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Embassy of India  
Caracas

# **Survey: Telecommunication and Information System of the Bolivarian Republic of Venezuela**

**2020**

**Embassy of India  
Caracas**

# **MARKET SURVEY ON TELECOMMUNICATION AND INFORMATION SYSTEM OF THE BOLIVARIAN REPUBLIC OF VENEZUELA**

March 2020

**Survey conducted by:**  
AL&C Consulting Group, Caracas, Venezuela

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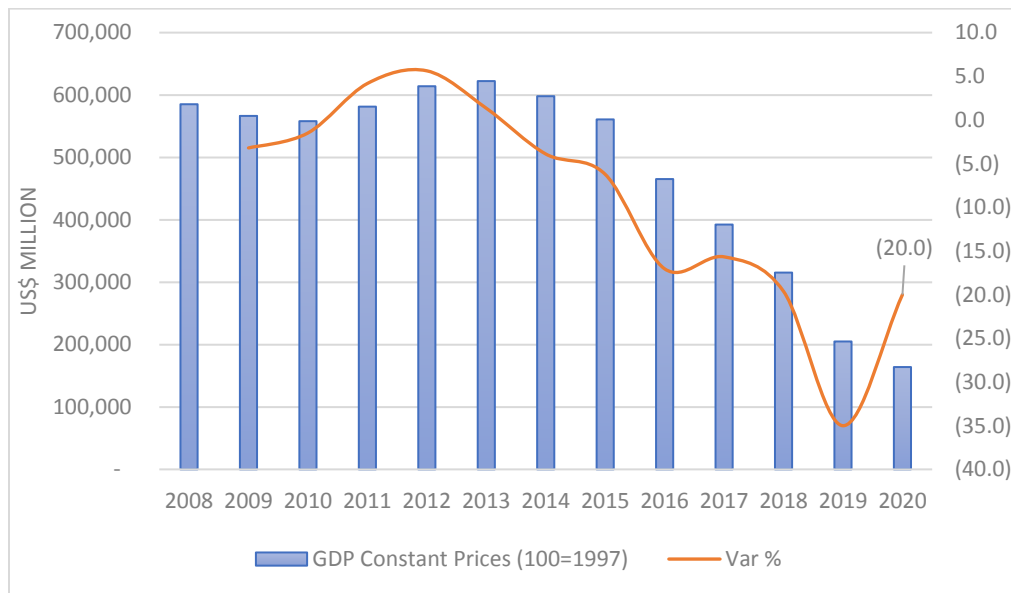
# **PART I**

## **ECONOMIC AND POLITICAL SITUATION OF VENEZUELA**

## ECONOMIC AND POLITICAL SITUATION OF VENEZUELA

According to the data submitted by the Venezuelan National Bank (or Banco Central de Venezuela - BCV), the Venezuelan economy shows deep trouble with regard to economic growth, with high rates (5%) in 2012, while a sharp drop occurred since 2014 and economy is contracting for the seventh year running.

**2008-2020 GDP Constant Prices**

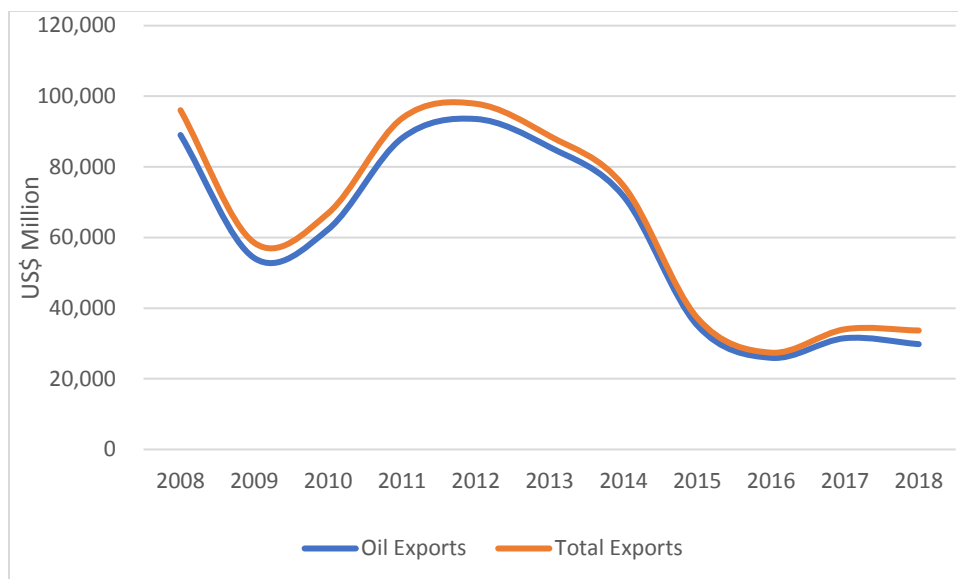


Source: Central Bank of Venezuela

Despite being an oil economy, the contribution of the oil sector is becoming less important to the national productive apparatus, representing only 11% of the Gross Domestic

Product (GDP). This is a worrying situation because the oil sector is the only economic productive sector participating in international trade, and it should be noted that it contributes 98% of foreign currency income. Consequently, the rest of the non-oil productive sectors, representing a non-tradable (89%) sector of the economy, do not work under the criteria of efficiency and competitiveness. Furthermore, the collapse of oil prices in the market and the lack of investment have reduced foreign revenues for the Venezuelan economy. In addition, U.S. sanctions have discouraged foreign investment in the oil sector.

