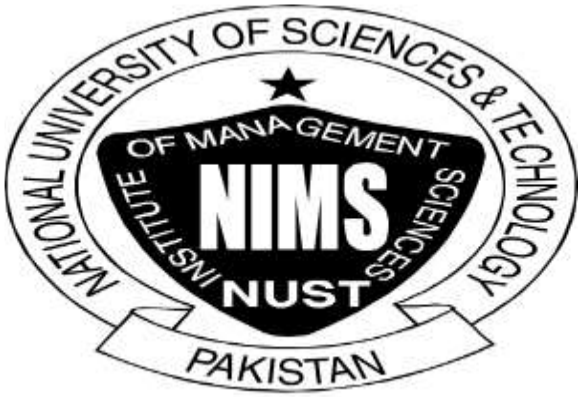
PRICING AND EVALUATION METHODOLOGIES: A CASE STUDY OF PTCL



By

Ashar Saeed

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Abstract

Pricing And Evaluation Methodologies: A Case Study Of PTCL

By: Ashar Saeed

Chairperson of the Supervisory Committee: Associate Professor Wasique Waheed Ch.
Head of Department (Finance & Investment)

The study aims to develop pricing and evaluation techniques for PTCL that would maximize GOP's returns. A procedural framework for the Privatization of PTCL has been established in order to ensure higher degree of investor's participation and maximum price for the company. Also a wide variety of issues regarding privatization of state owned monopoly has been addressed in order to minimize the repercussions afterwards for GOP.

Also certain pricing tools have been developed in order to assess the fair price range especially for the A' Class Shares. The tools help in developing the fair price range in which the share is worth buying for both institutional and individual investors. The study has been verified with the actual market performance of the last five years as well. A fair price range for PTCL could be established at any point in time with the help of the pricing framework.

The pricing methodology of B' Class Shares has been developed which is one of the most significant contributions regarding valuation techniques since the issue has rarely been researched in the regional context. The methodology will be helpful in establishing price of B and C Classes of shares and in establishing the price of vote instead of cash flow. This methodology would also be helpful in pricing the strategic stake of other SOE like SSGC, SNGPL, PSO and etc. in future.

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GLOSSARY

PTCL: Pakistan Telecommunication Company Limited

SNI: Seasoned New Issue

SIP: Share Issue Privatization

SingTel: Singapore Telecom

SOE: State Owned Enterprises

GOP: Government of Pakistan

DCF: Discounted Cash Flows

DDM: Dividend Discount Model

ALI: All Lines Installations

ALIS: All Lines Installations in Services

DLD: Domestic Long Distance

ILD: International Long Distance

NWD: Nation Wide Dialing

ML: Merrill Lynch

M & A: Mergers and Acquisitions

CPP: Calling Party Pays

EPS: Earning Per Share

Pa: Price of A' Class Shares

Pb: Price of B' Class Shares

Re: Return on Equity

IPO: Initial Public Offering

LL: Local loop

LDI: Long-distance and International

VSNL: Videash Sanchar Nigam Limited

PTO: Privatisation and Telecommunication Operators

CAGR: Compound Annual Growth Rate

PSO: Pakistan State Oil

SNGC: Sui Northern Gas Company

SSGC: Sui Southern Gas Company

PC: Privatisation Commission

Chapter 1

INTRODUCTION

1.1 TRENDS IN TELECOMMUNICATION INDUSTRY

Trends of deregulation, technological advancement and privatization are causing turmoil in a once stable and highly profitable industry. The advent of competition is exerting continuous pressure on prices with margins falling as a result, and necessitates the introduction of value-added services to sustain volume and profitability. Asia has not been spared these trends, which are global and sweeping in nature.

Technology is advancing, with new services such as VOIP, DSL Link, 3G and etc. threatening to gain substantial market share in domestic and international voice traffic at the expense of established telecommunication companies. Internet telephony is inexpensive, and allows segmentation of the market, where consumers can choose the level of service required and is charged accordingly. It also enables the provision of several value-added services to consumers, for example real-time billing, cheaper video-conferencing and shortly unified messaging.

To become effective competitors in such conditions would require a cultural change for most telecommunication companies, historically operating in a slow moving monopolistic and protectionist world. The idea is to create a company run by people who think in terms of a world where the ratio of performance to price doubles every eighteen months, and where deals have to be snapped up at

once. Privatization of SOE appears to be the most obvious solution and a number of Governments have started to sell-off their SOE to private hands in order to be better managed.

1.2 HISTORICAL PERSPECTIVE

The telecom industry was born at the end of the 19th century, as a free enterprise market in the US and Europe. Although the sector theoretically competed in a free enterprise environment in Europe and North America, the 20-year lifespan of new technology patents enabled single companies to dominate the markets in a monopolistic manner for decades at a time. The need to interconnect growing national and international networks cemented the monopolies and turned them in to public companies in the middle of the 20th century, as governments were keen to control the excessive power of corporate monopolies and provide the population with affordable telephone services.

The late 20th century saw the reintroduction of competition in the industry, as governments started trying to create competition between telecommunication providers. The trend started in 1984 in the US and the UK, and was later followed in continental Europe and later in Asian Peninsula. Privatisation was seen by many governments as a way to sell state assets to solve their fiscal problems, and it was often justified with the argument that government enterprises would not have a long-term chance in the harsh competition of the global telecommunication markets. Privatisation was also intended to increase the enterprises' ability to cooperate at international level, as take-over and holdings are made easier or possible in the first place if the partner enterprises are compatible in their legal form.

Table 1: Ownership and Privatisation of Telecommunication Operators

	PTO	Deregulation		Year of privatization
		1992	1998	
Australia	Telstra	100	67	1996-7
Germany	Deutsche Telecom	100	61	1996
France	France Telecom	100	62	1997
UK	British Telecom	22	0	1984

Source: Zanker (2001) Privatisation and Liberalization of the Post and Telecommunication Sector

In the countries of Central and Eastern Europe, as well as in many states of the Third World, a more developmental perspective has been applied, and privatization is often being pursued with the aim of speeding up the modernization of the telecommunications network and the state telecom by selling capital shares to strategic foreign partners.

Following deregulation many telecom operators went on ambitious expansion drives. In the 1990s, growth through M&A became more of a mantra than an option for many companies. Rather than viewing consolidation as a complement to their core businesses, companies viewed M&A as the cornerstone of their growth strategies, leading to the development of massive global players, such as WorldCom, Vivendi and Deutsche Telecom. In addition, the telecom companies paid sums for acquisitions that were previously unheard of in the industry. In 1998, WorldCom bought MCI for US$40bn and AT&T bought TCI for US$48bn. In 2000, Deutsche Telecom bought upstart Voice stream for US$53bn, a cost equal to US$16,000 per line.

Privatisation in the developing countries has been driven by the need to service foreign debt payments, and has been pushed vigorously by the World Bank and the IMF's structural adjustment loan packages. Although the phenomenon is new for the third world countries but it has remained the main driving force behind the rapid expansion and growth.

1.3 TELECOMMUNICATION SECTOR OF PAKISTAN

The Pakistan Telecommunication Corporation (PTC) was organized as a statutory corporation in April 1991 by promulgation of an Ordinance by the GOP. PTC inherited all the functions performed by the Pakistan Telegraph and Telephone Department, which was responsible for providing telecom services since 1962. Later with the privatization of PTC in mind, the GOP issued the Telecommunications Ordinance of 1994, which stipulated the conversion of PTC into a public limited company (renamed as the Pakistan Telecommunication Company Limited, or PTCL). This company is provided with a 25-year renewable license to continue as a fixed-line domestic and international telecom operator.

The company has two distinct types of shares outstanding, i.e., the A & B categories. Category A (74%) held by the general public and GOP. Category B (26%) is earmarked for the strategic investor, which would also control management with this holding. GOP has offloaded 12% of its stake (A' Class Shares) through stock exchanges in 1994 at a price of Rs.30ps.

PTCL is being the leading operator in the telecom sector of Pakistan although a number of companies have entered the local market since the start of deregulation process but no one has been able to create a major threat to the state owned monopoly. It owns all public exchanges, the nation-wide network of local telephone lines, principal public long-distance telephone transmission facilities and international telecommunication gateways. PTCL's major revenue generating subsidiaries (Annexure-1 PTCL's Major Investments and Subsidiaries) are Fixed Line Network, Mobile Phones, Pay Phones, Internet, Calling Cards and etc.

Although the company has been dominating in the local market in almost all the segments of telecommunication industry and has been the most financially sound company of Pakistan but the company has no comparison with any of the

international or even regional operators. In order bring the organization in line with other regional players the deregulation process has been initiated by GOP.

1.4 DEREGULATION PROCESS IN PAKISTAN

The deregulation policy is being designed in order to achieve the following objectives (Annexure-2 Deregulation Policy):

- Increase service choice for customers of telecommunications services at competitive and affordable rates
- Promote infrastructure development, especially infrastructure that will increase both teledensity and the spread of telecommunication services in all market segments
- Increase private investment in the telecommunications sector and encourage local telecom manufacturing and service industry
- Accelerate expansion of telecommunication infrastructure to extend telecommunications services to un-served and under-served areas
- Gradually liberalize the telecommunications sector by encouraging fair competition among service providers

PTCL maintains its monopoly on fixed-line domestic and international telephone services in all regions of Pakistan except the Northern Areas, the Border Areas and Azad Jammu and Kashmir for seven years. However, this monopoly expired in December last year and the current market status of Telecom Sector has not been changed discernibly even after the one year of deregulation.

There appears to be two or three prospective private sector players: Dancom, WorldCALL and TeleCard, which are involved mainly in payphone telephony initially and have recently, started penetrating into other segments.

WorldCALL Communications has started spreading its fiber optic fixed-line network in major cities like Lahore and Karachi and is waiting for the deregulation policy to be announced so that it can apply for the fixed line telephony license, after which it may also set up its own exchanges in these cities.

Telecard is mainly a wireless telephone operator and the management seems unwilling to enter the fixed-line business. According to the estimates, both these companies are short of capital for further growth and have a long way to go before becoming any threat to the incumbent.

Dancom is being well established in Calling Cards and Payphone segments, and is the first company to launch DSL Technology in Pakistan. The company presents a good example of a foreign joint venture as the Malaysian Company holds majority shares. Such format of companies is more likely to succeed in the local environment since the risk factor would be minimum.

Another example of foreign joint venture is the one between Nortel Networks and Apollo Telecom; the two companies have jointly established most of Ufone's setup while the core line of business of Apollo Telecom is internet services, supply of exchanges and lately DSL service.

MNCs seem to be unwilling to enter in this sector at the moment, especially in a country like Pakistan. On the other hand, domestic investors have neither the experience nor the funds to take such a huge exposure in this sector. However, due to the high profit margins, small domestic investors are venturing into the business, but no one is likely to pose a major threat to PTCL atleast in short term.

In order to match the international standards and to lay-off country's ever increasing debt burden GOP intends to sell their strategic stake in PTCL.

1.5 OBJECTIVE OF THE STUDY

The study attempts to develop a framework in terms of pricing related issues, and to analyze the process of privatization of PTCL that would ensure maximum value for the shares. The objective here is to come up with pricing methodology that would price the PTCL's share accurately. The valuation tool has been established in order to price strategic stake of PTCL, as it remains the issue of deep concern considering the lucrative nature of this transaction.

1.6 METHODOLOGY OF THE STUDY

The first step of the study is to analyze the process of privatization adopted by GOP and their valuation framework. The privatization process of PTCL is also compared with one of the leading Asian Operator (SingTel). The company provides an excellent learning opportunity for the new entrants in the field of privatization and technological race. The selection of SingTel for benchmarking and comparison purposes has been made considering the similar state of its economy and business before privatization.

