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# Indonesia: Liberalization at the Crossroad

## Impact on Sector Performance, Teledensity and Productivity

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**Abstract:** Unlike in developed countries, the liberalization process in Indonesia began at a time when telecommunication infrastructure was minimal and teledensity was below 2%. The main aim of liberalization and sector reform is consequently to increase teledensity. However, the results of liberalization have not yet been envisaged. A decade after the introduction of liberalization and competition, teledensity growth and sector productivity still remain low. The telecommunication sector's contribution to accelerating national economic growth in an effort to eradicate poverty, unemployment and improve national education has consequently been minimal.

Given the minimal infrastructure and limited state budget available, specific strategies should be implemented focused on increasing teledensity as a priority. Mainly in the transitional period, specific initiatives will be required to anticipate "cherry picking" by new entrants and reinforce their commitment to increasing network expansion. This begs the question of whether all WTO regulations should be fully implemented immediately? Upon setting up their gateway, new entrants can immediately capitalise on subscribers developed by the incumbent operator, particularly in the metropolitan and urban areas. Consequently, although the number of new players is rising, they are not attracting new subscribers and are failing to boost penetration levels as a result.

**Key words:** liberalisation, privatisation, teledensity, Indonesia

**P**rior to 1995, telecommunication service provision in Indonesia had been monopolized by two state-owned operators: the domestic provider PT Telekomunikasi Indonesia (TELKOM) and the international provider PT Indosat. Development of the telecommunications infrastructure, particularly funding of the national backbone network, was financed primarily by the state budget, mainly through soft loans from the World Bank, the Asean Development Bank and other bilateral foreign assistance under the broad umbrella of the Consultative Group on Indonesia (CGI). However, loans from these international agencies were reduced in early 1990 and totally stopped in 1995.

Due to the limited state budget, accelerated telecommunications development can only be achieved by inviting contributions from local and

foreign investors. This was the strategic decision taken by the government to cater for market demand and to encourage industry growth. The telecommunications industry has consequently been progressively liberalized. In 1995 the cellular market and value added services were opened up to private operators. In the meantime, the privatization of state owned companies was also launched. In mid 2002 the government issued a new license for Indosat as a local provider and for long distance and international calls in April 2004.

The main objective of this paper is to provide a brief analysis of the ineffectiveness of policies and regulation to accelerate penetration rates in Indonesia. The paper offers snapshots of significant pre-competition and private participation and examines the implications of inadequate fixed telephony infrastructure for other markets, the emergence of wireless and IP based services and the behaviour of the incumbent and new entrants.

In developed countries, liberalization began when average teledensity was above 50%, or all households had access to a basic telephony service. Hence the WTO Reference Paper on Basic Telecommunication Services is truly aimed at creating opportunities for new entrants to compete with strong incumbents. The latter possessed an established network with which to monopolize their subscribers. Therefore, interconnection obligations and rules on lowering barriers to market entry such as carrier selection, number portability and local loop unbundling are more geared towards incumbents.

In Indonesia, liberalization began at a time when telecommunication infrastructure was minimal and teledensity was below 2%. The government did not prepare its state-owned operator for liberalization. This was apparent from the incumbent's minimum capacity and poor network quality. The incumbent's un-readiness has created serious obstacles to promoting competition such as difficulties in satisfying interconnection obligations and the implementation of the carrier selection facility.

In the meantime, WTO regulations have also been misinterpreted by new players to turn profits without committing to developing the network. The privilege of obtaining interconnection, for example, has led investors and new players to compete for VoIP, long distance and international call services only. Upon setting up their gateway, they can immediately profit from subscribers owned by the incumbent operator, particularly in metropolitan and urban areas. Consequently, although the number of new players is increasing, they are not attracting any new subscribers, and thus offer no boost to market penetration levels. To speed up infrastructure

development and anticipate "cherry picking," specific obligations must be applied to new entrants. The USO contribution is still insufficient to boost penetration.

In the case of Indonesia, specific strategies are needed that prioritise increasing teledensity as the main goal of liberalization. The question is, whether all WTO regulations should be fully implemented immediately? It will take a long time and significant investment to upgrade the incumbent's network and exchanges in order to provide competition facilities such as carrier selection, number portability and local loop unbundling. Consideration must consequently be given to how to finance the upgrading expenses involved in providing such competition facilities.