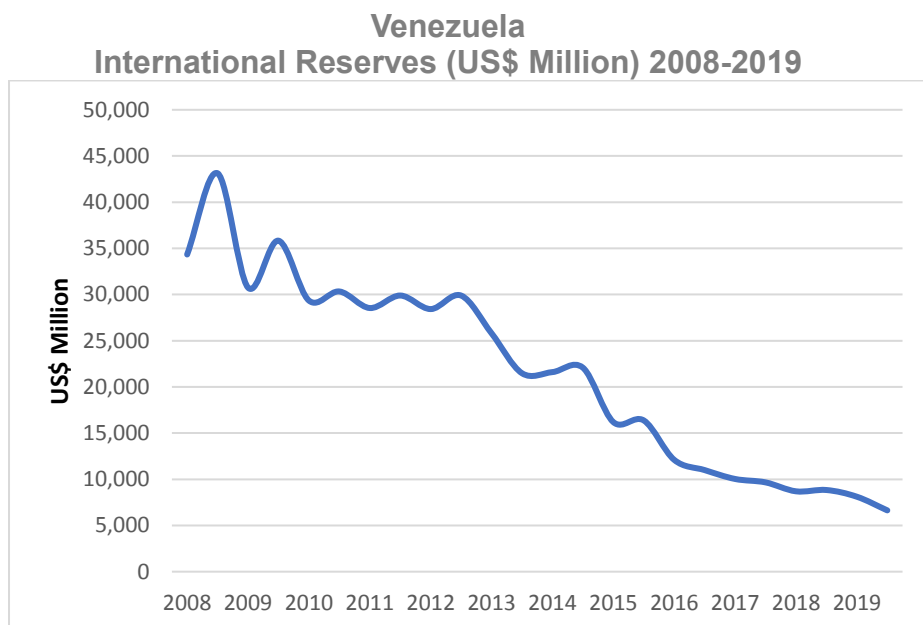
### 2008-2018 Oil Sector Exports



Source: Central Bank of Venezuela

The variation of prices is expected to remain at higher levels since the beginning of the hyperinflation period, changing exponentially. Nevertheless, the speed of price changes has relented and the inflation rate will be 5,000%, due to the partial dollarization of the economy which has encouraged economic activity and reduced scarcity levels.

In the period 2008-2018, international reserves fell to less than a quarter, reaching lower levels similar to those experienced 40 years ago. This creates a strong pressure on external balances.

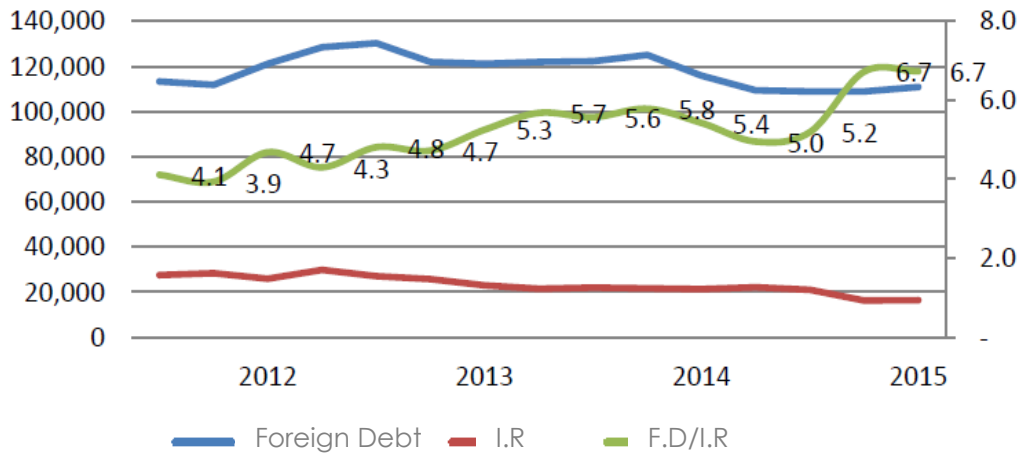


Source: Central Bank of Venezuela

The growth of the foreign debt and the drop in international reserves make the current coverage less than 5%, meaning that the amount of international reserves only pays 5% of the total foreign debt. By 2017, the country had declared default over most of the debt bonds.



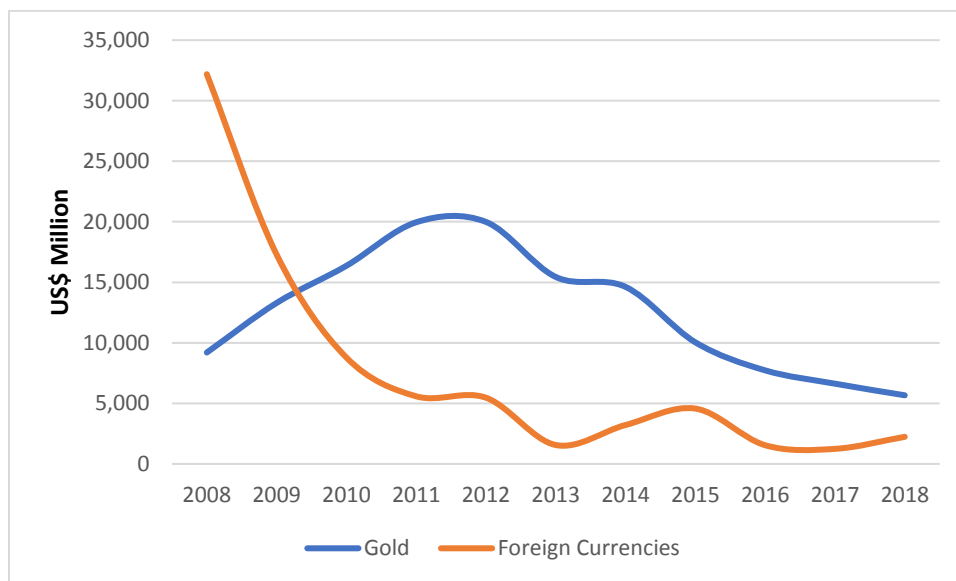
### Relation between Foreign Debt and International Reserves



Source: Central Bank of Venezuela

In respect of the position of the reserve assets, Venezuela decided to keep 70% of the reserves in monetary gold. From 2011 to 2019, Venezuelan international reserves have fallen from US\$ 21 billion to US\$ 7 billion, which is a drop of 66.6% in 8 years.