A comprehensive financial analysis of PTCL would be developed based upon the frequently used valuation techniques. The next step would be to analyze the applicability of these valuation techniques in PTCL's context. A number of research studies have been conducted in order to determine the phenomenon of pricing at the time of SIP and IPO, and the sell-off of strategic stake especially in

under developed countries[1] therefore the analysis will help bringing the research a step further.

Also certain valuation tools for PTCL's equity is being selected and designed, and is then used to establish an appropriate price for different share categories of the company. Based on the stated steps final recommendations regarding the privatization process and the price are established.

1.7 SIGNIFICANCE OF THE STUDY

The study is of significant importance for a number of parties that varies from individual to institutional investors and the GOP as well. The study is expected to cover a large number of topics therefore it has something for everybody like the financial evaluation would be of great importance for investment purposes while the previous experiences involved in the SIP would be helpful in evaluating GOP's stance and in evaluating the fairness of the process.

The study will cover the following aspects:

- **Day Traders and SIP Of PTCL:** The share is being traded upon stock exchange therefore this analysis would help them determine whether the script is under or over priced. The GOP has recently been planning a seasoned new issue of 2-3% in PTCL. The analysis will be helpful for the government in order to evaluate offered quantity and price, and for the subscribers of seasoned new issue as well.

- **Parties Involves In Strategic Sell-Off:** The GOP has been looking for a perspective buyer of the organization therefore the analysis will help in

[1] Share Issue Privatizations As Financial Means To Political And Economic Ends; University of Georgia, Research Paper.

evaluating the fairness of the sell-off process and provides an independent evaluation to the perspective buyer.

- **Pricing And Valuation Tools:** The study will focus on developing tools that would minimize underpricing and oversubscription, and will help in developing a price band in which the equity price of PTCL lies. The band will serve as an indicator for selling and holding the stock and also will determine the fair value range, and it will incorporate the impact of financial and economic variables as well.

Chapter 2

LITERATURE REVIEW

The focus of the study is to evaluate the worthiness of PTCL's stock based upon the widely and frequently used valuation tools and methodologies internationally. A large variety of valuation techniques are available for evaluation purposes but their best possible results can only be achieved under specific circumstances. Most valuation techniques provide different results under different set of circumstances therefore the selection of valuation technique is crucial in order to determine the best possible price.

2.1 FRAMEWORK FOR THE PRIVATIZATION OF PTCL

The process followed in the sell-off of Sri Lanka Telecom is similar to the one followed in Pakistan. Both Sri Lanka Telecom and PTCL are being offered to public (and for strategic control) as a single entity unlike India. Government of India has divested its interest in VSNL in the form of two separate organizations having their own assets and product lines instead of one entity. GOP too has the option of offloading its stake in two units in order to avoid dependence upon single party but the process of dividing the organization is not only time consuming but also ambiguous. Considering the fact that PTCL is already a late entrant in the field of privatization and a further delay in the form of creating two separate organizations would result in the further reduction of its value.

Privatization Commission of Pakistan has been looking for a perspective customer in order to dispose of its stakes in PTCL and the Government has

planned to use this money for debt retirement. Already three companies have been pre-qualified for the bidding process of PTCL, which are as follows:

- Saudi Oger Limited;
- Orascom Telecom; and
- Menara Telecom.

Presently the Government is waiting for the right time in order to sell the strategic stake in the form of Category B shares while SNI in the form of Category A shares can be made as the GOP feels the need of enhancing supply, already 12% shares have been listed upon the domestic stock exchanges of Pakistan but still it controls the major market share because of huge market capitalization.

GOP's stance regarding privatization has been focused upon generating the maximum revenue out of the process. PSO and PTCL are being the most lucrative assets and GOP has been looking for the most perspective buyer to fetch the maximum possible amount out of the transaction. Already a number of steps have been finalized regarding the sale of PTCL and the key details regarding the process are being put in place to make the process legally transparent and favorable for investors, which are as follows:

2.1.1 Transfer Of Control

The control transfer decision includes whether to sell the SOE all at once or through a series of partial sales, and also how large a fraction of the company's shares to issue in the initial versus subsequent offers, as well as whether to insert

any post-privatization restrictions on corporate control in the form of shareholding.

GOP has been offloading PTCL through a series of partial issues in case of A' Class Shares and this process depends mainly upon GOP's need of funds and the state of economy like the prevalent bullish run and economic growth. SNI of NBP (March 2003) and OGDC (November 2003) best represent the GOP's strategy of offloading their stake in the government owned enterprises. Under the prevalent circumstances a SNI of PTCL would not only be successful in generating revenues but also helps in attracting new investments. On the other side B Class Shares are being offered only to potentially sound parties in one go and the process too is not expected to take place before the mid of year 2004 in PTCL's case.

2.1.2 Offer Price

The pricing decision involves determining the amount of underpricing, and the pricing methodology. The pricing decision could be based upon any of the following methods:

- Tender Offer,
- Book Building Exercise, Or At
- Fixed Price.

In case of SNI of PTCL the price will be dependent upon the prevalent share price in the secondary market while the J P Morgan will assess and incorporate the impact of macro-economic variables. The methodology followed in SNI is mainly based upon Fixed Price Method while the pricing of strategic stake is

determined through Tender Offer. The sell-off of strategic stake involves much larger issues like management's caliber, past record, growth prospects and strategies, future cash flows and so on.

2.1.3 Shares Allocation

The share allocation decision includes the question of whether to favor one group of potential investors over another (i.e., domestic investors and/or SOE employees over foreign and institutional investors), as well as whether to use the best available investment banker as lead underwriter or to favor domestic companies.

GOP has clearly reiterated their stance of offering PTCL only to the bidders that have been involved in this business for some time and have the potential to manage PTCL over an extended period of time profitably. The government intends to offload the organization only at a certain minimum price, which is being determined through independent evaluator. The role of independent evaluation has been given to J P Morgan, which is involved in making the transaction successful through the removal of hurdles both from the financial statements and the process.

2.2 ISSUES INVOLVED IN PRIVATIZATION OF PTCL

The transfer of strategic control[2] of the SOE in to private hands remained a topic of research over the years. Based on the developed theories certain issues like Ownership Structure, Uncertain Future, Underpricing and Government's Commitment play a critical role in the successful privatization of state owned

[2] GA Mackenzie: Macroeconomic Impact Of Privatization; IMF Staff Paper Vol.45, No.2, June 1998.

monopolies. The factors have been discussed in the context of PTCL in the following lines:

1. **Ownership Structure:** The ownership structure is being designed in order to avoid any dilution of ownership through SNI. The Strategic Stakeholder has the luxury to run the business uninterrupted because of varied class of shareholdings. The clause will boost the investor's confidence and also would result in higher earnings for GOP.

2. **Uncertainty in A Partial Sell-Off:** The process of selling SOE in a number of partial SNI indicates government's inconsistent policy framework. Similar process is adopted in the case of PTCL and the organization fails to generate healthy investors interest.

3. **Underpricing:** A number of studies have already been conducted worldwide in order to analyze fairness of the process while the main point of disagreement in most of the cases has remained the issue of under- pricing[3] therefore the first step in the analysis is to develop a pricing methodology that would minimize underpricing. The share price is generally being assessed on the basis of financial tools[4] and most of the times it fails to determine the actual worth of assets and future cash flows, and the market demand which results in over subscription and underpricing.

4. **GOP's Commitment:** Governments misrepresent their case and demonstrate a high degree of commitment in order to maximize sale's

[3] Using a sample of 630 SIPs from 59 countries that raise over $446 billion during the period 1977-1997, we find that governments consistently underprice SIP offers: Share Issue Privatizations As Financial Means To Political And Economic Ends; University of Georgia, Research Paper.

[4] John R. Graham & Campbell R. Harvey: How Do CFOs Make Capital Budgeting And Capital Structure Decisions? National Bureau of Economic Research, Cambridge, MA 02912 USA.

proceeds and motivate managers to improve the privatized firm's value. It follows that a credible signal of commitment requires more than an announcement of the policy framework by the Privatization Commission. Almost all the governments since nineties have used privatization as a tool to induce foreign investment and some are successful as well but the process remains ineffective due to ineffective macro-economic policies. Political instability accompanied with incidents like HUBCO, Motor Way and Freezing of foreign currency accounts have damaged the deregulation process severely.

5. **Limited Scope of PTCL's Operation:** The product line of PTCL is too narrow and needs to be made more innovative, and the company has failed to utilize its resources at maximum. PTCL has failed to diversify itself in fields other than basic telecommunications services at a time when even small domestic companies like WorldCALL have diversified their interests beyond telecom sector like the financial services.

2.3 VALUATION TECHNIQUES

Generally three approaches are used for the stock valuation; which are as follows:

2.3.1 Asset-Based Approach

This is a generalized way of determining a value indication of a business, business ownership interest or voting rights, or security using one or more methods based directly on the value of the assets of the business less its liabilities. In business valuation, the asset-based approach may be analogous to the cost approach of other disciplines. The asset-based approach is normally being used along with other appraisal approaches.

2.3.2 Income-Based Approach

This approach is based upon the anticipated benefits that could be generated by holding business ownership interest or voting rights, or security in terms of present value. Capitalization of benefits methods and discounted future benefits methods are the most common methodologies. In capitalization of benefits methods, a representative benefit level is divided or multiplied by an appropriate capitalization factor to convert the benefit to value. In discounted future benefits methods, benefits are estimated for each of several future periods. These benefits are converted to value by applying an appropriate discount rate and using present value procedures. Anticipated benefits are being estimated on the basis of the following items as the nature, capital structure, and historical performance of the business entity, the expected future outlook for the business entity and relevant industries, and relevant economic factors. Kaplan and Ruback[5] examine the DCF approach in the context of highly leveraged transactions such as management buyouts; the study finds that transaction prices are close to the present value of projected cash flows. Their sample firms are much larger and maturer than the firms going public in a developing country like Pakistan.

2.3.3 Market-Based Approach

The market approach is a general way of determining a value indication of a business, business ownership interest, or security by using one or more methods that compare the subject to similar businesses, business ownership interests, or securities that have been sold. The business, business ownership interest, or security used for comparison must serve as a reasonable basis for such

[5] Kaplan & Ruback: The Valuation Of Cash Flow Forecasts: An Empirical Analysis; Journal of Finance 50, 1059-1093.

comparison. Factors to be considered in judging whether a reasonable basis for comparison exists include:

- Sufficient similarity of qualitative and quantitative investment characteristics; and
- Verifiability of data known about the similar investment.

2.4 VALUATION OF PTCL

Since not a single local firm is comparable with PTCL both in terms of size and investment therefore DDM and DCF methodologies are preferred over comparable measurement tools like P/E ratios and etc. but a comparison has been made with respect to regional competitors like SingTel, China Telecom, and VSNL.

2.4.1 A' Class Shares

The Comparable Firms Approach (or Market Approach) does work best in PTCL's case since highly comparable group exists in the local stock markets. SNI are generally being priced mainly on the basis of prevalent market price of the script as happened in the recently held SNI of NBP. The recent SNI of NBP is being made at a premium price of Rs.46ps while the current market price of NBP is Rs.45ps. This phenomenon clearly shows that the pricing of IPO is more difficult than SNI pricing as happens to be the case with PTCL.

