Duty (SED) @16 percent. Customs duty on specified items of capital goods for manufacture of LSI/VLSI is now 5 percent. Whereas depreciation allowed on computers is 60 percent, it is 100 percent on software. Customs duty on raw materials/inputs in several countries ranges only up to 5 percent, whereas in India it goes up to 35 percent; similarly, customs duty on capital goods up to 5 percent, whereas in India up to 25 percent. (Seshagiri, N., 2000; MIT, 2001-02; Planning Commission, 2001).

4.3.4 Task Forces on Information Technology and Software Development

Appreciative of the potential offered by software industry, Government set up a National Task Force on Information Technology and Software Development (NTITSD) in May, 1998. The first report which contained Information Technology Action Plan
(Part 1), comprised 108 recommendations and was submitted in July, 1998. These relate to telecommunication policies and procedures, fiscal incentives and financial matters, promotion of IT in schools and rural areas, cyber laws, simplification in labour laws, procedural simplifications, etc. Of these various recommendations, 64 have been implemented, 37 are on-going, 4 not implemented, and 3 have not been accepted. The second report pertaining to IT hardware is under consideration of the Government. The third report contains the long-term National IT policy, for which actions on some of the recommendations have already been initiated. The Taskforce has set an export target of US $ 50 billion for software and US $ 10 billion for hardware by the year 2008. The other major national task forces who have studied IT in the recent past are the Task Force on Human Resource Development for IT, Task Force on Knowledge Society and the National Advisory Committee on IT comprising the chief executives of leading IT companies. Most of their recommendations have been either acted upon or are under active consideration of the Government. (MIT, 2000-01, & 2001-02; ESC, 2000a; Joseph and Harilal, 2001).

4.3.5 Government Resolve/Targets

The Government of India have resolved to make India a global IT software superpower and a front-runner in the age of Information Revolution. It is also targeted to accelerate the rate of PC/set-top-box penetration in the country from the 1998 level of one per 500 to one per 50 people along with universal access to Internet/Extranets/Intranets by 2008. The existing over 600000 public telephones/PCOs will be transformed into public tele-info-centres offering a variety of multimedia information services. (Seshagiri, N., 2000; MIT, 2000-01, p.21).

4.3.6 Finance

The concept of sweat equity\(^{(34)}\) has been accepted and international norms of venture capital have been introduced. The Government have set up a Rs. 100 crore National Venture Fund for Software and IT Industry (NSFIT) in association with SIDBI and IDBI. The contributions committed to the Fund are Rs. 30 crores by DIT, Rs. 50 crores by SIDBI and Rs. 20 crores by IDBI. NFSIT has, at present, a corpus of Rs. 66.67 crores as the three funding partners have made 2/3\(^{rd}\) of their contribution. Alongside, the Government have streamlined and liberalised the policy on mergers and
acquisitions, and provided easy access to funds for investing overseas. The entire GDR/ADR funds could now be used for acquisitions abroad. However, even the current policy encourages only companies with adequate export earnings to invest outside India. Approvals for all foreign direct investment proposals relating to the IT sector (except Business-to-Consumer (B2C) e-commerce) are under the automatic route. (MIT, 2000-01, ps.5, 23; Economic Times, Dec. 24, 1999).

4.3.7 To Spread IT Culture

There is policy emphasis for spreading IT culture in the country. Software and IT services are to be accorded priority sector status by banks for a period of 5 years. Working capital requirements for the industry were to be tripled from Rs. 4 billion to Rs. 12 billion. Incentives are available for proliferation of software development in smaller cities and towns. Measures are under implementation to maximise the use of IT in Government. For instance, each Ministry/Department has to earmark 1-3 percent of the budget for IT as well as prepare a five-year IT plan. IT literacy would be made an essential requirement for government and public sector employment. An ‘Operation Knowledge’ campaign has been launched for universalising IT education and IT-based education. To increase PC penetration in the education sector, low-cost and affordable computer purchase schemes are being launched. It was intended to provide Internet and computers in every school and college by 2003. As provided for, the Indian Institutes of Information Technology (IIITs) are set up/functional. (Seshagiri, N., 2000).

4.3.8 Information Technology Act, 2000

In order to facilitate growth of e-commerce, electronic communication through Internet and accelerate induction of IT in critical sectors of the economy, an “Information Technology (IT) Act, 2000” has been approved by the Government. It provides legal framework to facilitate electronics commerce/transactions and aims to recognise electronic contracts, prevention of computer crimes, electronic filing/documentation, digital signature, etc. The Act was brought into force on October 17, 2000. Rules for implementing the Act have already been notified.

4.3.9 Internet

ISPs have been permitted to set up international gateways and submarine landing system in the country. They have also been allowed to hire bandwidth on
foreign satellites. These measures intend to increase the availability of Internet bandwidth in the country and facilitate Internet expansion. STPIs have also been given the status of direct access provider (DAP-III) which would enable them to augment their bandwidth requirements directly from outside providers and hence does away the need of having to go through VSNL. Another major policy development has been the provision for opening up the National Long Distance and ISD Telecommunication Service, and wiring the country by Fibre Optic Cable. (MIT, 2000-01, p.3).