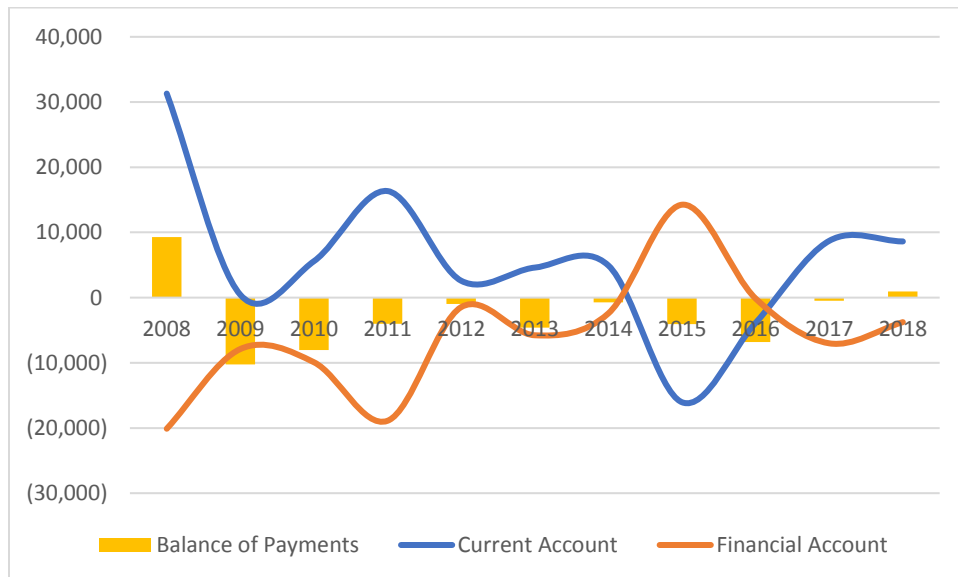
### Reserve Assets (gold and foreign currency)



Source: Central Bank of Venezuela

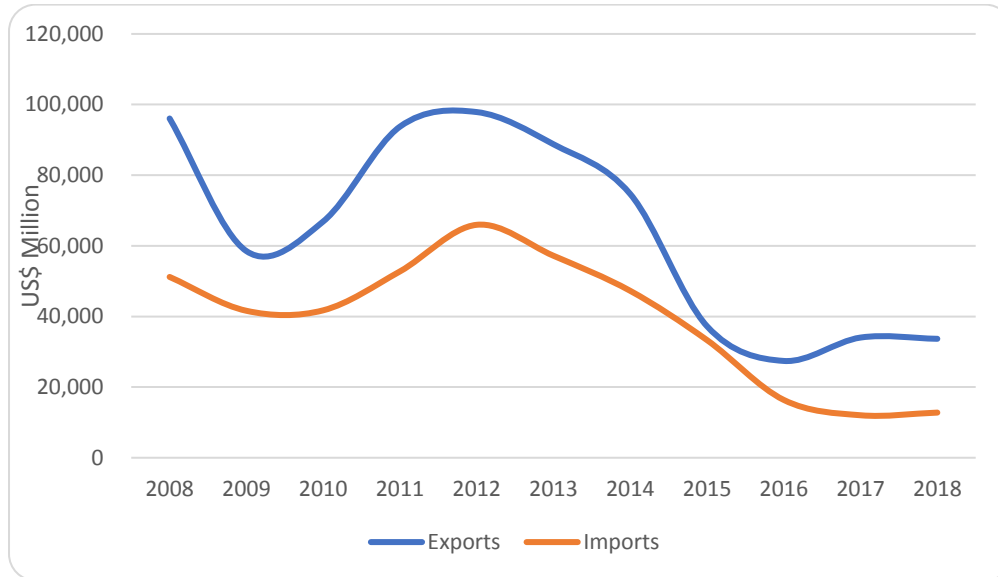
The balance of payments remained negative during the period 2008-2018, with the characteristic feature of maintaining surplus trade balances, but capital outflows exceeded this surplus. By 2015, for the first time in 20 years, the third and the fourth quarters are shown with negative trade balances, mainly due to the fall in oil prices.