On the other hand Income Approach is based on a firmer theoretical footing than any other approach and has the ability of valuing scripts more reliably and has been well recognized worldwide therefore determination of accurate price would not have been possible without calculating DCF and DDM. Also investors

worldwide have started to rely more on future than upon the past that is the investors put their money more on the basis of growth prospects than on the basis of past performance[6] as the study by Kim and Ritter shows. The present value of future cash flows is mainly being derived through DDM and DCF models.

Moreover, the study[7] conducted by Deloof, Maeseneire and Inghelbrecht demonstrates that DDM tends to underestimate value, while DCF produces an unbiased result. Recent research shows that the IPO offer price is mainly driven by DDM in almost all cases by the underwriters and investment bankers. This indicates that underwriters consciously underprice the IPO by relying on a valuation method that tends to underestimate value.

The asset-based approach looks at the underlying value of a company's assets to indicate the adequate value, which is hardly applicable in case of PTCL especially when the property valuation has never been established. The asset-based approach is more relevant when a significant portion of the assets can be liquidated readily and at well-determined market prices if so desired therefore the primary emphasis of this study would be on the other two methods mainly.

Therefore Comparable Firms Approach and Income Approach will determine the price of PTCL at the time of SNI. The prevalent market price of PTCL at that time will serve as the primary indicator while DDM and DCF will play the secondary role in the pricing process also DDM based valuation will be given more weight as compared to DCF based one.

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[6] Moonchul Kim & J R Ritter: Valuing IPOs; Department of Finance, School of Business Administration, University of Florida.

[7] Deloof, Maeseneire & Inghlbrecht: The Valuation of IPOs by Investment Banks and the Stock Markets: Empirical Evidence; Ghent University.

2.4.2 B' Class Shares

Issuance of multi-classes of shares is very rare in case of a developing country like Pakistan; only few companies have issued dual class shares like TRG and PTCL, therefore very little research exists regarding the pricing of dual class shares. The issuance of dual-class shares is quite common internationally as happens to be the case of SingTel and Malaysia Telecom.

Lungi Zingales[8] has made some remarkable contributions regarding pricing and valuation of dual class shares. Generally companies with multi-class shares experience fewer control events as compared to the one with single class shareholding. Some of the benefits that are being related with dual-class shareholding structure are as follows:

- Higher post-IPO institutional ownership and experience fewer control events;
- Achieve a lower underpricing cost;
- Trade at lower prices relative to earnings and sales than do single-class IPOs;
- Their managers earn higher compensation;
- The ownership structure is common among media and entertainment industry; and
- The ownership structures protect private control benefits.

[8] Lungi Zingales: What Determines The Value Of Corporate Vote? The Quarterly Journal of Economics, Volume 110, Issue 4 (Nov., 1995), 1047-1073.

The B' class share carries ten voting rights in United States while in case of PTCL; B' class shares carries only four voting rights. Also the shares are not traded upon the stock exchanges unlike other countries where all categories of shares are available upon the exchanges.

In this research study an attempt has been made to take the study a step ahead based on the experience of PTCL. Zingales shows that the value of a vote is determined by the expected additional payments vote holders will receive if there is control contest and the size of the differential payment is a function of the private benefits obtainable from controlling the company. These superior voting shares are bound by their corporate characters to receive no more dividends than inferior voting shares therefore the premium price of these shares is mainly attributed to the benefits other than dividends. These benefits relates to the phenomenon of diverting corporate resources to ones own advantage as stated in the paper.

The model developed by Zingales has provided extensive support in the derivation of this analysis. The private benefits that are being accrued through holding the strategic stake in PTCL relate more to the personal plans and motives of taking over the company. The new management must have their own plans for PTCL and the future of the company would no more be in the hands of GOP but the new owners. The premium is paid for the benefits new management will extract from the organization by controlling it. These benefits include the expansion plans of the management both in terms of geographical boundaries and product line.

Chapter 3

PRIVATIZATION IN ASIAN TELECOMMUNICATION INDUSTRY

Telecom sector is one of the fastest growing industries of the world and telecommunication technologies are playing the pivotal role in the economic development. The sector worldwide is going through a process of rapid change due to convergence of Information Technology, E-Commerce and other value added services. Every minute a new product is being redesigned and launched in order to keep pace with the changing customers' desires the sector needs to be placed in the hands of private sector.

The Asian competitive climate requires the vast infrastructural investments that have to be carried out in order to improve teledensity rates and service availability and quality. In Asia, Internet telephony is said to be a regulatory minefield, with some countries banning it, others embracing it and some unsure as to how to handle it. Such technological improvements are a huge threat, but also an opportunity for the companies which can be entrepreneurial and innovative enough to invest in and develop further this technology, in an industry shifting from proprietary to open standards, as happened to the computer industry in the 1980s.

The privatization in the telecom sector has been conducted in a number of countries starting from Singapore to Sri Lanka lately. The privatization experience of Singapore Telecom is being quite successful, and the company has expanded its network rapidly afterwards and has transformed itself into the leading Asian

Operators. A similar growth pattern has been observed in the case of VSNL[9] of India that has shown some hyper growth after privatization.

Most of the countries have either privatized or planned to privatize their state owned telecom monopoly in the subcontinent as well since it appears to be the only viable option in order to keep pace with the growth. SingTel, Malaysia Telecom and VSNL of India provides good example to countries that are still in the process of privatization like Pakisatan and Sri Lanka.

3.1 A CASE STUDY OF SINGTEL

A case study of SingTel is being developed in order to assess the benefits that are possible only once the organization is being privatized. The analysis is of great importance since SingTel is being privatized at a time when the economy has been growing at a rate more than 8 per cent annually from 1960 to the mid-1990s and similar is the growth in the infrastructure and communications network of the company. Apparent objective behind the privatization is to leverage its natural advantage of strategic location by establishing world-class transportation and materials-handling facilities, and become global leader.

Singapore Telecom has followed a clear strategy, which involves focusing on short- and medium-term profitability, pursuit of globally competitive service and efficiency standards, and high investment in proven technologies. More recently, it has also undertaken diversification in IT and Value-Added Services in order to sustain its growth and profitability levels, it has initiated foreign investments in several countries (52 ventures in 21 countries by mid-1997; with few exceptions,

[9] Devesh Kapur and Ravi Ramamurti: Privatization In India: The Imperatives And Consequences Of Gradualism; Working Paper No. 142, July 2002, Stanford University.

these have not been profitable, and has engaged in strategic alliances in order to gain market entry and acquire technological skills.

3.1.1 Motives Behind Privatization

Privatisation is often carried out to raise private capital for infrastructural development, to ease the fiscal burden of the state, and to improve the quality of service and reduce prices for consumers. In Singapore's case, however, these traditional objectives of Privatisation were not the primary motivating factors, as SingTel has been performing at par with world standards even without privatization. Given this fact, as well as the unique situation of a small country which lacks natural resources and which has a strategic interest in ensuring the development and control of its Telecommunications Sector, together with the perceived potential of negative social implications resulting from the uncontrolled flow of information from foreign countries to Singapore, researchers have endorsed only limited privatization which would ensure the continuing control of telecommunications infrastructure by SingTel. It has been privatized mainly for the following two reasons:

1. **Separation of Business and State:** The privatization of Singapore Telecom was part of a wider effort aimed at reducing the state's involvement in business, following the report of the Public Sector Divestment Committee in 1987. The main aims of privatization in this context were to increase SingTel's flexibility, and prepare it for the challenges of global competition and technological advancements.

2. **Development of Stock Markets:** Another objective was to stimulate the development of the stock market, which at that time was overly dependent on the Malaysian Stock Market and lacked both depth and scope.

3.1.2 SingTel's Operations

To serve the needs of MNC customers and continue to play a leading role in the region, SingTel Group has set up a network of 31 offices in 15 countries and territories throughout Asia Pacific, US and Europe. These overseas offices enable SingTel to establish closer relationships with its local partners to deliver reliable and quality network solutions to its customers. The company has established itself in all the major business capitals of the Asia Pacific that includes Hong Kong, India, Indonesia, the Philippines, Taiwan and Thailand, and through a global network of offices. SingTel owns forty-eight subsidiaries while subsidiary companies held by these companies are over one hundred and amounts to over thirteen billion Singapore dollar. SingTel has been involved in Submarine Cable Services, Satellite Systems, Mobile Networks, Broadband Networks and etc. in Singapore, Australia and other neighboring countries (Annexure-3 SingTel's International Ventures).

SingTel's satellite capabilities were further strengthened with the acquisition of Optus by paying three times more than the traded value and have become the leading satellite communications provider in Australia, and the second largest regional satellite operator in the Asia Pacific.

SingTel has had more than 120 years of operating experience and has played an integral part in the development of the country as a major communications hub in the region. It has driven the competition as from being a Singapore centric telecom giant with a small home market; SingTel today is a leading player in Asian Telecommunication Industry. In spite of difficult operating conditions brought on by the worst economic recession for decades in the region and lately in the world economy, SingTel has been successful in delivering a consistent return to its stakeholders. The company occupies leading position in almost all segments of Telecom Sector in Singapore and Australia. The enormous success of SingTel has

been contributed to one of the most advanced telecommunications networks in the world complimented by one-stop-shop service provision. Also the ability of the company to provide customized solutions tailored specifically as per the customers need disregarding the size of the client has remained their core competence.

3.2 LESSONS FOR GOP

Although GOP has been looking for a perspective buyer for the last four years but failed to come up with a sound party. Different reasons are being attributed for this delay; one of the reasons is lack of democratic government interest in the transaction mainly because of the threat of large-scale unemployment and also the employees and their unions are unwilling to change the organizational culture of wastage. The removal of unwanted fat is a must for future success of the organization, which is already hampering the organizational growth. PTCL's success is largely being related to the prevalent regulatory barriers or monopoly status and the real test is expected to come once the new companies start to penetrate. The Singapore experience has several practical lessons for the new comers, and especially for GOP; which are as follows:

1. Objective of Privatisation

There should be clear policy objectives of what privatization is expected to achieve. Privatization in Singapore was implemented in order to prepare SingTel for global competition and technological challenges, and to stimulate the stock market and not for fiscal and efficiency considerations. GOP needs to be clear about their objectives; which could be fiscal considerations or global competition.

2. Planned Process

Singapore followed a well-planned, phased approach which involved gradual liberalization (Telecommunications equipment market in 1989, mobile market in 1997, fixed line market in 2000), as well as increased regulation to ensure high levels of quality and service, within an approach described as managed competition while the key motive remained global competition.

GOP needs to be precise behind their approach towards privatization as PTCL could fetch a handsome amount and perspective experienced investor only by partial sell-off process. A strategy to sell the organization as a whole involves greater risk and also most of the previous attempts have failed to attract the right bidders.

3. Institutional and Regulatory System

The Singapore experience is consistent with the proposition that privatization is more successful if it is carried out within a well-developed institutional and regulatory context. According to World Bank researchers: Privatisation of both competitive and noncompetitive SOEs is easier to launch and more likely to yield financial and economic benefits in countries that encourage entry and free trade, offer a stable climate for investment, and have a relatively well-developed regulatory and institutional capacity[10].

The regulatory environment of Singapore has aided SingTel's privatization and subsequent performance while Pakistan offers a different scenario. Institutions are not well established, and political rivalries never let the private companies function independently and efficiently. The procedural framework

[10] Loizos Heracleous: Privatisation: Global Trends and Implications of The Singapore Experience; The International Journal Of Public Sector Management, Vol. 12 No.5, 1999, Pp.432-444.

for privatization of SOE in Pakistan is recently being drafted therefore it still has to go through a number of tests before transforming into final shape.