This ineffective liberalization is also due the government's poor performance as a policy maker. An independent regulatory institution was only established nearly 10 years after liberalization, while the roles and functions of this body are not yet clear. The government is still reluctant to hand over its regulatory powers, thus restricting the regulatory body's ability to act effectively. To reduce regulatory risks, the authority and functions of this regulatory institution should be strengthened immediately in order to make it truly independent and professional.

## ■ Country and sector background

In 2004, Indonesia had a population of approximately 216 million and was the world's fourth most populous country after China, India and the United States of America. Population below the poverty line was 36.1 million and the unemployment rate was 9.86%. GDP was approximately USD 0.24 trillion with growth of 5.3% and GDP per capita of USD 1.181. The transport and communication sector accounted for 12.70% to GDP growth.

Total sector revenue for the year 2004 amounted to only USD 4.5 billion. Network investment totalled USD 700 million. Government revenues from license fees totalled USD 200 million. Local manufacturing accounted for less than 2% of total telecommunication and ICT equipment capital-expenses, which reached USD 1.5 billions.

In March 2005, fixed telephone density was barely 4% including FWA-CDMA limited mobility, while mobile density was approximately 14%. Approximately 40% of small townships and 60% of villages do not have any

form of communication access. The Internet subscriber base totalled 4 million, representing 12 million users in 2004. Should GDP growth reach 6-7% in line with government targets within the next 5 years, then household income should rise.

This, in turn, should boost the purchasing power of households and Small to Medium-sized Enterprises (SMEs) with regard to telecommunication services. Teledensity for public access services is projected to reach 30% and 50% for cellular by 2015.

## ■ Pre-competition policy

Prior to 1995, government performance was very poor, with less than 3 million telephone lines installed (as shown in the diagram). In order to speed up infrastructure development, the private sector was invited to invest in the sector in the early 1990s through BOT (Build, Operated, and Transferred) and BOO (Build, Operated, and Owned) revenue sharing schemes. High investment in fixed wire-line access, of nearly USD 1,000 per line, meant that these programs were still not sufficiently attractive to stimulate private funding. Less than 500,000 telephone lines were successfully installed over 15 years.

Then, in early 1995, the government tried to encourage investors and foreign operators to develop 2.5 million lines in almost all Indonesian territories, excluding Jakarta and East Java, with the Joint Operation Program (KSO). The latter allows a licensed consortium to build access networks and operate services in a specific region. Ownership of the assets is typically to revert to TELKOM after 15 years.

However, this program also failed to attract investors. An economic crisis and disputes over legal issues have broken the contract that should normally have ended in 2010. Even PT TELKOM has had to pay over USD 1 billion in the dispute settlement process and buy back transactions, in return for 1.2 million additional lines.

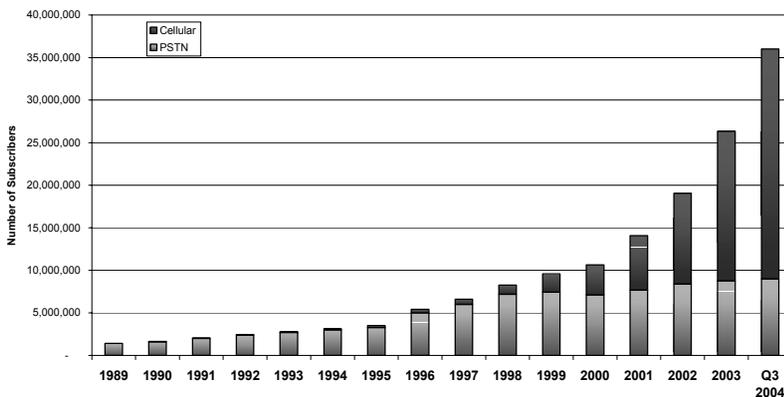
## ■ Privatization policy

The privatization of state-owned operators began with the Initial Public Offering (IPO) of PT Indosat on the New York Stock Exchange in 1994. It continued with the IPO of TELKOM on the New York, London and Jakarta Stock Exchanges in late 1995. At the end of 2002, the government divested a 41.94% share in PT Indosat to Singapore Technologies Telemedia Pte. The government currently owns a 15% stake in the operator. However, the government still holds a majority share in PT TELKOM (51.19%) with assets worth approximately USD 5.3 billion.

To strengthen their competitiveness, both major operators have had to improve their ability to form partnerships with national and international companies. However, privatization in Indonesia has not successfully boosted sector performance by improving quality of service to the public. In fact, privatization was performed mainly to cover budget deficits and other short-term government programs.