**Balance of Payments (US\$ Million)**

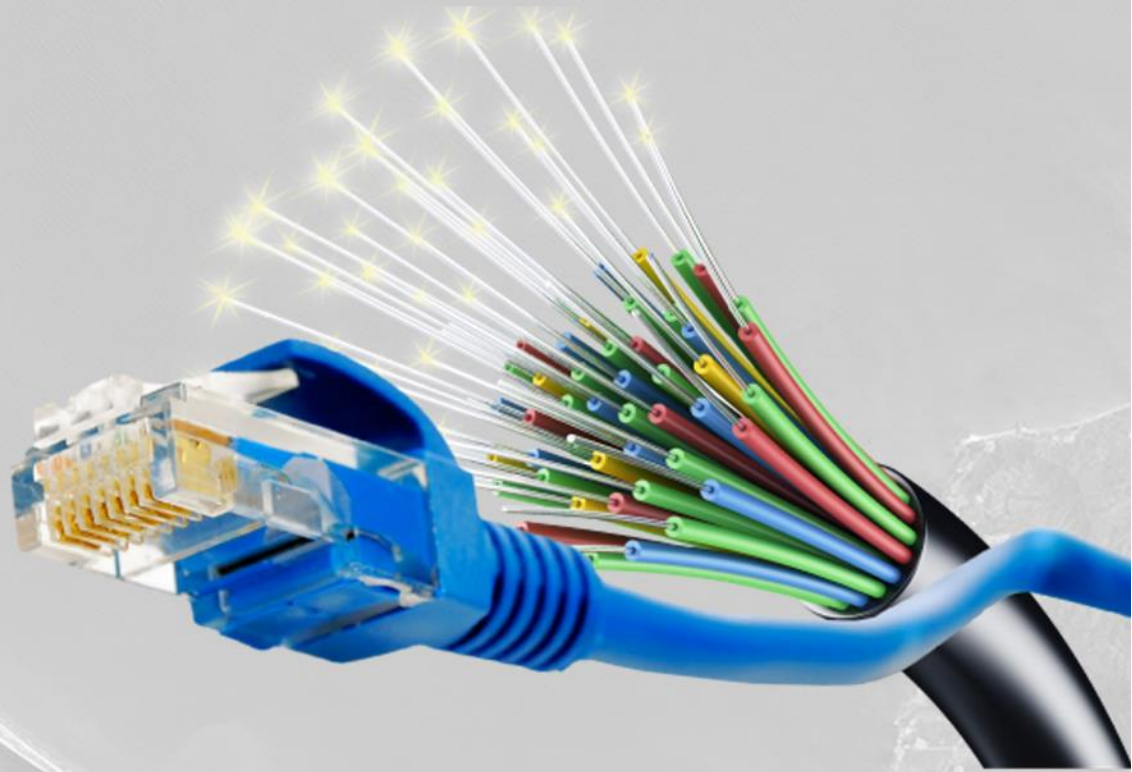


Source: Central Bank of Venezuela

### Trade Balance (US\$ Million)



Source: Central Bank of Venezuela



**PART II**  
**VENEZUELAN**  
**TELECOMMUNICATIONS SYSTEM**

# VENEZUELAN TELECOMMUNICATIONS SYSTEM

In Venezuela, the telecommunications sector is made up of more than 40 companies, which are qualified according to current regulations. These companies provide services ranging from mobile telephony and cable or satellite television to radio communications and satellite services.

The country's telecommunications regulatory body is the National Telecommunications Commission (Comisión Nacional de Telecomunicaciones-CONATEL), which establishes general policies and regulations to govern the sector, and also dictates the technical plans for the development of telecommunications in the national territory.

## **CONATEL's responsibilities:**

- To grant, revoke and suspend administrative authorizations, concessions and permits for the sector.
- To inspect facilities, operations, and service provision.
- To approve and certify equipment.
- To approve general conditions established in service contracts.
- To evaluate and approve service rates.

In addition, there exists the Chamber of Telecommunications Services Companies (Cámara de Empresas de Servicios de Telecomunicaciones-CASETEL), a private

institution that groups together 35 telecommunications companies with the mission of promoting the growth of the industry and serving as an organ of defense of the interests of these companies.

*CASETEL affiliated companies are:*

- Americatel Sistemas de Comunicación, C.A.
- BT LATAM Venezuela, C.A.
- 123.COM.VE, C.A.
- CenturyLink Telecomunicaciones, S.A.
- Compañía Anónima Nacional Teléfonos De Venezuela CANTV.
- Comunicaciones Móviles EDC.
- Convergía Venezuela, S.A.
- Corporación Digitel, C.A.
- Corporación Telemic, C.A. (Inter).
- Dayco Telecom, C.A.
- Edc Network Comunicaciones S.C.S.
- Galanet Solution, C.A.
- Galaxy Entertainment De Venezuela, C.A. (DIRECTV).
- IT Servicios De Venezuela, S.A.
- Multiphone Venezuela C.A.
- Multivision, C.A.
- NetUno, C.A.
- Patriacell C.A.
- Satélites y Telecomunicaciones, C.A. (Satelca).

- Sistemas Timetrac, C.A.
- T-COM Sistemas De Telecomunicaciones, C.A.
- Telecomunicaciones Corporativas Telecorp, C.A.
- Telecomunicaciones Rocarli, C.A.
- Telefónica Venezolana, C.A.
- The House's Television, C.A.
- Top Communications Estegia, C.A.
- TV Zamora, C.A.
- Vehicle Security Resources De Venezuela, C.A. (VSR).
- Verizon Venezuela, S.A.
- World TEL-FAX Electronics, C.A.

However, the Venezuelan national telecommunications system has the particularity of being led by the Compañía Anónima Nacional Teléfonos de Venezuela (CANTV), a state entity, which dominates more than 70% of the market in relation to fixed telephony and Internet service.

The above-mentioned companies provide a wide variety of services. However, the services with the highest percentage of distribution and penetration in the Venezuelan market are the following:

- **Mobile telephony and data:**

In mid-2018, according to data from the National Telecommunications Commission (CONATEL), 22,075,225 active mobile phone subscriptions were registered in Venezuela, having a drop of around 30% of subscriptions nationwide compared to 2013, when this service had a surplus of subscriptions.

Network data consumption by cell phone is the only service that shows a significant increase, more than 50% between 2016 and 2018, in a country where 52% of the population has smart phones, according to a survey conducted by the Venezuelan Observatory of Public Services (Observatorio Venezolano de Servicios Públicos - OVSP).

The same survey by OVSP, shows that only 31.35% of the survey respondents assured to have connection of good quality, 48.48% reported a “regular to bad” or a “too bad” service.

Regarding the speed of these services, Speedtest reported in January 2020 that Venezuela was ranked 137 in a ranking of 140 countries, with a download speed of 8.31 Mbps and an upload speed of 4.68 Mbps.



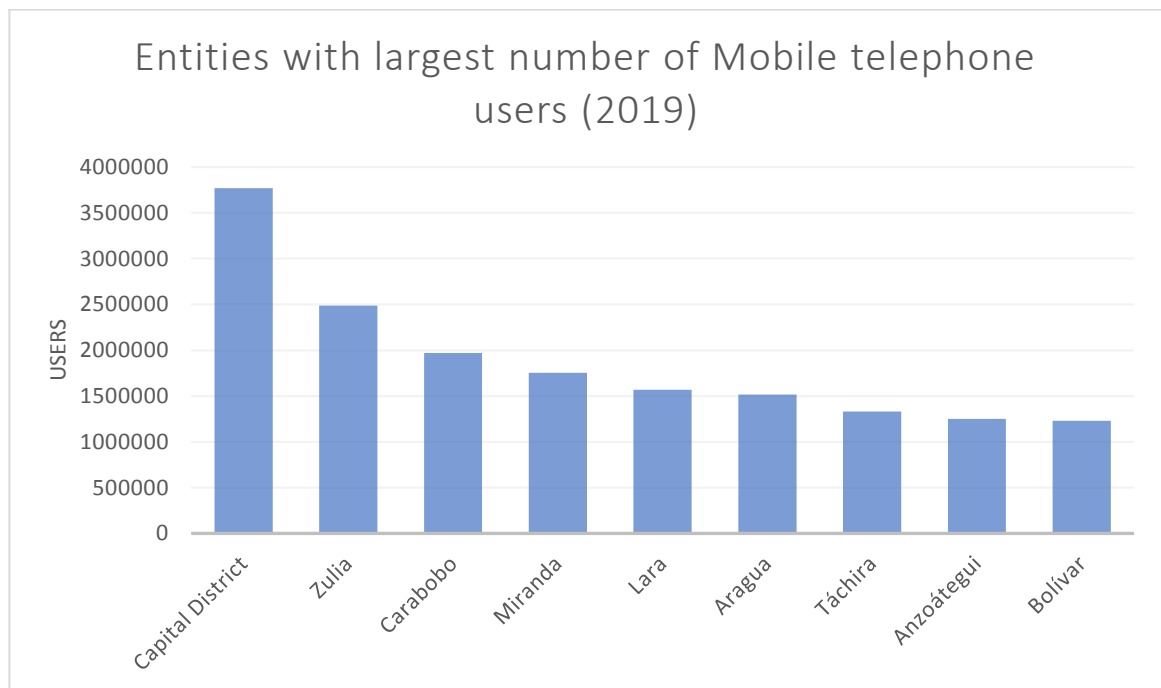
*Consumption rates, mobile data by service provider:*