4. Government Commitment

The state should give its full commitment to the privatization process within a well-planned framework for action. Political authorities gave their complete commitment and support to the effort, ensured the integrity of the process, maximized transparency and reduced discretionary decision making by individuals involved, all of which are deemed as key success factors in privatization programme[11] of SingTel.

GOP needs to think about these issues before formally offering the entity for sale especially in terms of B' Class shares as the investor confidence depends largely upon their policies. GOP has remained inconsistent in terms of their policies during the last decade that has shattered the investors' confidence to a large extent.

3.3 LESSONS FOR PTCL

SingTel's analysis is helpful in identifying the areas where PTCL needs to improve or rethink its strategy especially in the following areas:

1. **Location Based Advantage:** Telecommunications infrastructure is considered as the third most important factor in the location decisions of multinationals, after political stability and skilled workforce. Singapore's economic success is largely being related to its location and communication network, therefore for a country like Pakistan that has

[11] Loizos Heracleous: Privatisation: Global Trends and Implications of The Singapore Experience; The International Journal Of Public Sector Management, Vol. 12 No.5, 1999, Pp.432-444.

landlocked neighbors like Afghanistan and Central Asian Muslim States could easily develop itself as natural linkage point. This location-based advantage could be extracted only once the infrastructure has been developed at par with other leading regional trading hubs like Singapore, Hong Kong, Sharjah and etc.

2. **Geographic Diversification:** PTCL's reliance upon domestic business would not be long lasting especially when the deregulation process has been started and the only option in these circumstances is rapid overseas expansion in the form of joint ventures and alliances. PTCL like SingTel is consistently making profits but the company has failed to come up with any surprises in terms of profits, sales and growth patterns. The organization has simply failed to come up with plans or strategies similar to the one of SingTel therefore the area where PTCL needs to concentrate is on the exploration of new markets.

Chapter 4

FINANCIAL ANALYSIS OF PTCL

The valuation of PTCL is being made keeping in mind the organization's current state of affairs and the analysis does not curtail for the private plans and motives of individual parties in case of strategic stake since most of the interested parties have their own future strategies. The valuation of PTCL in this study has been established on the two different lines that are as follows:

1. Company's Performance based upon Forecasted Cash Flows, and

2. Company's Performance relative to Macro-Economic indicators.

Pricing based upon company's performance relates more to the expected cash flow earning of the company and the telecommunication sector as whole while pricing relative to macro-economic performance relates to the prevalent interest rates and to the prevalent macro-economic scenario which has been benchmarked with KSE-100 Index performance.

The deregulation impact is expected to trickle down after 3-4 years; PTCL still has the potential to grow. The analysis is based upon projected top-line CAGR of 6.4% over the next 3 years, and 8.9% for the bottom line. This growth is likely to flow from:

- The rapid expansion of overall telecom network;

- The potential to improve its revenue base through reducing the duration of the call pulse to 3 minutes from 5 minutes;

- Cellular operations should contribute significantly towards the long-term profitability of the Company;

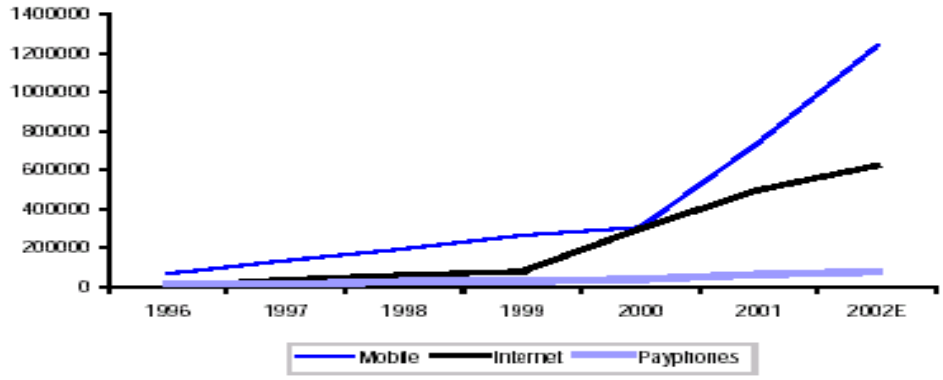
- PTCL is likely to be a major beneficiary of the gradually recovering economy and expected liberalization of the telecom sector.

Contrary to the general perception, it is believed that international telephony, if not a growth story, is unlikely to be a significant threat to PTCL's earning base for at least next 3-4 years.

4.1 GROWTH IN NETWORK EXTERNALITY

PTCL has rapidly expanded its ALI capacity to almost 4.5 m and ALIS to approximately 3.8 m by the end of March 2003; there still is considerable growth capacity in the overall telecom network, and the interconnected periphery. This is going to be achieved through the growing network of Cellular Operators, Internet market and Value-Added Service vendors, especially Card Payphones, Prepaid Calling Cards and premium rate services. It would create a salutary impact on the revenue side of PTCL. Growth in network externality has been the major reason of growth in domestic revenue, despite price cuts of NWD and International Outgoing Calls. Following figure presents the future industry trends of the external network:

Chart 1: Growth trends in Mobile, Internet and Payphone



Sources: PTA Telecom Status Report 2002

4.2 TARIFF REBALANCING

To come in line with its regional peers, PTCL still has some margin to milk in tariff rebalancing. The major growth contributor in this area is likely to be local call tariffs, which are expected to increase effectively. The other two segments in fixed line DLD and ILD are likely to witness mixed trends as the Company keeps trying to boost the call traffic via offering lower rates.

4.2.1 Local Call Charges: Potential Upside of 24%

After three years of tariff rebalancing, PTCL is charging PkR2.01/ unit for a pulse of 5 minutes within the radius of 25km. On regional comparison, PTCL is believed to reduce this pulse rate to a similar charge of three minutes, while per unit charges are expected to remain constant. According to the estimates, it is likely to result in a jump of 24% in the revenues from local telephony business.

Table 2: Tariff Rebalancing

PkR	1998	1999	2000	2001	2002	2003	2004	2005	2006
Per Unit Charges	1.4	1.79	2.01	2.01	2.01	2.01	2.01	2.01	2.01
Per Minute Charge	0.28	0.358	0.402	0.402	0.402	0.402	0.442	0.486	0.486
Change (%)	0	27.9	12.3	0	0	0	10	10	0

Source: Company Information, ML Estimates

It is assumed that the company may reduce the pulse per unit in year 2004 in order to maintain its profitable outlook. However, in order to get a conservative picture, the impact of the change is incorporated over a period of two years instead of one year. In this regard government authorities are expected to be sympathetic towards these changes, simply to support the company in the deregulated environment against the expected drop in profit margins of the company. In other areas of the business PTCL is not expected to come up with any significant tariff re-balancing owing to strong pressure from the general public as well as relatively less room available in the regional context.

It is evident from the following table that PTCL's local fixed-line charges are some of the lowest among its fixed-line peers in the Asia-Pacific. Pakistan currently offers a rate that is even less than India therefore this move is expected.

Table 3: Local Fixed-Line Tariff Comparison

US$	Monthly Fees	Usage/minute	Average Monthly Charge
Pakistan	5.2	0.008	9.9
China	2.4	0.016	7.9
India	5.2	0.008	10.2
Malaysia	6.6	0.011	16.8
Singapore	4.8	0.006	8.3

Source: Data sourced from companies operating within the countries, ML Estimates *Assume 100 local calls per month at an average of 6 minutes per call

There still exists some room for improvement through reducing the duration of call pulse by increasing its per minute charge. The expected increase in per minute charges during FY04- FY05 will give a major boost to the local call revenues.

4.2.2 DLD Calling Charges: Further Decline is Unlikely

No significant change in DLD calling charges in line with ongoing tariff rebalancing is expected to take place considering; these are more or less at par with the regional average DLD per minute charges for various distances.

However, the company is still in a position to play with pulse duration of the long distance calls to achieve volume growth

Table 4: DLD Tariff Comparison

US$	<30Km	<100Km	>100Km
Pakistan	0.07	0.12	0.23
China	0.08	0.08	0.08
Indonesia	0.01	0.11	0.25
Korea	0.01	0.07	0.07
Malaysia	0.03	0.08	0.23
Australia	0.07	0.07	0.07

Source: Data sourced from companies operating within the countries, ML Estimates; *Assume 100 local calls per month at an average of 6 minutes per call

Also PTCL is expected to introduce various consumer schemes to improve its DLD traffic volume. In the earning model, a growth of 1-3% in units per line for next two years is being incorporated. The deregulatory impact is incorporated with a decline of 5-8% for the years 2005 onward. This results in almost negligible growth (next 5 years CAGR is 1.8%) in revenues from DLD calls, which is quite realistic.

4.2.3 ILD Outgoing Charges: Further Cuts

The declining trends in international calling charges is expected to continue as still there is some margin for the company to reduce charges to some of its destinations. At present, there are only two categories of per minute tariffs—PTCL charges US$0.38/minute to India, Bangladesh, Nepal, Iran, Sri Lanka, Turkey and Afghanistan, and US$0.59/minute to the rest of the world. If PTCL is compared with regional ILD charges, some huge variations are observable, due to which tariff rebalancing is expected to continue over the next five years.

Average calling tariffs have declined by more than 11% during this fiscal year spurring volume growth of almost 17% in outgoing international telephony. This trend is likely to continue due to deregulation process and the calling charges are

likely to decline by a further 5% over the next five years, while ILD charges per line are expected to decline by a similar magnitude.

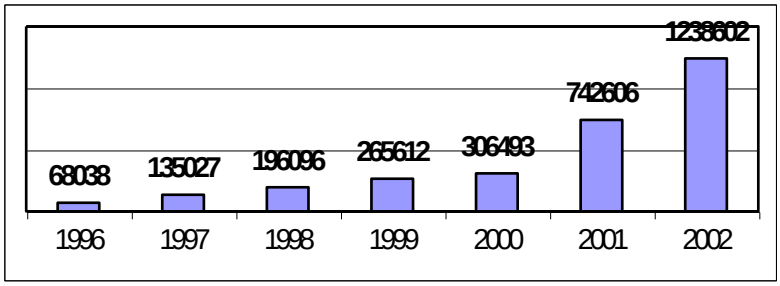
4.3 MOBILE TELEPHONIC GROWTH

After the implementation of CPP in FY00, cellular growth has been over 100%pa, and is being growing to the extent that cellular companies are facing capacity constraints. Cellular penetration is estimated at 1.4% (2mn subscribers) and subscriber numbers are estimated to reach 2.4mn by the end of 2003. The synergy between these fixed-line and mobile services is likely to impact PTCL in two ways:

- PTCL is the only listed Company that is in a position to capitalize on the triple-digit growth in the cellular sector by owning Ufone, which has the 11% market share; and

- PTCL also provides interconnectivity to other cellular operators and gets a charge on all the calls involving fixed lines.

Chart 2: Cellular Subscribers in Pakistan



Sources: PTA Telecom Status Report 2002

Growth in cellular alone is likely to provide a push of 1-2% to PTCL in terms of revenue over the next few years, due to increasing interconnectivity between these two segments. After recent triple-digit growth, this year 65% growth is

anticipated in the cellular market while the long-term annual growth rate of 25% is assigned to PTCL over the next 4-5 years on the basic telephony front, and the growth by route of wire-less should be more than the expected growth of wire-line telephony in the coming years. Following factors are attributed to this massive growth in the cellular market:

- Initial costs are lower than fixed line;
- Ease of subscription; and
- Lower line rent as compared to fixed lines.