Moreover, the privatization process did not comply with good corporate governance criteria. This was quite obvious, particularly with PT Indosat's privatization, which was considered a major public loss by many parties.

**PSTN and cellular subscriber growth**



Sources: BRTI

## ■ Oligopoly in cellular service

In 1995 the government fully opened the cellular service market up to private investors. By the end of 2003 there were three large GSM cellular operators in Indonesia, Telkomsel, Indosat and Excelcomindo, each with a national coverage license.

In April 2005 the total number of cellular subscribers had reached almost 30 million, over 90% of which were pre-paid subscribers. However, subscribers were concentrated in metropolitan and big cities. This trend is projected to continue, as low-income households now aspire to a modern lifestyle, in which possessing a cell phone has become a status symbol.

At the beginning, cellular service liberalization was supposed to meet demand in a certain market segment, i.e. mid-to-high income society, businessmen and executives. The issue is that the cellular market has dominated the telecommunication market and become a substitute for the PSTN service market. This is the result of minimal public (PSTN) telephony infrastructure. To-date GSM operators have enjoyed excessive profit margins, with 60% EBITDA on average. The public has to opt for a cellular telephone, despite the fact that this service is very expensive. By early 2003 per minute cellular tariffs were nearly 20 times greater than PSTN tariffs. Now competition in the cellular market is tougher, and the mid-to-low income community is being targeted with prepaid starting packs at only USD 3. Average ARPU is USD 10 per month.

Reductions in cellular tariffs began with the launch of the FWA-CDMA limited-mobility service as a technology solution adopted by the government to accelerate PSTN availability. Currently, the average cellular phone tariff is IDR 700 per minute for local calls with a single operator and IDR 1,400 per minute for different operators. However, it is still much more expensive than the PSTN service, which costs just IDR 250 for two minutes. Moreover, in an effort to maintain their dominant positions, these cellular operators are trying to influence the regulator with initiatives such as their demand to apply limited FWA-CDMA subscriber mobility, whereby subscribers can only travel within one BTS area coverage.

## ■ Duopoly in fixed access services

Based on the national telecommunication blue-print defined by the government in 1999, local fixed telephony service is monopolized by PT TELKOM until 2010 and long distance until 2005, while international fixed-telephony is monopolized by PT Indosat. However, in mid 2002, the government decided to terminate these exclusive rights earlier than scheduled by implementing a compensation scheme. The local fixed market was liberalized in mid 2002, while the long distance and international services markets were privatized in April 2004. Furthermore, the government has eliminated assets co-ownership and cross-ownership between PT TELKOM and PT Indosat.

The problem is that the market was privatized by adding just one player as the competitor to the incumbent operator. PT Indosat became the new entrant in domestic communication services in both the local and long distance markets, while PT TELKOM became an international service provider. Both companies were also granted spectrum licenses for GSM DCS-1800 (2x12.5MHz). Therefore, both companies hold a license to become Full Network and Services Provider (FNSP). On top of voice-based services, PT TELKOM and PT Indosat were also granted licenses to provide IP-based services such as VoIP and Internet access.

However, there was a need to evaluate the competitive effectiveness of both operators, particularly in an effort to increase communication access for public services at affordable price. Moreover, this duopoly structure has consolidated PT TELKOM's and PT Indosat's positions to give them "vertical integration" in telecommunication services. This may potentially encourage anti-trust practices such as the cross-subsidy of competing products and those still under monopoly, predatory pricing, service bundling and locking-in customers.

However, the worst fact is that PT Indosat, the new player in the local services market, is only interested in Jakarta and Surabaya. In other cities PT Indosat will seek business partners with revenue sharing schemes. This means that, by possessing a duopoly license, PT Indosat still receives royalties from business partners without incurring development and operation expenses or taking any risks. It is obvious that with this revenue sharing scheme, development is limited by the brokerage fee, i.e. the percentage of revenue to be handed over to the license holding operator. With such a business strategy PT Indosat will continue to channel its investments into the promising cellular and data communication businesses.

This year over 85% of Indosat's investment will be allocated to its cellular business. It would be better for the government to take prompt action to create opportunities for new players who are truly committed, particularly in view of their investment capabilities.