4.3.10 Intellectual Property Rights Promotion Programme (IPRPP)

As already mentioned, software in India is protected under the Copyright Act. The amendments to this Act effected in 1994, have made the Indian copyright law one of the toughest in the world. Any infringement can lead to criminal suit, imprisonment ranging from 7 days to 3 years and a fine. India being a signatory to the Trade Related Intellectual Property Rights (TRIPS) of WTO, IPR Acts and Laws of the country had to be suitably modified to conform to TRIPS. Efforts are on to evolve specific projects so as to spread IP awareness. (ESC, 2000a; MIT, 2000-01, ps. 29-30).

4.3.11 WTO – IT Agreement

India became signatory to the WTO - IT Agreement in 1997 which is to pave way for raising the nation's IT industry towards global competitiveness. Pursuant to this, phasing out of duties on a selective basis for IT items, has been arrived at. The import duty on software is already zero. Zero import duty on all IT finished goods will come into force from 1-1-2005 for the goods in the WTO-ITA-I Schedule. But industry sources have expressed concern over the aftermath of this. According to them, while the listed electronic components and finished goods would be brought under the zero-duty regime from 2005, capital goods and certain non-electronic raw materials would still be in the duty ambit. This may imperil the local hardware industry, through deluge of cheaper imports. MAIT has observed that this Act will result in a situation where the end products would carry no duty but the inputs and components including dual usage items and capital goods would be charged at the prevailing rate. (DoE, 1998, p.32; Economic Times, Jan. 11, 2002).
4.3.12 EPZs and 100 Percent EOUs

The Government has established EPZs. These zones provide internationally competitive infrastructure facilities, duty-free import of capital goods and inputs, tax holidays against export and access to domestic market. Hundred percent EOUs can be set up under any of the schemes, viz., EHTP, STP, EPZ, and 100 percent EOU schemes. All the incentives available to units in EPZs are applicable to units under these schemes. The Government has sanctioned Special Economic Zones (SEZ) at Pipavav in Gujarat and Tuticorin in Tamil Nadu. Besides, the existing EPZs at Mumbai, Kandla, Surat, and Kochi have been converted as SEZs. The units in these Zones shall not be subjected to any pre-determined value-addition, export obligation, input/output norms. They shall be treated as being outside the Customs Territory of the country, and sales in DTA will be permitted only on payment of full customs duty. (MIT, 2000-01, p.6; Indian Express, Oct.3, 2003).

4.3.13 Policy Initiatives of State Governments

Various State Governments have also brought into force their IT policy for promoting the development of software and services in their respective States. There exists an intense competition among these Governments to attract capital, both private and foreign, towards developing their IT base. According to NASSCOM, 19 State Governments were already having their IT policies, and many others had formed high-level task forces. These policies focus on issues like infrastructure, electronic governance, IT education and providing a facilitating environment for IT proliferation in the respective States (for details http://www.nasscom.org).

4.4 AN ASSESSMENT

The success of Indian software industry has in a large measure been attributed to the role played by the Government in providing an enabling policy framework and infrastructure. NASSCOM has, in fact, explained the success of software industry in terms of an ‘excellent teamwork’ by the industry and Government.

The trends in software policy have broadly followed the pattern of overall industrial and technology policy – some initial liberalisation in the late 1970s, increased liberalisation during the mid-1980s, a period of relative stability, and thereafter renewed liberalisation from 1991. However, the software policy has differed substantially from the mainstream industrial policy in terms of government objectives vis-à-vis export and domestic sales. By and large, the thrust was always on export and earning foreign
exchange to compensate for the costs of importing electronic hardware. This was keeping in view the scope for software export, and India's factor advantages in the sector. Software is now an 'export thrust area'.

However, it is generally held that this export thrust led to the neglect of domestic software market. Even the express intent of the software policy of 1986 'to promote the integrated development of software in the country for domestic as well as export markets' was not translated into corresponding action plans. Heeks, R., has remarked that out of the policy's 56 measures, 20 addressed software development in general, thirty addressed exports and only six were specifically concerned with the domestic market. No major policy measures were introduced exclusively catering to the domestic software market. Hence, only general measures covered the domestic software, like those related to entry, copyright, finance, training, and software import. Whereas, the policy initiatives pertaining to the software export included hardware import, export obligations, export incentives, foreign exchange permits, EPZs, STPs, telecommunications, and overseas marketing. This is a sharp contrast to the policy framework for most other industries. As observed by Sridharan, the software industry is virtually the only Indian industry that is primarily export-oriented in practice as well as in official policy.

As regards hardware, like that for software, the trends of policy change have broadly followed the trends in overall industrial and technology policy. While the hardware policy has been more liberal than that in many other industries, this policy is more representative of the mainstream of Indian industry than software policy. There has been greater emphasis on import substitution, on a controlling role for the state, and on the public sector than was the case in software. The only exceptions to this hardware-software contrast were similarities in policy towards multinationals since 1984; in import policy between 1984 and 1987; and in several policy areas after 1991. From the perspective of Government objectives, the hardware industry was focused almost entirely on the domestic market for most of its history, with any emphasis on exports emerging only during the 1990s. This is probably the major point of contrast to software. Partly behind the greater importance attached to import substitution in hardware vis-a-vis software, was the long shadow cast by what many policy-makers saw as the country's mistreatment at the hands of hardware multinationals during the 1960s. (Sridharan, E., 1989; Heeks, R., 1996, ps. 51-54, 64).