Moreover, the improvement in the overall economy is also likely to boost cellular growth. In a nutshell, there is large unmet demand for basic telephony with strong cellular system growth.

Ufone is likely to be the main beneficiary of the trend in the cellular space as the recent experience shows. Most service providers have more subscribers than their system's capacity. Now, to save their system from a collapse, these mobile operators are going through major capital expenditure, which will not impact their revenue base. While, on the other hand, further capital expenditure in Ufone is on the cards due to high demand growth. This increase in capacity is likely to improve the company's revenue base as well as its profitability. This is likely to trickle down in PTCL profits in the shape of dividends from the subsidiary.

Table 5: Break-up of Cellular Industry

Companies	**Market Share**
Mobilink	46%
InstaPhone	26%
Paktel	17%
Ufone	11%

Sources: PTA Telecom Status Report

4.4 INTERNATIONAL TELEPHONY

ILD incoming telephony is likely be the most vulnerable in the deregulated environment as it will be very convenient for any private sector operator to establish an international gateway to grab incoming traffic. The experience of other emerging markets indicates that SOE tend to lose around 20-30% of the call traffic in post deregulation scenarios.

However, while incorporating deregulation impacts in terms of gradual decline in overall ILD revenues but the international telephony business is not expected to be a major threat to PTCL's earning base, at least not for the next few years due to the following reasons:

4.4.1 Small Portion as a Percentage of Net Revenues

While, representing almost one-third of the revenue base, the international telephony business (incoming and out going combined) cannot be ignored, the expected decline is unlikely to be a major drag on the earnings stream. The decline in ILD revenues is being compensated through the growth in other business segments of PTCL.

4.4.2 Dependence of New Entrants on Incumbent

In the initial stages of deregulation new entrants are likely to be reliant on PTCL's local fixed-line network for interconnection. PTCL may even benefit from the enhanced marketing ability of overseas entities in the fees it derives for such interconnection services.

4.4.3 Higher Demand Elasticity of Price for International Calls

With the higher price elasticity of ILD calls, any further rate cut in outgoing and incoming call charges would attract volumetric growth as the recent trend has demonstrated; a 17% increase in out going international call volumes followed by an 11% decline in calling charges during 1HFY03. Similarly PTCL has been a major beneficiary of the price elasticity of the falling Total Accounting Rates internationally during recent years.

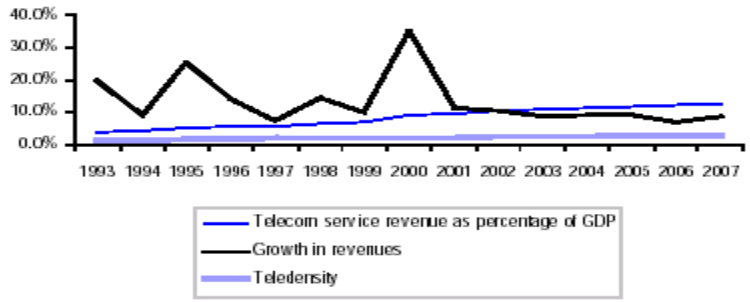
4.5 INTRODUCTION OF VOIP

To address the major threat expected in international incoming call business, the Company has introduced VOIP. It hopes to secure its revenue stream from shifting interests of the customers from fixed-line telephony to VOIP. The introduction of VOIP is not expected to help PTCL cause, though it is likely to partially secure the declining growth in international telephony business.

4.6 REVENUES AS A PERCENTAGE OF GDP

After 9/11 and inflows from international donor agencies, Pakistan has been put back on track for GDP growth upwards of 4%. To support this growth, PTCL is planning to continue laying further lines along with making extra efforts to improve its capacity utilization. Given the low teledensity, high population growth and recovering economy, PTCL's revenues are expected to improve going forward as percentage of GDP. Thus, it is believed that a case exists, where PTCL will not only outperform GDP growth, but its share in the GDP will also improve. This trend is in line with other emerging markets in early growth phases.

Chart 3: Correlation Between Telecom Revenues and Teledensity with GDP



Sources: ML Estimates

Globally, positive correlation can be found between the teledensity and per capita income as observed in the graph.

4.6.1 Deregulation: Emerging Source of Income

After deregulation, new entrants are likely to use PTCL's network on lease, as it is expensive and time consuming to lay optic fiber network for the new entrant. PTCL has planed to charge very reasonable rates in order to keep the new entrants away from laying their own fiber optic and to remain linked to PTCL's backbone. Also the deregulation policy has prescribed interconnection rate caps, beyond which, PTCL would not be allowed to charge the new entrants. This would help PTCL in getting its share from the efforts made by the new entrants.

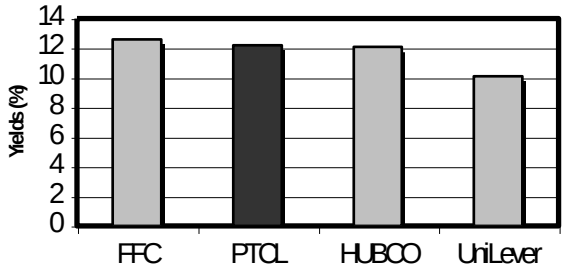
4.6.2 Defendable Margins

PTCL will be able to defend its market share on account of cost controls and the charges it will get through inter-connectivity, and the earning models are being developed on these assumptions. The long-term outlook does carry the fear of revenue-erosion as PTCL will eventually face competition in almost all the segments therefore the current high margins are defendable only in the short to medium term.

4.7 PTCL: A VIABLE INVESTMENT

PTCL is one of the top yield plays in the local market where it is also offering almost 300-400bps higher yields vs. market. Also the current level of dividends is sustainable in the medium to long term on account of cash flows driven by sustainable profitability growth, high depreciation number and a stable capital expenditure figure. A brief comparison of the top yield plays in the local market is listed below:

Chart 3: Top Yields at KSE



Source: Karachi Stock Exchange

4.8 VALUATION OF A' CLASS SHARES (PA)

A wide range of valuation techniques has been used in order to assess the worthiness of PTCL's share Pa. Valuation tools include a comparative analysis of regional operators as well in order to assess the relative standing of PTCL. All these valuation measures give a price objective in the range of PkR25.9-PkR39.4per share. Since the underwriters rely more upon dividend yield as the key indicator[12] therefore DDM is being considered as benchmark or the preferred valuation technique in this analysis.

[12] Deloof, Maeseneire and Inghelbrecht: The Valuation Of IPOs By Investment Banks And The Stock Market: Empirical Evidence; Ghent University.

4.8.1 Discounted Cash Flow Valuation

The analysis is being developed with the help of Capital Asset Pricing Model for the calculation of the required return on equity. The preferred risk premium over 10-year government paper is 650bps owing to very low leverage ratio (only 5.7%) the Weighted Average Cost of Capital comes to around 13.5%. A very conservative estimate of terminal growth rate of 0.5%, whereas the CAGR over next 5 years on the bottom line is 4.8%. This gives us a fair value of PkR39.4 ps. The fundamental method for equity valuation is DCF and the estimations for PTCL are being mentioned as follows.

Table 6: Discounted Cash Flow Analysis

	FY03F	**FY04F**	**FY05F**	**FY06F**	**FY07F**
Operating Cash Flows (PkR Mn)	12, 689	22, 651	26, 000	26, 525	25, 319
Present Value (PkR Mn)	12, 521	19, 683	19, 903	17, 887	15, 041
NPV Estimate Per Share	39.4				
Terminal Growth	0.50%				
Discount Rate	13.50%				

Source: ML

4.8.2 Dividend Discount Model

The DDM model evaluation based on a required equity rate of return of 14.0% and a growth rate of 0.5%, assigns a fair value of PkR32.3ps to PTCL.

Table 7: Dividend Discount Model

	FY03F	FY04F	FY05F	FY06F	FY07F
Dividend Expected PkR ps	3.1	3.7	4	4.2	4.1
Present Value PkR ps	3.1	3.2	3	2.8	2.4
NPV Estimate Per Share	32.3				
Terminal Growth	0.50%				
Discount Rate	14.00%				

Source: ML

The main reason behind choice for DDM is the fact that local market is religiously looking at PTCL from dividend perspective and not for capital gains since the script rarely experiences a speculative run.

4.8.3 Preferred Valuation Method

Although, the price range of PkR25.90-PkR39.40ps is quite broad therefore it would be real difficult task to stick with anyone of these. The future stock price performance has more to do with the dividends as the experience shows therefore DDM seems to be the most obvious choice therefore DDM based price carries more accuracy than DCF, P/E ratios and etc. based one. Following are the combined valuations for PTCL:

Table 8: Evaluated Fair Value of PTCL by Different Methods

	Fair Value (PkR ps)
Market Relative PE Pricing Model	25.9
Price Earning Pricing Model	27.1
EV / EBITDA Pricing Model	31.2
Dividend Discount Model	**32.3**
Discounted Cash Flow Method	39.4

Source: ML

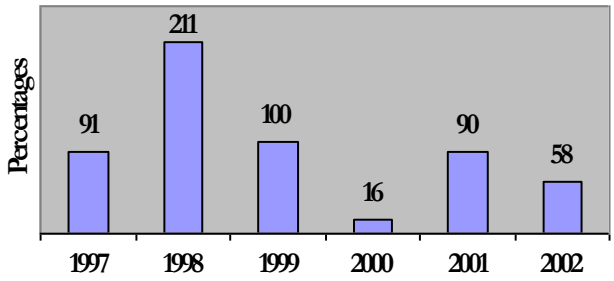
This price range of PkR25.90-PkR39.40ps provides a rough idea of the benefits that are expected through undertaking an investment in the company. It only provides an idea about the worthiness of the share, and any price below this range symbolizes upward potential and vice versa.

4.9 PRICING METHODOLOGIES

The value of PTCL's stock has been calculated using DCF, DDM, P/E Ratio and etc. but almost all the tools have come up with different answers therefore it is very important to decide which of the tools measures the appropriate answer. DDM being the preferred valuation tool has been compared with the market

value of PTCL but it succeeded in matching the market worth just once over the last six years therefore the reliability of DDM is also questionable.

Chart 4: PTCL Price Dividend Discount



Source: ML

Almost all the tools have failed to match the market worth on consistent basis therefore sticking with anyone or considering one, as benchmark is really difficult.

4.9.1 Price Range: Relative Rate Of Return

In order to solve this problem and to develop basic price range regarding the investment decision, certain parameters have been established in order to minimize the risk.

Upper Limitations have been established based on the phenomenon that investors would not invest in equity if their rate of return were less than the government securities. In order to measure the price range in which investor could make up a higher return than the government bonds in case of individual investors is as follows:

Re > Rf ---------- Equation 1

The return on equity can be calculated using the following formula that is being derived through the mark-up pricing methodology that relates profit to cost:

Re = (EPS/Pa) ---------- Equation 2

Therefore by substituting Equation 2 into Equation1;

Rf < (EPS/Pa) ---------- Equation 3

The analysis has been conducted for both institutional and individual investors based on the last three years performance:

- **Institutional Investors:** In case of institutional investors a minimum rate of return that is required in order to initiate an investment is considered equivalent to 6.5%. An institutional investor will be willing to invest in PTCL as long as the rate of return offered at the security is greater than or equal to 6.5%. Based on the assumption that PTCL will not earn less than the last year will mean the investor will be willing to pay a price equivalent to Rs.60ps (3.88/0.065). Most investor would like to earn higher rate of return on equity investments than the government securities considering the higher degree of risk affiliated with equity investments therefore investors will invest only if the market price of PTCL is less than Rs.60ps for example the market price of PTCL is equal to Rs.30ps than the rate of return is equal to 13%(3.88/30). Based upon the methodology investors will take up the investment as long as the market price of PTCL is less than Rs.60ps.