### ■ Fixed wireless access policy

In order to accelerate penetration rates, the government granted licenses to PT TELKOM, PT Indosat and PT Bakrie Telecom (as a region-wide local provider) in early 2003 to operate fixed telephony services based on CDMA technology as an alternative to the fixed access-network solution. The FWA service tariff is equivalent to that of PSTN and has a limited mobility, only operating within one local area. From a subscriber's point of view, FWA is an attractive alternative option, especially for less mobile users. However, the launch of FWA-CDMA has met with fierce resistance from GSM cellular operators due to concern over the potential threat that it poses. The FWA-CDMA network was deployed aggressively by PT TELKOM in early 2003 and had attracted 2.4 million new subscribers by May 2005. Most of TELKOM's capital expenditure is devoted to limited wireless, rather than fixed-telephone lines. TELKOM has deployed a FWA-CDMA limited mobility network covering over 195 cities and towns across Indonesia. Its target is to attract at least another 2 million new subscribers per year through 2010. It is followed by Bakrie Telecom and the latest Indosat, which was just launched in early 2004.

### ■ USO policy

To develop access communication in remote and isolated areas, each operator is obliged to pay an USO contribution of 0.75% of their annual revenues. This USO contribution is considered too small compared to Malaysia, where the USO contribution is 6% and teledensity has reached 60%. The government directly manages this USO fund and subcontracts development to selected contractors. There is concern over government transparency in managing this USO fund. The total revenues from all operators amounted to IDR 45 trillion in 2004, while the allocated USO fund totalled only IDR 40-45 billion. This indicated that the government was not seriously committed to implementing the USO program.

In addition, the government has no clear concepts for determining the type and quality of service needed. Furthermore, the government must draw up a clear plan not simply for providing equipment for the system, but also to ensure its smooth operation and maintenance. Many USO facilities are currently out of operation since it is unclear who should be responsible for their maintenance and its costs.

## ■ VoIP and Internet policies

Market liberalization for value added services such as Internet access, VoIP and data-communication bases has also been performed by the government with fairly relax regulations. The number of licenses for Internet access services is not limited, for example. By mid-2003, there were over 180 Internet Service Providers (ISP). Similarly, the government initially set a limit of only 5 VoIP operators. Currently, there are already 12 VoIP providers, in which all the major players have shares, such as PT TELKOM, Indosat, Satelindo Exelcoma and Bakrie Telecom. The rest are small enterprises such as Atlasat, Gaharu, Corbec Communication, Mobicom Selularindo, Jasnita Telekomindo, Starcall Siscom and Indopratama Teleglobal.

**Operator profiles in Indonesia**

<i>PT Telekomunikasi Indonesia, Tbk</i>	Majority government ownership, 51.2%, public (46% foreign, 3 % local)	PSTN (Local, long distance, international), VoIP, broadband access ADSL, multimedia and Internet services
<i>PT Telkomsel</i>	PT TELKOM 65% and SingTel 35%	GSM at 900 and 1800 MHz,
<i>PT Indosat</i>	Government ownership 15%, STT Singapore 41.94% and public (40% foreign, 3%)	GSM 900 & 1800, PSTN (local, long distance, international), broadband access, multimedia services, VoIP and Internet
<i>PT Exelcomindo</i>	Telecom Malaysia 27.3%, PT Telekomindo Primabhakti 60%, Asian Infrastructure Fund 12.7%	GSM, VoIP, corporate service providers
<i>PT Bakrie Telecom</i>	Bakrie & Brothers Tbk 94%, CMA fund Mngnt 6%	Local PSTN providers, FWA limited mobility, CDMA 2000 1X
<i>PT Lippo Telecom</i>	Maxis 51%, Lippo Group 49%	GSM provider, 3G License Holder, not yet operated
<i>PT Cyber Access</i>	Hutchison Int. Hongkong 60%,	3G License Holder, not yet operated
<i>PT Mobiles Telecom</i>	Bimantara Group	CDMA 2000 1X, nation-wide

However, from the customer's standpoint, the VoIP service is a substitute for long distance and international services, since the VoIP tariff is 40%-50% lower than the standard tariff for fixed communications. There is consequently a need for further analysis of VoIP regulation to encourage fair competition. Due to VoIP each operator is a service operator and currently uses the access network developed by the government, so specific initiatives are needed to increase penetration rates. For example, obliging each VoIP provider to deploy an access network per 300,000 subscribers, as was the case in the Philippines.