Movistar: 1GB Bs 35,829.65 or US\$ 0.50

Movilnet: 1GB Bs 10,940 or US\$ 0.15

Digitel: 1GB Bs 35,000 or US\$ 0.49

(US\$ price calculated according to Venezuelan official rate on 25 March of 2020).



Source: CONATEL

- **Fixed Wireless internet:**

According to a survey conducted by OVSP at the end of 2019 in the ten main cities in the country, only 37% have fixed wireless internet at home. The highest subscriptions percentages are focused on San Cristóbal city (58%) and Caracas city (44.4%).

About 50% of the survey respondents reported daily services failures, and according to the Internet National Observatory Netblocks, most failures are due to electric outages and blockades related to public demonstrations.

The internet services in the country have the following market share: fixed wireless broadband: 70.53%, mobile broadband: 25.13% and Dial Up: 4.32%.

*Monthly rates for fixed wireless internet service, main companies in the market:*

CANTV: Bs 145,105.01 or US\$ 2.04

Inter: Bs 386,137.87 (approx) or US\$ 5.44

(US\$ price calculated according to Venezuelan official rate on 25 March 2020)

- **Cable or satellite television**

Sector figures report for the last quarter of 2018: CONATEL reported an estimate of 60 cable television subscriptions for every 100 Venezuelan households, this represents a 4.7% decrease in subscriptions compared to the first quarter of the previous year (2017).

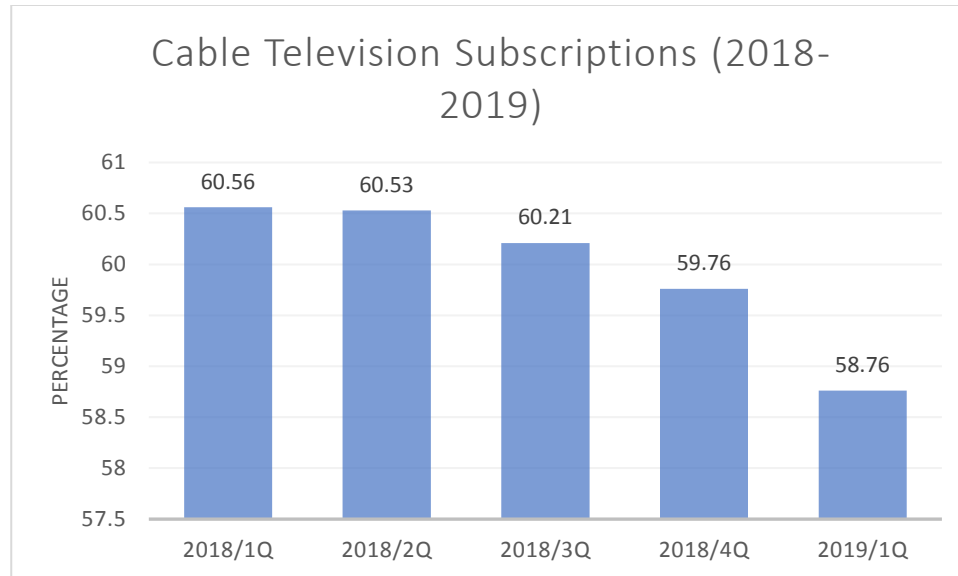
The companies with the highest percentage in the market distribution of this service are: Galaxy Entertainment Venezuela C.A. (DirecTV) with 44.36% and Corporación Telemic C.A. with 13.95%

*Monthly service rates, main companies in the market:*

DirecTV: Bs 194,000 or US\$ 2.7

Inter: Bs 386,137.87 (approx) or US\$ 5.44

(US\$ price calculated according to Venezuelan official rate on 25 March 2020)



Source: CONATEL

The highest concentration of subscribers is spread out among five states: Miranda, Zulia, Capital District, Carabobo and Aragua. However, the highest penetration is found in rural villages, such as in Amazonas, where penetration in 2018 was 155%, in Cojedes 93%, in Nueva Esparta 87%; this information includes the subscriptions of companies, shops, hotels, among others.

- **Fixed telephony:**

According to CONATEL, the amount of subscribers to fixed telephony has decreased by 24%, from 7.15 to 5.54 million, between the first trimester of 2017 and the last one of the year 2018. It is estimated that only 17% of the population uses this service and 90.05% of this percentage are CANTV (a state company) clients, including non-residential subscriptions. Landline telephony is the less requested and used service by Venezuelans.

Subscribers to this service are mainly located in Capital District and Zulia state, and the highest penetration is registered in Capital District (26.77%), Miranda state (25.19%) and Vargas state (22.05%).