  The methodology has been established on the following lines with the EPS equivalent of Rs.3.88ps for year 2003:

  - The expected rate of return upon PTCL's share; purchased at Pa=Rs.30ps is greater than the one offered by the GOP's bonds i.e. Re>Rf; Since Re=13% > Rf=6.5%; therefore investors would likely to go ahead with this investment at the stated price.

- The expected rate of return upon PTCL's share; purchased at Pa=Rs.60ps is equal to the one offered by the GOP's bonds i.e. Re = Rf; Since Re (6.5%) = Rf (6.5%); therefore investors would be indifferent with this investment at this market price since investors can earn a similar return and much securer return through investing in government securities.

- The expected rate of return upon PTCL's share; purchased at Pa =Rs.70ps is less than the one offered by the GOP's bonds i.e. Re < Rf; Since Re (5.5%) < Rf (6.5%); therefore investors would unlikely to go ahead with this investment at this price.

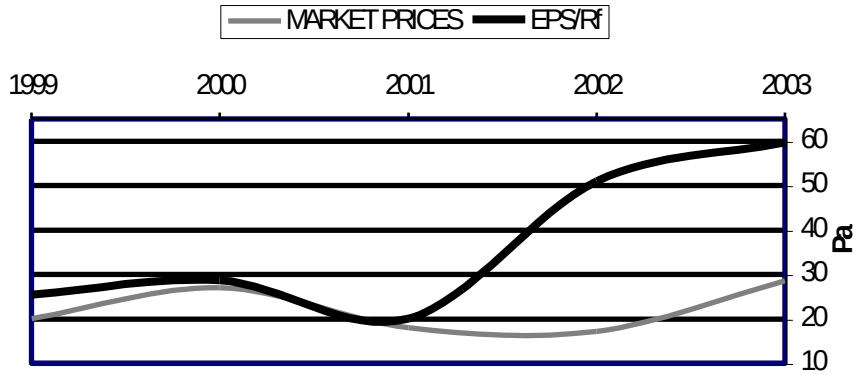
Table 9: Rate of Return Offered to Institutional and Individual Investors.

DATES	EPS	Risk Free Rate (Rf)	EPS/Rf (Institution)	Banks Rate (Ri)	EPS/Ri (Individual)	Market Prices
30-Jun-98	2.80					
30-Jun-99	3.45	0.11	25.45	0.13	21.53	20.03
30-Jun-00	2.61	0.12	28.75	0.14	24.64	27.07
30-Jun-01	3.57	0.13	20.07	0.15	17.40	18.06
30-Jun-02	3.88	0.07	51.00	0.09	39.66	17.21
30-Jun-03	4.35	0.065	59.69	0.085	45.64	28.56

Source: Annual Report of PTCL & Business Recorder

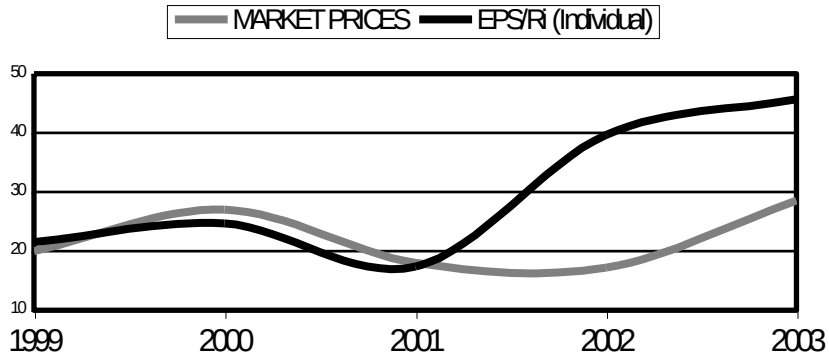
The equation has been tested for the data of last five years; and the equation has been satisfied for most of the time period as the Market Price of PTCL has remained below or equal to the derived line (EPS/Rf). Therefore investors are advised to invest in PTCL at any price below Rs.60ps in anticipation of a rate of return equivalent to or higher than government securities.

Chart 5: PTCL's Market Price (Pa) vs. (EPS/Rf)



- **Individual Investors:** While moving on to individual investors the rate of return available to them is higher than the one offered by government securities as mentioned in the table 9 therefore individual investors would invest in PTCL only if the rate of return is equal to or higher than 8.5% for June 2003. The optimal price range for individual investors in PTCL is less than or equal to Rs.45ps as this would result in a higher return than 8.5% which is available in the open market.

Chart 6: PTCL's Market Price (Pa) vs. (EPS/Ri)



The equation has been satisfied for most of the period with one exception that is of year 2000 when the privatization of PTCL is on the cards. The results of the equation seems to work well under normal

circumstance, and like other financial tools; the equation fails to accommodate for unforeseen events like 9/11's disaster or sudden change in GOP policy like freezing of foreign currency accounts as happens to be the case in the figure above during the period of January 2000 to January 2001.

4.9.2 Valuation Relative To KSE-100 Index

In order to curtail for the pricing error related to speculative behavior of the market a relative valuation techniques has been developed that will incorporate the impact of macro-economic variables based upon its relationship with the KSE-100 Index. The market price of PTCL has been analyzed for the last five years starting from June 1999- June 2003; and a regression equation has been developed in order to assess the relationship between Pa and KSE-100 Index; which is as follows (Annexure-4 Data For The Period Of Analysis):

P a, t = 14.967 + 0.004(KSE-100 Index)

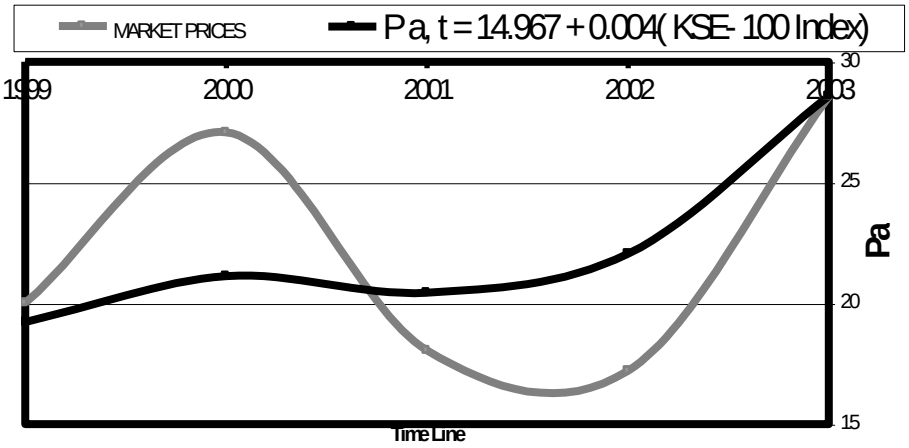
Table 10: Regression Analysis

Time Period	**July 1999 – June 2003**
Intercept	14.967
Slope	0.004
Correlation	0.455

Source: Karachi Stock Exchange

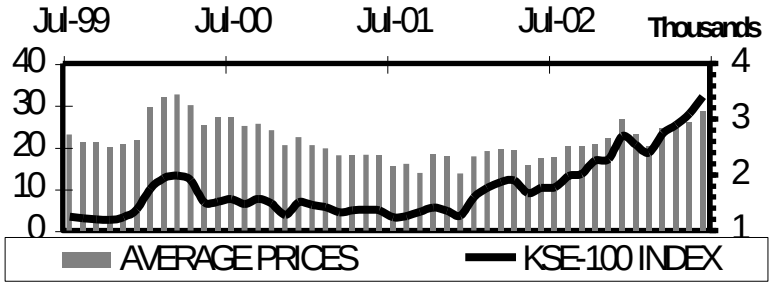
The relative price based on the measurement tool for June 2003 has been Rs.26ps, which coincides with the market value and cash flow's based value as well. Although the relative price has coincided for this period but certain variations are observed during the past five years but the degree of variation has been small.

Chart 7: PTCL's Share Price vs. KSE- 100 Index



The market price of PTCL has remained quite close to the regression line therefore future performance of PTCL could easily be predicted relative to KSE-100 Index on the basis of the derived equation. Although certain variation do exists in this valuation methodology but still it provides a platform to assess PTCL's fair value. Also any price close to regression line signals fair value while the difference between the regression equation and the market price will provide signal to speculators and day traders. The tool needs to be used simultaneously along with other valuation techniques in order to incorporate the impact of overall economic conditions.

Chart 8: PTCL's vs. KSE-100 Index



Based upon the detailed analysis of the valuation techniques; benchmarking with any tool is not going to help in developing appropriate prices consistently because during one year DDM proves to be the best valuation technique while next DCF takes the position and the phenomenon keeps on going. Under the prevalent circumstances all these tools needs to be used simultaneously and the investment decision should not be based upon any one of the tools completely. Although the question of the most appropriate pricing methodology remains unsolved but the only solution to the problem lies in devising a price range along which lies the true worth of the share.

4.9.3 Valuation Of B' Class Shares

Since GOP intends to sell 26% of the strategic stake to one party and the shares are not going to be traded in open market therefore the valuation criteria differs from A' Class stocks. The owner of B' Class share has clear majority in terms voting rights since these share carry four voting rights and 58% of the votes therefore the firm is not being subjected to any forced acquisition or takeover bids unlike a normal company. Also the functioning of the company would be lot easier and less subjected to speculative campaigns in terms of merger and takeover bids. In future also the transaction of B' Class shares will take place in the third market therefore the consent of the strategic holder is key to any further transaction.

Table 11: PTCL's Voting Ratio

Types of Shares	Dividend Share	Voting Rights
A' Class	74%	42%
B' Class	26%	58%

Source: Annual Report of PTCL

Although the B' Class share holders are placed at an awkward position considering that their share in the payouts is not proportionate to the voting

rights therefore the price of a B' Class Share will not be considered equivalent to four A' Class share.

That is: Pb =4 Pa (Is not equal to)

Also the point of view that the price of B' Class Shares should be equivalent to four A' Class Shares lacks weight considering the fact that the strategic stake or management control can not be acquired through acquiring all the A' Class Shares.

But the price of B' Class shares need not be less than A' class shares considering the two will receive similar cash flows or dividends. Therefore price of B' Class should not fall below the price of inferior or ordinary shares:

Pb < Pa (Not Possible)

Therefore: Pa < Pb < 4Pa

Therefore based on the previous research it is suggested that the price of these shares should be greater than the price of an ordinary share by an amount equivalent to the extra benefit generated through holding the extra voting rights which in this case is considered equivalent to Premium (Pr):

Pb = Pa + Pr

The premium as per the analysis would be equivalent to the extra benefits derived from holding the strategic stake in PTCL. This benefit is not equal to the extra amount generated through holding certain position in the company or through directing company's resources to personal use as stated by Zingales, but by the strategic plans and objectives that the new owner of PTCL have for the company.

- **Valuation of Premium:** Since the local players lacks the capability of taking over PTCL both in terms of capital and experience therefore foreign investors needs to be convinced to takeover the company. The foreign companies would likely to take up stake in PTCL for the following reasons:

  - To explore the newly opened markets of Afghanistan as PSO and cement manufacturers have been able to do;

  - To benefit from the proper utilization of financial resources unlike current leverage position; and

  - To keep pace with the demands of local consumers.

  These are the few apparent benefits that the new owner would likely to extract from PTCL and the owner is going to pay the premium price for the stated benefits. Also since the experience parties are allowed to take up strategic stake in the company therefore the new management would likely to save cost through centralized research and development, international experience and enhanced productivity.