## ■ Interconnection dilemmas

In the case of Indonesia, the incumbent's un-readiness led to serious problems with promoting competition, mainly the obligation to provide interconnection. A lack of capacity and the poor quality of the network were responsible for technical difficulties in providing an adequate Point of Interconnection (PoI) and long delivery times. In addition, to retain its dominant position, the incumbent PT TELKOM made it complicated to provide interconnection to other operators. Indeed, the incumbent has not yet submitted a Reference of Interconnection Offer (RIO).

The interconnection privilege has become a dilemma, since new entrants with this privilege are only interested in services that do not require investment in subscriber development like long distance calls and VoIP. With a low PSTN local call tariff, new entrants were able to make huge profits. Although the number of new entrants is growing, it has not created any new customers.

Interconnection charges have been determined bilaterally to-date and there is no standard charge. This could potentially produce anti-competition practices with discrimination and no transparency. Interconnection charges from PT TELKOM to Telkomsel may be lower than those to other cellular operators since Telkomsel is PT TELKOM's subsidiary. The other problem is that the cellular operator holds a dominant position, with the total cellular subscriber base reaching 30 million, versus just 9 million PSTN subscribers. The interconnection termination charge to cellular telephones consequently has to be re-evaluated. To-date the cellular interconnection charge to the local PSTN is IDR 125 per minute. From fixed to local cellular the tariff is IDR 325 and IDR 450 during peak traffic.

The cellular inter-operator termination charge is determined based on a closed inter-operator agreement. At present, the average inter-operator call rate is around IDR 1,400 per minute. Meanwhile, rates for calls placed with one operator are around IDR 700 per minute. Thus the inter-operator call rate is twice as high as the rate for calls placed with one operator. This shows that it is the customer who bears the extremely high interconnection charges of cellular operators. With such tariffs, cellular operators can make excessive profit margins and put subscribers at a major disadvantage.

## ■ Tariff rebalancing

PSTN tariff is currently still regulated by the government, despite competition especially in the local service and long distance markets. In the monopoly era the low PSTN local tariffs were not an issue as development expenses were incurred by the government. Indeed, PSTN service was categorized as a public service, with low purchasing power and price sensitive characteristics. Meanwhile, to offset this service, the long distance rate was increased to act as a cross-subsidy.

Now, low local tariffs have become a factor that discourages investors from developing a subscriber network. Local termination interconnection charge is set at 50% of the local service charge, i.e. IDR 62.50 per minute. Such low local call tariffs should benefit new entrants to the long distance and VoIP services markets. Meanwhile, the incumbent has less incentive to invest in the subscriber access network. Many VoIP providers can immediately access incumbent subscribers by just setting up their gateways. Hence new entrants can turn huge profit without making major investments.

In the case of Indonesia, tariff rebalancing is intended to stimulate investors to develop access networks. In the year 2000, the government decided to increase local tariffs by 46% in three phases. In 2002, PSTN tariff was increased by 15% for local calls, long distance calls and monthly fees without rebalancing. In 2004, the second PSTN tariff increase of around 15% with tariff rebalancing was implemented, hence the effective increase in local call prices totalled 28%, the monthly fee 24%, while long distance charges dropped by 3%. The government still plans to rebalance tariffs again to bring the effective increase in local call charges and monthly fees up to 28%, and the total decrease in long distance call costs to 27%. After the second

increase and rebalancing, the current local call tariff is IDR 250 per 2 minutes, while the long distance charge is IDR 66 per pulse.

The problem is that the current PSTN local tariff is considered as extremely expensive from a public purchasing power perspective. In Malaysia, for example, the local tariff was IDR 92 per minute after tariff rebalancing in 2002, whereas the country's GDP was nearly USD 8,920 per capita (GDP ppp, WorldBank, 2002). In Indonesia, by comparison, the local call tariff has currently reached IDR 125 per minute, whereas the GDP per capita is just USD 3,300 (GDP ppp, WorldBank).

## ■ Spectrum frequency licensing

The current licensing process for spectrum utilization lacks transparency. Without clear criteria and a selection mechanism, the government is prone to granting licenses to dubious candidates. The licensing process is suspected to be completely corrupt, involving collusion, and nepotism. As a result, spectrum utilization efficiency is far too low. What is worse, many licenses are only kept as future businesses.

Moreover, the determination of spectrum bandwidth is performed without clear justifications. One operator, for example, owns 2x10MHz, but has only used 2x2Mhz for many years. Furthermore, spectrum allocation is considered a chaotic mess. The downlink frequency of FWA-CDMA 2000 1X, for instance, is located on the uplink frequency of 3G. Aside from guard band requirement, some 3G downlink frequencies could consequently not be used.