### Main Telecommunications Operating Companies in Venezuela (multi-services)

	Mobile Telephony and Data	Fixed Wireless Internet	Cable and Satellite Television	Landline Telephony	National Long Distance	International long Distance
Compañía Anónima Nacional Teléfonos de Venezuela, CANTV		✓	✓	✓	✓	✓*
Corporación Digitel, C.A.	✓	✓		✓	✓	*
Telefónica Venezolana, C.A.	✓	✓	✓	✓	✓	*
Telecomunicaciones Movilnet, C.A.	✓					✓*
Corporación Telemic, C.A.		✓	✓	✓		
NETUNO, C.A.		✓	✓			
Supercable ALK Internacional, S.A.		✓	✓			
Sistemas Cablevisión, C.A.		✓	✓			

(\*) According to media reports, since 2017, the international long distance service by private companies was suspended due to their inability to pay international operators. Only state-owned companies CANTV and Movilnet, are still providing some international long distance service, however with many disruptions. International calls can mostly be made in early morning and only to a limited number of countries.



# **PART III**

# **SECTOR REGULATORY SYSTEM**



# SECTOR REGULATORY SYSTEM

In Venezuela, the legal framework of the telecommunications sector is made up of a large list of laws:

## **Fundamental laws:**

Fundamental laws establish principles that govern the sector. In addition, these laws establish that access to telecommunications and information technologies is a human right, therefore access must be guaranteed under conditions of freedom of expression, prohibition of censorship, free competition, among other principles that should govern the activities of this industry.

## **These laws are:**

- National Constitution of the Bolivarian Republic of Venezuela (Constitución Nacional de la República Bolivariana de Venezuela): Article 156, section 28 establishes as a responsibility of the Public National Power "**The system of mail and telecommunications services, as well as the regime and administration of the electromagnetic spectrum.**"
- Homeland Plan Law: among its general objectives is to guarantee access to telecommunications and information technologies "through the development of the necessary infrastructure".
- Organic Telecommunications Law: the purpose of this law is, according to its first article, "to establish the legal framework for the general regulation of



telecommunications, in order to guarantee the human right of people to communication and to carry out the necessary economic activities to achieve it, with no other limitations than those derived from the laws and the Constitution of the Republic”.

This law refers the procedure to be followed by those interested in obtaining an administrative authorization. The requirements are:

1. Identification of the interested party or whoever acts as its representative
2. Description of the project to be carried out
3. Documents that support what is described in the mentioned project and compliance with the General Conditions \* established by CONATEL
4. Address or email where notifications will be received
5. Compliance with all the requirements established in other laws and regulations
6. Signature of the interested parties.

Article 152 of the law sets forth the fees paid for the procedures related to administrative authorization and / or concessions in the sector, limited to an amount, not exceeding four thousand Tax Units (4,000 UT), nor less than one hundred Tax Units (100 UT). The amounts determined by the Regulations of this law are the following:

<b>Service</b>	<b>Amount of Tax Units</b>
Local fixed telephony (by each region)	500

Local fixed telephony (+ than three regions)	1500
National long distance telephony	1500
International long distance telephony	1500
Mobile telephony	2000
Internet services	200
Land mobile radio communication	500
Radio communication	400
Transport	1000
Access to networks and data	1000
<b>Subscription broadcast</b>	
Population up to 100,000 inhabitants	200
Population from 100,001 to 500,000 inhabitants	400
Population from 500,001 to 1,000,000 inhabitants	600
Population more than 1,000,000 inhabitants	800
Radiodetermination	700
Maritime radiocommunications	300
Aeronautical radiocommunications	200

Aid to Meteorology	200
Telecommunications network establishment and operation	100
General authorization for the establishment and operation of the telecommunications network	500
Granting of orbital resource concessions and associated portions of radio spectrum	4000
Others	100

**Note:** if the total amount of the fees of an application exceeds the established limit, the total amount will automatically become 4000 U.T.

\*General conditions will be established by CONATEL, in response to the particularities of the sort of service that the interested party shall offer.

- Law on Social Responsibility in Radio, Television and Electronic Media: the purpose of this law is “to establish, in the broadcasting and reception of messages, the social responsibility of radio and television services providers, electronic media providers, advertisers, independent national producers and users”

## Referential laws

Referential laws of the Venezuelan telecommunications sector have a complementary and deepening meaning on the content of the fundamental laws, these are:

- Organic Law of Science, Technology and Innovation

- Infogovernment Law
- Law for the Protection of Children and Adolescents in Rooms for Internet Use, Video Games and other Multimedia
- Special Law against Computer Crimes
  - Law on Data Messages and Electronic Signatures
  - Law on Access and Electronic Exchange of Data, Information and Documentation between the Organs and Entities of the State
  - Law on Administrative Procedures Simplification
  - Organic Law of Public Administration
  - Law on Public Function of Statistics

## Others

- Regulations:
  - Regulations for the protection of the Rights of users in the provision of telecommunications services: establishes the regulations that must be met by companies that provide telecommunications services related to contracts, installation and activation of services, customer service, collection, interruption of services, suspension and blocking of services, claims, compensation, among others.
  - Regulation of the Organic Telecommunications Law on administrative authorizations and concessions for the use and exploitation of the radioelectric spectrum: as set forth in its article 1, this regulation develops “the general regime according to which the Minister of Infrastructure or the

National Telecommunications Commission, in response to the case, will grant **administrative authorizations for the establishment and exploitation of networks and for the provision of telecommunications services and concessions for the use and exploitation of the radio spectrum**” in accordance with the provisions of the Organic Telecommunications Law (a fundamental law). Authorizations and concessions are non-transferable and may be granted for a maximum period of 25 years, with the possibility of being renewed for equal periods, the attributes to be incorporated to obtain such authorizations or concessions will be determined by the Director General of CONATEL and will be published in official gazette. Orbital resource concessions (for satellite services) may be granted for periods of up to 15 years. CONATEL will publish in written and electronic media of public access, the way in which requisites must be presented by those interested in obtaining administrative authorizations, concessions and other related procedures, as established by article 79 of these regulations.

- Regulation on Taxes (Organic Telecommunications Law): establishes regulations for the supervision of the sector regarding taxes.
- Regulation of the Organic Telecommunications Law on the universal telecommunications service, article 13 grants CONATEL control of the prices of telecommunication services.

This article reads as follows:

“The qualification of the offer presented by an operator will imply the approval of the minimum and maximum rates indicated by said operator”.

In any case, the minimum and maximum rates presented by the operators must be included within the limits established by the National Telecommunications Commission in the specifications.