  Recently Kuwait Petroleum Company has been seen as the front-runner in the acquisition of PSO's strategic stake. The move has been attributed to the fact that PSO purchases seventy-five percent of their HSD requirement solely from Kuwait Petroleum. The company has been looking for forward vertical integration through this deal and also securing its annual sale of 3m tons of HSD for the coming years as the domestic oil giant has captured 43% of this segment. Similarly some sort of forward integration is also possible in case of PTCL, which has not being observed as yet.

Since most of the parties from Arab Countries have shown interest in the company therefore the parties are banking on their good relationship with Islamic World and could easily penetrate the markets like Afghanistan. These companies would link their overseas operations with that of PTCL in order to ensure global presence like what has happened in the acquisition of Optus Telecom by SingTel. Also the buyer would make PTCL use their international network and the two would use each other's resources to achieve financial, technical, managerial and marketing economies.

Chapter 5

RECOMMENDATIONS AND CONCLUSION

The management of PTCL has never been able to keep pace with the rapidly changing world of technology. Although, PTCL has changed a lot since 90s but the changes are nowhere close to world standards. Improvement in terms of operating efficiency has been achieved due to the following reasons; moving from single entry accounting system to double entry; multi qualifications to a clean balance sheet; implementation of comprehensive tariff re-balancing; and the reduction of a 90-day lead-time for a connection to 24 hours. PTCL still has a lot to do in areas such as organizational reengineering, proper focus on HR restructuring, marketing, implementation of information systems for operational support, CRM, data warehousing, billing, and customer care to even come close to its regional peers. Following are some of the areas where PTCL needs to redesign its strategy:

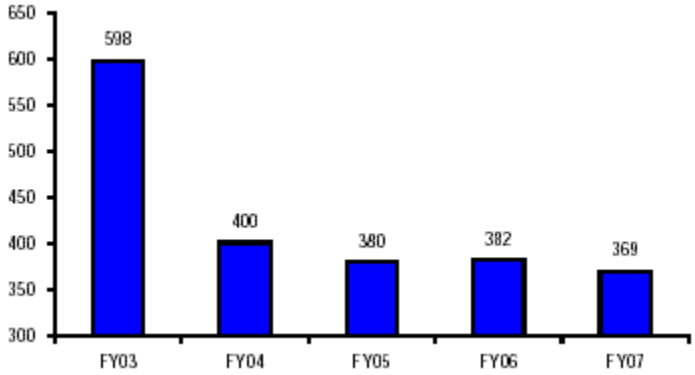
5.1 BALANCE SHEET RESTRUCTURING

PTCL possesses one of the strongest balance sheets among companies listed in Pakistan, with PkR141bn. The company has negligible debt, currently at 12.2% to equity and has almost 37% of current assets in cash. In its income statement, the coverage of gross interest expense is 19x. The company's margins remain strong with ROE of 26.5%, ROCE of 53.6% and net margin of 29.8% in FY02. PTCL can improve its performance even further in the following manner.

5.1.1 Leveraging the Balance Sheet

With PTCL paying off all of its long-term foreign loans in the next two years, its balance sheet will almost be clean. If the company replaces this debt with cheaper debt and opts for further debt to finance its big capital expenditure plan, it could according to the estimates improve its ROE by almost 800bps.

Chart 9: Pre tax Savings of the Company if it Finances Capital Expenditure Through Debts (PkR Mn)

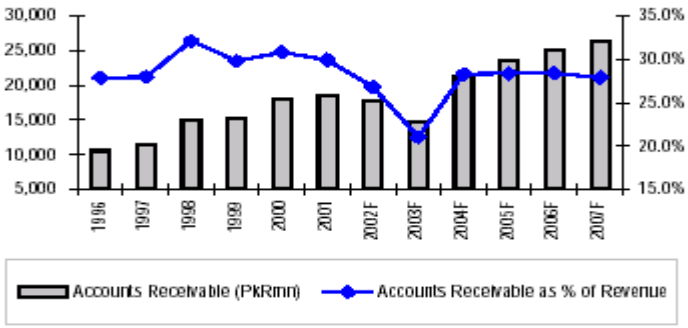


Sources: Company Information, ML Estimates

5.1.2 Management of Accounts Receivables

Further improvement in terms of liquidity could come through the better management of accounts receivables. At present, the number of days' receivables is almost 100 and considering PTCL's recent policy measure regarding recoveries derive this could easily be reduced to at least 50 to 60 days. This adjustment is expected to help PTCL in the following two ways improved liquidity, and other income due to higher cash float.

Chart 10: Trend of Growth in Receivables as Percentage of Revenues

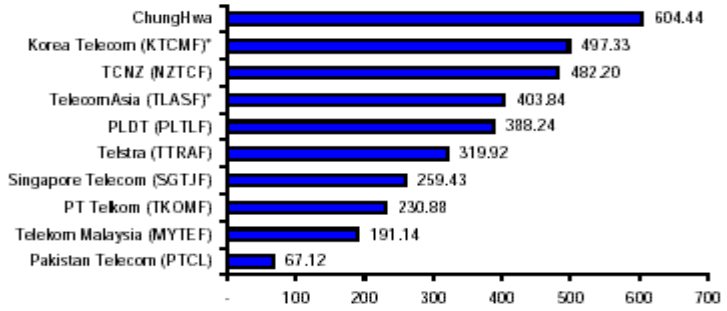


Sources: Company Information, ML Estimates

5.2 INEFFICIENT ALLOCATION OF LABOR FORCE

On a regional comparison, the most visible issue is over-staffing. Staff costs account for 44% of the total operating expenses. This is indicated by the fact that PTCL has only 67 lines per employee as against a regional low of 191 lines per employee. It is believed that this ratio can be improved significantly by adopting a downsizing scheme. However, downsizing is likely to be both expensive and cumbersome. Using the downsizing schemes introduced by large size Pakistani banks as a benchmark; as per the independent estimate restructuring costs to PTCL (laying off a half of its present work force) at PkR30bn. Furthermore, any downsizing decision would be too difficult for the present politically charged environment, as it is very much evident from the policies adopted by the current political government.

Chart 11: Regional Comparison of Lines per Employee



Sources: Company Information, ML Estimates

5.3 TARIFF: FIXED VS. MULTIPLE STRUCTURES

PTCL's existing tariff mechanism is pretty simple; the company is charging a flat monthly tariff and standard rates on top of that. Given the fact that the subscriber base of PTCL is very diverse, the company could also venture into multiple tariffs for its various kinds of subscribers. In particular, if PTCL opts for a different tariff arrangement for corporate customers, the company could optimize its revenue base. Similarly, the tariff rates could be varied from city to city. Although the current management lacks fire in terms of bringing such reforms in their tariff structures.

Table 12: Telephone Tariffs for Residential and Commercial Customers

	Residential		**Business**	
	Connection	Monthly Subscription	Connection	Monthly Subscription
Pakistan	**32**	**5.2**	**32**	**5.2**
Singapore	17	4.7	13	5.3
Indonesia	24	2	34	3.2
HK	61	14.1	61	16.5
Malaysia	13	4.7	13	5.3
Australia	108	9.1	108	16.6

Source: ITU report

5.4 INVESTMENT RATIONALIZATION

Historically, PTCL has invested almost PkR15 to 20bn on an annual basis on its line expansion plan. However, with most of the planned lines laid by the end of the fiscal year, the impact of capital expenditure relief will not materialize in the same year. Moreover, expenditure is periodically directed to some convenient areas to facilitate the timing of this capital expenditure. The company needs to rationalize its capital expenditure plan by expending it on the full-year basis rather than at the end of the year.

5.5 ASSET MANAGEMENT

PTCL a cash rich company has the ability to generate PkR32-35bn cash annually. Of this, an average of 27% has historically remained idle in its cash account on which company makes average returns of only 4-5%. PTCL could utilize its access cash more effectively using the following tools:

5.5.1 Better Treasury Management

PTCL should also improve its treasury management to utilize the idle cash in a much more profitable manner; the company could explore capital markets, which have become attractive these days due to its high yield as compared to the government paper which has lost its charm as result of massive drop in income rates.

5.5.2 Acquisitions and Mergers

With deregulation looming, PTCL is likely to face some competition in its core business through new telecom companies in Wire-Line as well as WLL telephony. PTCL could effectively utilize its excess cash by investing and acquiring small rivals like WorldCall, TeleCard and etc. Most of these small rivals have emerged

recently due to the liberalization of the telecommunication sector and have only been able to penetrate in their selected segment of the market. This would not only help the giant to overcome the expected competition, but it could also facilitate diversification in other segments such as cellular, WLL and Cable Operations. This would enable the company to be more profitable due to the high-expected growth in these segments.

5.6 ADOPTION OF MARKETING STRATEGIES

Recently, the company has started showing some efforts towards marketing of its services, where it is holding mobile camps in different cities to give public new telephone connections in one day. The company needs to be more aggressive on this front and should open public servicing and complaining point. This should help PTCL not only to restore its customer base in an increasingly competitive environment, but it should also help its image in general, which is much needed in deregulated environments.

5.7 PRIVATE SECTOR MANAGEMENT

The government could opt for a tactic similar to that it adopted in case of large public sector banks and companies like PIA and PSO. A few of the private sector telecom professionals could be inducted into PTCL to achieve similar goals, which the government achieved at the above-mentioned companies. Though, government took this initiative once in PTCL, while inducting Nassim Mirza former ICI Chief in PTCL, it is important to mention here that the administration has improved a lot during his tenure but the technology side of the company remained weak even in the tenure.

5.8 OPERATIONS SUPPORT SYSTEMS

Two aspects can be covered under this head:

- **Operating efficiencies** could be achieved through introducing specific operating systems, which generally other telecom companies use around the world. This would help the company in saving some resources as well.

- **Financial efficiencies** could also be sought by bringing in an IT-based accounting system. This should help PTCL to overcome reporting discrepancies in its accounts. In a recent report by Auditor General Pakistan, misappropriation in revenues, and unauthorized expenses of millions of rupees were found during the period of FY95-FY01. Therefore PTCL needs to adopt IT based accounting and reporting system, which would help in rebuilding PTCL's image.

5.9 HR MANAGEMENT

PTCL has the latest technology installed in its systems, however, due to the absence of appropriate technical knowledge these new technologies are not being utilized properly. According to company sources, the company has recently started providing value added services to its customer base and still there is a huge margin to add more. PTCL can improve its services by not only sending its technical staff for workshops but also hiring well-experienced private sector employees.

5.9.1 Organizational Restructuring

This is essential for PTCL at the moment. First, the company needs to separate its inventory of technical and non-technical staff. Then a detailed description of all the jobs needs to be made. This would help the company in achieving full utilization of its resources and in identifying the excess workforce.

5.9.2 Full Utilization of its Technical Abilities

The organizational structure of PTCL needs to be revamped in order to achieve optimum utilization of resources, which will eventually force the company to also move ahead with a better utilization of technical abilities.

5.9.3 HR Management

This is again a topic that is closely linked with the organizational structure. Apparently this is one of the weakest aspects of the current corporate set up of the company. The company could increase the utilization of its manpower by bringing in more employee friendly policies into the system.

5.10 CONCLUSION

The privatization history of PTCL is very long, and full of disappointments. This process started in early 90's and till now at least 4 transaction advisors have tried their best to bring a deal to fruition, but all efforts have been in vain. Typical negative factors like poor macro economic conditions; unstable political environments and a fragile regional situation have discouraged international telecom operators.