The government recently issued two 3G spectrum licenses, giving rise to protests inside and outside the country. At first the 2x15MHz 3G spectrum license was granted for Cyber Access Communication (CAC). Although the license was attributed via a beauty contest, the criteria and selection process were considered unfair and biased by the government. What is worse, the 3G license for Lippo Telecom was awarded without any selection process. The irrationality of this attribution was clear from the operator's inability to deploy a 3G network. In fact, Lippo Telecom, which also received a GSM 2G license in 2002, has only 25,000 subscribers to-date. Indeed, CAC has not shown any serious commitment to making investments to-date, despite holding a 3G license since 2003. Suddenly, in early 2005, both enterprises relinquished their shares to foreign investors.

Formally, spectrum is granted free of charge without any entrant-fee at all. Such a policy would certainly disadvantage the government. In reality, the 3G spectrum licenses for CAC and Lippo Telecom were merely used to increase their respective market values. Within just 3 months of receiving a 3G spectrum license, Lippo Telecom was able to pocket USD 100 million for the sale of 51% of its shares to Maxis. A similar case occurred with the sale of 60% of CAC shares to Hutchison International Hongkong for USD 120 million.

These transactions confirmed that both enterprises were capitalising on their licences, meanwhile the government as the spectrum owner remained empty-handed. These transactions also imply that not only 3G spectrum was sold, but also the 2G DCS 1800 2x10MHz (FDD) spectrum and 1x5MHz TDD owned by both enterprises. This reveals that the government does not realize that spectrum frequencies are scarce resources which need to be properly managed to achieve optimal utilization in the public's best interests.

## ■ Carrier selection

To promote competition on a level playing field, PT Indosat, the new entrant in the long distance service market, urged the government to apply access code 01x to all players, incumbents and new entrants. In April 2004 the government then decided to alter the long distance access code commonly used during PT TELKOM's monopoly. This meant that the PT TELKOM long distance access code had to be altered from simply dialling 0-ABC- to 01x-ABC-. The government has allowed one year for PT TELKOM to set up the access code modification.

In reality, this decree had not been implemented by April 1st, 2005. The access code modification 017 for PT TELKOM will be performed gradually and should be completed within 5 years. As a temporary solution, subscribers can still use the dial number 0-ABC- XXXXXXX as usual and the 011 access code will be used to select Indosat. In areas where technically feasible, the 017 access code will be gradually implemented. PT TELKOM is used to applying 017 as a VoIP service access code. Therefore, as of January 1st, 2006, all VoIP service access codes will be exchanged for 5 digit-numbers.

This rescheduling is typically due to the unavailability of an appropriate facility in PT TELKOM's switching and signalling systems. This also confirms

that the government, as the majority shareholder in PT TELKOM, has no established policies, concepts or plans for dealing with the market transformation from a monopoly to a competitive environment, especially with regard to preparations to increase the capacity and quality of the network. This also indicates that the government's decision was unrealistic and based on no previous consideration of whether it could be implemented or not. For such long distance access code modification requires replacement of most currently installed switching equipment. The implementation will clearly require a significant financing and will be impossible to accomplish within a one year period. Based on PT TELKOM's calculation, it will cost around USD 340 million and take 5 years to complete.

Aside from the issue of the incumbent operator's un-readiness, the decision to alter this access code also shows that the government has no clear strategy or priorities in terms of accomplishing liberalization goals. In view of the huge budget required for access code modification, it would be better if these funds were used to develop the access network, hence increasing penetration rates.

## ■ Competition policy

In order to promote sector reform and competition, the current policy and regulatory framework is governed by the Telecommunications Act No. 36/1999, Competition Act No. 5/1999 and Investment Act No. 1/1967. However, in reality this framework cannot respond to market dynamics and swift technological changes.

At a strategic level, the government has no clear visions, missions or strategies for exploring opportunities in this sector to promote economic growth. On an operational level, the structure of the telecommunications providing industry, as defined in Telecommunication Act No. 36/1999 and in the sector blueprint, is not conducive to industry growth. Creating a duopoly market structure for PSTN services (local, long distance and international calls) by introducing one competitor is not enough to encourage competition. Similarly, existing regulations tend to enable one operator to be present in all industry segments (vertical integration). This makes it hard to control anti-competition practices such as cross-subsidy, locking-in customers and bundling.