- Rules for the registration of taxpayers of telecommunications taxes: establishes rules applicable to the registration of taxpayers of telecommunications taxes, aimed at tax control of natural or legal persons who carry out activities in the sector. The registry must be used when the taxpayer:
  1. Address communications of a tax nature to CONATEL.
  2. Present the determinative tax declarations
  3. Keep special books and records in accordance with the provisions of article 63\* of the Tax Regulations established in the Organic Telecommunications Law\*

"The Tax Administration, by Resolution, may require that certain types or categories of taxpayers keep special books and records of their economic activity, for the parent company and for each of its branches or establishments".



**PART IV**  
**CURRENT SITUATION OF THE**  
**VENEZUELAN TELECOMMUNICATIONS**  
**SYSTEM**

## CURRENT SITUATION OF THE VENEZUELAN TELECOMMUNICATIONS SYSTEM

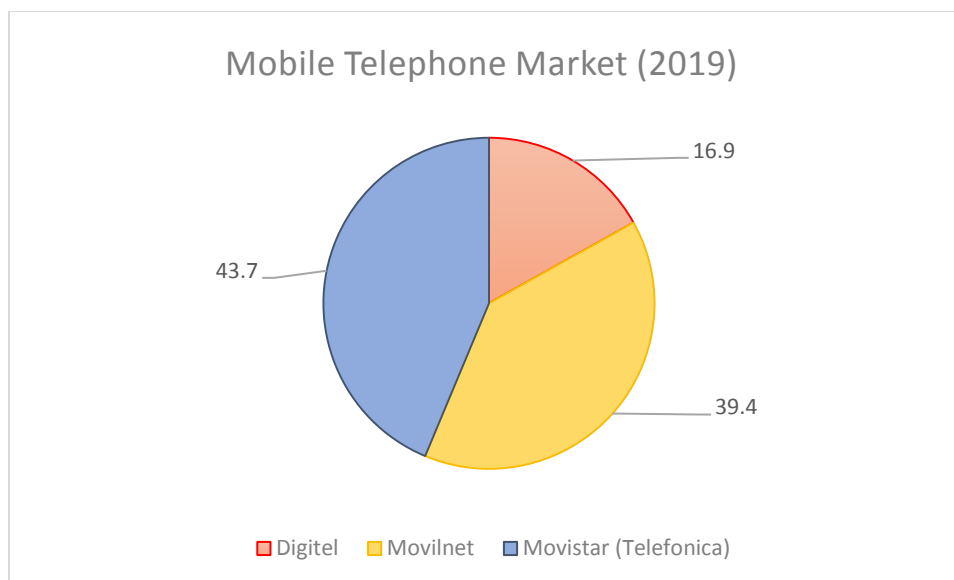
In recent years, the telecommunications sector in Venezuela has suffered the effects of the economic crisis that the country is facing; the only service that has shown growth has been the consumption of mobile data, a service that occupies, along with mobile telephony, 42.91% of the sector's revenues, according to CONATEL figures.

Despite the difficulties, the leading companies are betting on growth and have invested in their infrastructure to achieve a greater scope and better quality services in the national territory; as an example Telefónica announced an investment of 10.5 million dollars at the beginning of the year 2020 in an effort to strengthen its LTE network. Also, President Nicolás Maduro announced in August 2019, that a deployment of 4G and 5G technology would be implemented, in joint investment with Chinese companies Huawei and ZTE.

The telecommunications subsector has faced a problem in recent years that has made it more difficult to advance in its technologies: a large part of its budget is used to recover stolen and vandalized equipment. In 2019, Telefónica reported losses of US\$ 3.5 million caused by theft. This situation has made security a major challenge for the telecommunications sector in Venezuela.

Another disadvantage for the investment by new companies would be the distribution of the market, since it is entirely dominated by three companies that have traditionally been the providers of this service: Telefónica, Movilnet and Digitel.





Source: CONATEL

CONATEL reported that in the first quarter of 2019, mobile telephony ranked first with 42.91% in terms of income distribution by the telecommunications sector while internet ranked third with 19.96%. Market distribution is dominated by the state-owned company CANTV, which occupies 65.79% of the market, followed by Digitel with 14.45% and Inter with 7.36%. These figures comprise three types of services: fixed broadband, mobile broadband and dial-up.

CONATEL only takes into account the modalities of the internet service above-mentioned, denominated as "traditional" by this body. However, in recent years the demand for satellite internet has experienced some increase, in many cases due to the failures that traditional services have had and the low speed. The main disadvantage of this service for Venezuelans is represented by its high cost, that more than 90% of the population is unable to afford.

The central Government's price controls on internet services have limited the investment for many years. The sector's incomes are not enough even to cover maintenance operations, and for this reason the infrastructure has experienced deterioration, impeding companies from providing a high-quality service, which has resulted in a decrease in the number of clients and left areas of the country completely disconnected from this service.

Cable or satellite television services, as Internet services, have been controlled for many years. Currently, using the date for reference as 20 March 2020, the monthly price of the highest satellite television tariff that of DirecTV is equivalent to about US\$ 2.7, in the case of Corporación Telemic (Inter) cable television rate is equivalent to US\$ 5 (approx), both are calculated at the official dollar rate of the day.

It is important to highlight that subscription TV industry has experienced a reduction of 2% (2017-2018) in its worldwide clientele due to the introduction of new TV platforms that have been widely received by the Venezuelan public. This is the case of paid streaming service of Netflix. According to CONATEL, a drop of 1.7% in the number of subscribers of paid cable TV was recorded during 2018-2019. The decline can be explained by various reasons: first, even though the prices are really low compared to other countries many Venezuelans are not in a position to pay for that service; secondly, the difficulty of replacing damaged equipment due to their high cost; and last of all, access to new entertainment platforms (streaming) has grown in Venezuela, as in the rest of the world.

Fixed telephony is the service that has lost the highest percentage of customers in recent years. A large number of failures are reported, and in many cases users choose to dispense with the service because they do not receive any solution. Fixed telephony service also faces the growth of mobile telephony and other complications, such as

equipment theft and vandalization. However, the percentage of clientele at remote places, especially in the interior of the country, is still significant.