PTCL cannot be privatized given the current scenario—the company's current status of a slow public sector organization with at least 200% extra staff and strong resistance from vested interest holders to this privatization. Moreover, this privatization would require a significant sum from a strategic investor to even buy a 26% stake, thus this limitation has excluded the local institutions from the race of taking PTCL.

Pakistan's media image has done nothing to encourage foreign investors in recent times. Thus, despite being a fairly attractive company, PTCL is likely to remain

without any private sector Strategic Investor. Under the prevalent circumstances clubbing a local investor with an international operator to do this transaction sounds like a good idea but the prevalent local and international political scenario is likely to be a major deterrent to any such transaction.

GOP should try to break down PTCL into pieces in order fetch the maximum price out of this transaction as the experience of VSNL shows but that would be a time consuming task and would result in a further delay of two to three years. PC could divide the organization into five pieces; which could be as follows, International, NWD, Local telephony, Cellular business and ISP. Given the fact that government has been involved on similar exercises in Wapda and the Suis therefore a similar strategy could also be adopted in case of PTCL as well. Although the process involves hefty cash expense on government's part, but this would be a viable strategy as it could eventually help the government in disposing of PTCL in a profitable manner.

This study provides information about different valuation approaches and methods of deriving the value of different classes of shares of PTCL. The price of PTCL has been developed using different cash flow methodologies and a price range of Rs.26-39ps has been established for June 2003. The A' Class Share of PTCL is being traded at a price of Rs.26ps in the market but for the last six years there always exists some variation amongst the cash flow based value and the market value. Although the value derived through cash flow tools cannot be considered as the rule of thumb but still the technique provides a fair idea about the worthiness of the investment.

In order to curtail for the pricing error related to speculative behavior of the market a relative valuation techniques has been developed that will incorporate the impact of macro-economic variables based upon its relationship with the

KSE-100 Index. The relative price based on the measurement tool for June 2003 has been Rs.26ps, which coincides with the market value. Although the relative price has coincided for this period but there could be certain variation in the valuation technique as well considering the experience of past years. The tool needs to be used simultaneously along with other valuation techniques in order to incorporate the impact of overall economic conditions.

The derivation of pricing methodology of B' Class Shares has been one of the most significant contributions of the study considering; the fact: that the methodology will be used in the pricing of B and C classes of shares for other enterprises as well like SSGC, SNGC and PSO. The methodology will help in derivation of the price of a voting right but the analysis do not include the exact price of the vote considering its dependence upon the strategy of the acquiring party.

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ANNEXURES

Annexure-1 PTCL's Major Investments and Subsidiaries

1. Telecom Foundation Pipes Limited: With a total investment of PkR25.32mm, PTCL owns 40% of this company's equity.

2. Alcatel Pakistan: PTCL owns 2m shares of this joint-venture company at the fair value of PkR10/share.

3. ICO Global Communication: PTCL has its investment in this company of PkR104.708mn.

4. World Tel Assembly of Governors: The Company participates with PkR6.39mn in this international fund.

5. INMARSAT Holding Limited U.K. PTCL holds 127,000 ordinary shares of value PkR60.345mn.

6. Thuraya Satellite Company: Holding of 367,000 ordinary shares, of current value of PkR63.9mn.

7. SEA-ME-WE-3 - Submarine Cable System: PTCL is part of a consortium for the provision and maintenance of an optical-fiber cable network link up of South-East Asia - Middle East - Western Europe – 3 areas. Total investment in this consortium is PkR2, 072.8mn.

8. Participation in Satellite Consortia: PTCL also participates in two international satellite consortia namely INTELSAT and INMARSAT with total investments of PkR779.43mn.

Annexure-2 Deregulation Policy

1. Numbers and Type of Fixed Line Telecommunication Service Licenses

Key features of the policy are as follows:

- It is proposed that there will be two types of licenses for fixed-line operators:
    - LL fixed line telecommunications
    - LDI fixed-line telecommunications
- There are proposals for up to three new nation-wide licenses for long distance and international fixed-line telecommunications and up to three new local loop fixed line telecommunications licenses per PTCL region.
- It is proposed that these licenses will be awarded through an open, transparent and competitive bidding process to pre-qualified bidders for which suitable criteria will be laid down
- It is proposed that there will be a minimum floor price in the bidding of LDI licenses specified by the Government, however there will be no floor price fixed in the bidding of local loop license. The bidding document will specify the minimum license conditions. The evaluation criteria will include but not limited to the level of license fee. A company can hold both types of licenses i.e., LDI and any number of LL licenses if won on a competitive basis
- Existing operators of telecommunications services in Pakistan would be permitted to retain their current licenses and agreements with PTCL. They may compete for a new local loop or long distance license on the above basis

2. Obligations of the New Licensees for Fixed Line Telecommunications

a) LDI Licenses

LDI licensees will have the following key obligations:

- Start roll out by building at least one point of interconnection in each of thirteen PTCL regions within one year of award of license and in all PTCL transit exchanges (currently 36 in number) within 3 years
- The operator will be permitted to lease infrastructure from PTCL or any other infrastructure owner on mutually agreed commercial terms, nondiscriminatory to other licensees seeking the same facility. The

operator must own a proportion of the transmission systems and cables comprising its network. The proportion will be 10% in year 1, rising to 30% in year 2 and 50% in year 3 measured in 2Mbit/s x km. A long-term lease of 5 years or more will be acceptable in lieu of ownership. The operator will provide a performance bond of US$ 5 million in respect of infrastructure and rollout targets in the form and substance acceptable to the Government and provide incoming and outgoing interconnection services, both for voice and IP data traffic, to all who may request it

b) LL Licenses

LL licensees will have the following key obligations:

- Start operations with one Point of Interconnect within the prescribed period and in each licensed PTCL Region where they operate ("Points of Interconnect" are premises at which other licensed operators can send to or receive from the LL licensee voice or data traffic originated by or destined for the LL licensee's customers) at acceptable technical and quality standards

- In the event that another operator considers that an LL licensee's termination prices are inappropriate, the PTA has the power to resolve the dispute and impose cost-based prices

- Provide free of cost directory services to its own customers, access to emergency services, operator assistance and any other similar support services as required by PTA

- LL operators will not be permitted to carry voice calls between PTCL Regions (other than metro regions) or long distance / international traffic. They may carry voice calls between municipalities, but only within a single region

- Both Licensees

- Both types of licensees will be required to provide regular reports to the PTA on quality and network implementation. These will include, but be not limited to the number of voice lines and B channels, and revenues from line rentals. They will also detail revenues and minutes from local, long-distance and outgoing international and incoming international separately. LL operators will file separate reports for each PTCL Region in which they operate.

- Both types of licensees will be penalized for failing to meet license obligations, or failing to make use of radio spectrum that is allocated to

them. In addition, the licensees may be obliged to provide services as may be mandated to achieve above defined policy objectives.

- Operators will pay to PTA a fixed annual fee, approved by the Government, to reasonably cover the costs of regulation. The annual fee shall not to exceed 0.5% of last year's gross revenue minus inter-operator and related PTA mandated payments. Operators will devote 1% of gross revenue minus inter-operator and related PTA mandated payments to qualified research and development.

Annexure-3 SingTel's International Ventures

SingTel's focus is the Asia Pacific region, particularly in the core telecommunications businesses. Some of the major investments are as follows:

1. **Advanced Info Service** is the largest mobile communications operator in Thailand. It is also the second largest listed company on the Stock Exchange of Thailand as at 30 June 2003. AIS' subscriber base surged to over 12.2 million as at end June 2003 from 7.8 million a year ago. Despite the keen competitive environment following the entry of new cellular operators, AIS remained the market leader with over 60% market share as at end June 2003.

2. **APT Satellite** is the leading telecommunications company in Belgium, providing a full range of mobile, local, regional and international telephone services, leased lines and data communications.

3. **Bharti Group** is a leading private sector integrated telecommunication service provider in India. It provides mobile, fixed-line, national and international long distance telecommunications, VSAT, data, broadband and Internet services and network solutions. As at 30 June 2003, Bharti is the largest mobile operator in India with approximately 3.75 million mobile subscribers, representing a 27% market share. Bharti offers mobile services in 15 out of 22 circles in India. As at 30 June 2003, approximately 91% of India's total number of mobile subscribers resided in Bharti's mobile circles. Bharti was the first private sector operator to provide fixed-line services in India when it commenced providing services in the Madhya Pradesh and Chattisgarh circles in June 1998. In July 2002, Bharti launched its international long distance services. Currently, Bharti provides fixed line services in five circles, and as at 30 June 2003, it had approximately 317,000-fixed line subscribers.

4. **Globe Telecom** is the largest mobile communications services provider in the Philippines in terms of revenue and is listed on the Philippine Stock Exchange. As at 30 June 2003, Globe had 7.3 million mobile subscribers, up from 5.4 million a year ago.

5. **New Century Infocomm** is a consortium, which has been awarded a facilities-based license to operate a fixed line network in Taiwan. SingTel and the Far Eastern Group (FEG) of Taiwan are the largest shareholders in the consortium. In March 2001, NCIC began operations under the brand name sparq, offering voice and data services including local, long distance and international calling, domestic leased circuits, broadband Internet access, calling cards, toll-free and co-location services.

Annexure-4 Data For The Period Of Analysis

DATES	AVERAGE PRICES	KSE-100 INDEX
30-Jul-99	23.04	1251
30-Aug-99	21.08	1221
30-Sep-99	21.04	1199
30-Oct-99	19.96	1189
30-Nov-99	20.65	1239
30-Dec-99	21.56	1380
30-Jan-00	29.66	1749
28-Feb-00	32.02	1942
30-Mar-00	32.55	1991
30-Apr-00	29.97	1901
30-May-00	25.12	1510
30-Jun-00	27.07	1520
30-Jul-00	27.11	1569
30-Aug-00	25.05	1482
30-Sep-00	25.62	1563
30-Oct-00	24.01	1486
30-Nov-00	20.46	1276
30-Dec-00	22.39	1507
30-Jan-01	20.47	1461
28-Feb-01	19.68	1423
30-Mar-01	17.96	1324
30-Apr-01	18.02	1367
30-May-01	18.12	1374
30-Jun-01	18.06	1366
30-Jul-01	15.28	1242
30-Aug-01	15.98	1258
30-Sep-01	13.78	1333
30-Oct-01	18.36	1412
30-Nov-01	17.88	1358
30-Dec-01	13.69	1273
30-Jan-02	17.81	1593
28-Feb-02	19.03	1765

30-Mar-02	19.39	1868
30-Apr-02	19.19	1898
30-May-02	15.72	1669
30-Jun-02	17.21	1770
30-Jul-02	17.69	1779
30-Aug-02	20.2	1974
30-Sep-02	20.27	2018
30-Oct-02	20.89	2252
30-Nov-02	22.22	2285
30-Dec-02	26.58	2701
30-Jan-03	22.96	2545
28-Feb-03	20.19	2399
30-Mar-03	24.62	2744
30-Apr-03	24.77	2902
30-May-03	26	3099
30-Jun-03	28.56	3402

Source: Business Recorder

Annexure-5 Results of Analysis

July 1999 - June 2003	
Intercept	14.96685907
Slope	0.003823626
Correlation	0.454923322

DATES	**MARKET PRICES**	**KSE-100 INDEX**
30-Jun-99	20.03	1067
30-Jun-00	27.07	1541
30-Jun-01	18.06	1368
30-Jun-02	17.21	1770
30-Jun-03	28.56	3402

Source: Business Recorder