In Indonesia in particular, a lack of awareness with regard to legal and business ethics has led to repeated misconduct by the incumbent and even new entrants. Furthermore, there is no transparency or accountability in government policy, which has created ineffective competition and exacerbated the sector's growth performance. All of these factors confirm that the government lacks the relevant expertise to elaborate effective policy or a suitable regulatory framework to accommodate the transition from a monopoly to a competitive market.

In the mean time, the prohibition of monopoly practices as defined in Act No. 5/1999 applies to all industries. However, this indicator is inappropriate to the telecommunications sector, as if the indicator that defines the dominant position of one operator in a given market segment as a 50% or 75% market share for two or more players. This indicator is too high for the telecommunications sector. It could consequently enable one operator to grow and dominate the market ahead of time. This can be seen in the oligopoly of the cellular service market, which is dominated by three major operators i.e. Telkomsel, Indosat, Excelcomindo which have 53%, 32% and 14% of market share respectively. Thus the cellular tariff service remains very expensive. This is because cellular service tariffs are fully controlled by these three operators, making competition ineffective.

## ■ Foreign investment policy

In fact, the legislative framework and foreign investment regulations need to be reviewed. The Foreign Investment Act No. 1/1967 has also not been amended yet. In the Act, the telecommunications sector is one of the eight strategic industries banned to foreign investors. In reality, everything changes. Foreign investors have bought into all telecommunication operators directly or indirectly through share ownership in the capital markets. PT Indosat, for example, is 42% owned by STT, Telkomsel is 35% owned by Singtel and Telekom Malaysia has a 27% stake in Excelcom.

Based on Government Decree No. 20/1994, the telecommunications sector is open to foreign investment of up to 95% via the local investor joint venture scheme. However, Presidential Decree 96/2000 absolutely prohibits frequency spectrum management and allocation for foreign parties, with foreign investment restricted to 49% in the telecommunications sector. However, not even one month after its pronouncement, the Presidential

Decree 96/2000 was amended by Presidential Decree 118/2000. Based on negotiations with the WTO, it specified a maximum limit of 35% for foreign investment in the telecommunication sector and 40% within ASEAN. This all shows that there is no legal consistency, which could be a barrier and serious problem for investors.

It is necessary to understand the structure and characteristics of the telecommunication industry in order to formulate satisfactory policies. The government should be able to distinguish between foreign investment policy for the equipment manufacturing industry and policy for the service industry. To develop manufacturing, the government even needs to encourage 100% Foreign Direct Investment (FDI) to encourage foreign enterprises to build their plants in the country. In addition to creating job opportunities, this would make the country more than a target market. Nevertheless, the telecommunication service industry has to be carefully assessed, particularly in terms of the facilities and frequency spectrum available. The question is, whether such a promising service industry should be fully occupied by foreign investors?

This is where government control is required to protect this strategic industry sector. One way that the government can exercise power is to control frequency spectrum allocation. Similarly, spectrum should not be granted to enterprises with foreign ownership that exceeds a certain base value.

## ■ Establishing BRTI

Unlike European countries, after almost 10 years, liberalization and competition have taken effect in Indonesia without the intervention of independent regulatory institutions. Key roles and functions were directly exercised by the government, in this case the Minister of Transport. Meanwhile, the government is also a majority shareholder in PT TELKOM, the incumbent operator and dominant player in both fixed and cellular services. Even the Director General for Post and Telecommunications (DGPT) was appointed a commissioner at PT TELKOM. Government intervention and conflicts of interests consequently explain the sector's extremely poor performance.

The BRTI was established in early January 2004 and conceived as an independent, professional regulatory institution for the promotion of

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competition. BRTI consists of five committees (the DGPT executive with four experts), supported operationally by DGPT staff. This means that DGPT still exercises the regulatory function, with an altered executive structure. This is intended to make each decision a collegial decision to ensure the regulator's transparency, neutrality and accountability.

However, in reality it does not work that way. The BRTI committee is not combined with the DGPT and has no direct line of command to existing DGPT staff as a result. What is worse, the BRTI committee has no authority to unveil any decisions as BRTI resolutions have to take the form of a ministry or DGPT head decision. This is clearly inconsistent with the concept and goals behind the founding of the BRTI.