It is evident that the telecommunications industry is facing various challenges in Venezuela. Price control, together with security problems and a lack of investment have caused a significant technological delay compared to the rest of the world. However, companies operating in Venezuela continue to make efforts to sustain an industry of utmost importance for the development of the country and for the needs of Venezuelans, trying as much as possible to maintain an environment of competitiveness, especially in most required services.



**PART V**  
**FINAL CONSIDERATIONS**

## FINAL CONSIDERATIONS

The main problems of the telecommunications system, and which represent market opportunities for Indian traders, are listed below:

- Lack of investment in maintenance and technological updating. In this sense, Indian companies could consider to supply satellite Internet services, which has experienced an increase in its demand due to the disruptions in services by CANTV and the other companies that serve the national market in the provision of that service.
- The state-owned CANTV, which is the country's largest communications operator in Venezuela, presents many disruptions, instability and low connectivity speed of its internet and telephone services. Indian companies may offer export of technology materials and equipments for an update of CANTV's platform and infrastructure.
- Collection of minimum user fees. Given the economic crisis in Venezuela, the State has offered participation opportunities to those companies that wish to invest in the country. However, one of the mandatory conditions is that its technological platforms must be incorporated into the national system and local personnel must be hired and trained to operate the systems. The low wages in Venezuela may be an advantage for service operators in terms of their cost structure, as there is a large pool of highly skilled workers in Venezuela ready for new opportunities.

- Poor internet service in some areas and the lack of service update has impacted the internet coverage even in larger cities of Venezuela. This situation has forced the people to acquire portable internet devices as an alternative for connectivity. Indian companies could introduce Wi-Fi portable routers with and even offer international SIM cards with pre-paid mobile internet plans in foreign currency as some companies are starting this practice in the country as a temporary solution for the people.

The current economic crisis that the country is facing, affects all productive sectors, and telecommunications sector is not an exception to this reality. The harmful effects of the crisis have impacted both service providers and users.

In order to overcome this crisis, the sector requires high investments that allow modernization and maintenance of the technological platform. Therefore, the main investment niche that may be of interest is the import of parts and pieces to replace those that have outlived their life cycle; as well as components to integrate into the existing platforms, and thus modernize the sector.

A further unexplored niche in the country is the insurers and advisers to handle cases of telematics incidents. Given that cybercrime is evolving, both the state and companies must seek ways to protect themselves. In Venezuela, VenCERT operates: it is the national team to respond to telematic and computer incidents. VenCERT is an entity attached to the Superintendencia of Electronic Certification Services (Superintendencia de Servicios de Certificación Electrónica - SUSCERTE) of the Ministry of People's Power for Science and Technology. VenCERT currently offers services related to monitoring and

raising alerts about possible attacks, detection, identification, analysis and correction of telematic incidents; also publishes articles and technical guidance on technology security and advices on policies for Internet security. However, Indian experience in the field of cyber-security can offer a scope for training and capacity building of professionals, allowing them to provide support services and control of telematic incidents.

## **POSSIBLE AREAS OF INTEREST FOR INVESTMENT**

Revenues from the telecommunications sector fell 94.32% between 2016 and 2018, according to data published by the National Telecommunications Commission (Conatel). Total revenue for the sector was US\$ 27,145,914.85 at the end of 2018, at the official exchange rate at the end of the year, while in December 2016, it increased to US\$ 478,357,832.

This income reduction generated a collapse of investments: from US\$ 87,655,530 at the end of 2016 to only US\$ 2,798,050.6 in 2018 (96.81%), at the respective official exchange rates of closing of each year.

### 5G technology: Urgent.

The serious situation of telecommunications services has left Venezuela as one of the few countries in Latin America that has failed to fully implement 4G technology. This situation will generate a future opening of the sector, where it will be necessary to invest in new 5G platforms. This could represent an important opportunity for Indian investors, who could become significant operators in Venezuela, placing themselves among the most important companies in the telecommunications sector. It should be noted that, more than 60% of Movilnet users still have devices that operate with CDMA technology.

### Creation and maintenance of new telecommunication platforms

According to the *Cámara de Empresas de Servicios de Telecomunicaciones* CASETEL (Chamber of Telecommunication Services Companies), the telecommunications sector in Venezuela current needs to establish mechanisms for the maintenance and restitution of obsolete and outdated platforms, as well as for the installation of new electrical power



backup systems to continue operations under situations of disruptions in the supply of electricity. In order to reach a level of operational stability the telecommunications sector would require an estimated investment of US\$ 1-1.5 billion. In addition, CASETEL estimates that Venezuela would require an additional investment of around US\$ 1.5 billion to reach a similar technological level as the rest of the developing world.

Companies are currently directing investment towards the recovery of stations and the installation of batteries and plants to protect services in case of commercial electricity supply outages. However, improvements in service quality and availability are required, so India's investments could focus on recovering out-of-service infrastructure and the inclusion of new technologies of digitization.

#### Increasing mobile telephony

In recent years and despite the precarious service, the demand for connectivity through the use of cell phones in the country has increased. Mobile telephony has displaced fixed telephony, and the use of mobile data is increasingly in demand among users. In 2018, The Observatorio Venezolano de Servicios Públicos (The Venezuelan Public Services Observatory) validated that 52% of the population owns a smartphone. However, commercial establishments still rely on the use of landlines for its debit or credit card operations through POS or point of sale systems.

In this regard, the cell phones market niche continues to experience an increasing demand. Although mobile services in Venezuela fail to fully satisfy the demand of the users, many Venezuelans are inclined to the use smartphones. This represents a scope for Indian telecommunications companies and manufacturers of cell phones, because

there is the possibility of entering into the national market, considering that the de-facto dollarization of the country has allowed many Venezuelans to acquire low and mid-range smartphones and major brands such as Apple, Samsung, LG, Motorola, etc, are not affordable for most of the citizens. However, brands such as Huawei, Redmi, Oppo and Xiaomi, have found preference with a large majority of the Venezuelan market due to their affordability and features. Indian mobile manufacturing companies such as Micromax and Lava, could find an opportunity to compete in the range of low-end devices in Venezuela.