This condition is attributed to the vague legal status and foundation of the BRTI. Its role and authority are also vague and could be challenged by the government. The fact that the government had no serious intention of establishing an independent regulator was clear from the preparation of Telecommunication Act No. 36/1999. After much wrangling, the Independent Regulatory Board (IRB) was merely mentioned in the description of the Act. Hence, the BRTI does not have a firm, legitimate basis.

Furthermore, BRTI only has the authority to regulate network provider and basic telecommunication services due for competition. Meanwhile value added services like VoIP and other multimedia are still controlled by the DGPT as the government's right hand. The same applies to the management of private closed user groups like banking and oil-company networks. This shows that major "businesses" long regulated by the DGPT cannot not be touched.

Although things have changed with the BRTI, the DGPT to-date has no mechanism and process for ensuring transparency and fairness in each unveiled regulation. As usual, ministry decrees can show up without public consultation. One ministry decree could be inconsistent with another and conflict with existing law. Indeed, some ministry decrees are considered full of "sponsor" interest.

The BRTI committee members selection process is also questionable, and it remains doubtful whether candidates were selected based on the requirement criteria. The selected candidates should be professionals who are prepared to become regulators with recognized competencies, as well as national and international visions in telecommunication business management. They should not be newcomers to the telecommunication

business. To attract experts, the government certainly needs to provide reasonable remuneration. This is a very sensitive issue and the regulator position is prone to corruption, collusion and nepotism. Integrity and a clean track record are crucial attributes for BRTI committee members.

## ■ Conclusions and recommendations

Liberalization and sector reform in Indonesia were supposed to increase teledensity. After a decade, the partial liberalization process has not realised the goals envisaged. Growth in teledensity and sector productivity remain low. This confirms that liberalization and sector reform have not been effective in accelerating the public availability of telecoms services. Low sector performance has led to a minimum sector contribution to accelerating national economic growth in the effort to eradicate poverty and unemployment and improve national education.

It also shows that the government doesn't have clear objectives or the right strategies to encourage sector development. Lack of a state budget for infrastructure development, inappropriate policies and regulatory frameworks and poor government performance are the three key issues that have led to an unsatisfactory form of liberalization. A lot of policies and regulations do not encourage industry growth. The introduction of the BOT and Joint Operation Scheme (KSO) failed to accelerate penetration. Economic crises and legal disputes have raised crucial issues for achieving the target as envisaged. A duopoly policy for the local PSTN network has also failed to increase penetration rates. Meanwhile, high cellular service prices and an oligopoly in the cellular market has led to excessive profit margins. The existing spectrum licensing shows that the government has no commitment to optimizing the utilization of scarce resources. Many license holders are just holding onto the spectrum for later to protect their business interests. There is no transparency or credibility in the licensing process to promote competition. The un-readiness of the incumbent's network, the licensing of scarce resources, interconnection and local PSTN tariff regulations have been become serious dilemmas and handicaps to promoting effective competition. Even the set up of the BRTI has not reduced regulatory risks or attracted investment.

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In the effort to accelerate telecommunication infrastructure development, a new set of policies will be required to encourage market growth in a climate of fair competition. New policies should cover the following points:

- On a strategic level, country leadership is required to optimize sector opportunities as an engine for economic growth. A clear vision, national policy objectives and strategies must be defined.

- The PSTN duopoly must be immediately terminated. A more effective industry structure needs to be prepared to encourage competition in the local market. A local license with a neutral technology is expected to increase market penetration. Similarly, more players in long distance and international services will reduce current high call rates. National asset utilization should be optimised by opening up opportunities for electricity and railway companies as regional backbone providers. In the transition period, some specific initiatives are required to anticipate "cherry picking" by new entrants and to reinforce their commitment to increase network expansion. Such specific policies could still be applied until a teledensity of 50% has been achieved or until all households have access to basic communication service.

- Empowering local government is a strategic step to accelerate the opening up of local markets. Authority delegation to local government is a crucial to the success of local market liberalisation; especially the authority to grant local licenses according to selection criteria and mechanisms determined by the BRTI. Clear segregation of authority between central and provincial government is required immediately, especially the authorization to manage spectrum frequency and numbering as scarce resources should be held by the BRTI.

- Reinforcing the BRTI's legal basis and status to give it greater independence and professionalism. This calls for a clear definition of functions and authority, financial resources, reasonable remuneration and good facilities for committees. Intensive capacity building programs for central and local government staff to train as experts are also needed.

- Preparing a conducive and more competitive investment policy, to attract local and foreign investment. One-stop services may be one way of facilitating and accelerating the investment process.

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