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HOW TO MODEL TIM S.A.

Assumptions of TIM S.A.'s business model:

MAIN SOURCES OF REVENUE

The Company's main sources of revenue come from:

(i) provision of mobile telecommunications services;
(ii) (ii) provision of fixed telecommunications services, including fixed broadband, and;
(iii) sale of products (appliances).

Revenues from individual and corporate customers are allocated under both mobile and fixed services.

Revenue from mobile telecommunications services consists of:

a) Customer Generated Revenue (CGR):

RGC primarily comprises revenues related to the subscription and use of data and voice packages. Most of TIM's plans have franchises for the use of mobile data, in addition to franchises for voice and local long distance services, both in the postpaid and prepaid segments. Still on the Voice front, the line concentrates revenues from International Long Distance . It is important to emphasize that, with the migration from voice to data, this front has lost part of its importance in recent years.

The revenue from VAS (Value Added Services) corresponds to the earnings from value added services in the postpaid and prepaid segments. These services are complementary to voice and data. Such as SMS (text messages), content and game applications, videos and music, among others. With the development of the mobile market, VAS revenue has become an important source of revenue for operators. Some of the services provided as VAS are considered non-telecom services and therefore have differentiated tax rates.

b) Interconnection

Interconnection revenue corresponds to the payment of an interconnection fee (MTR) by the other operators for the use of TIM's network. For example: when a user from another operator makes a call to a TIM number, the other operator must pay a fee to access TIM's network. Interconnection can be classified mainly between:

(i) Mobile Termination Rate e (MTR or VU-M): refers to the Interconnection tariff related to calls terminated in a mobile network;
(ii) Local Network Use Rate (TU-RL): refers to the Interconnection tariff related to calls terminated in a fixed network;
(iii) Specialized Mobile Service Remuneration (VU-T): refers to the tariff for Interconnection terminated in the network of Specialized Mobile Service operators;

c) Customer Platform

Customer Platform Revenue comprises the revenue arising from the innovative strategy adopted by TIM since 2020 with the aim of monetizing the company's customer base through partnerships with agents in various sectors. This initiative is enabled by different business models:

(i) Commercial Partnerships with direct remuneration for the sale of advertising and data intelligence - serving different brands that seek to increase awareness and consideration, with: lead generation, application installation, product sales, account opening, service subscription, consumer research and 1 stparty data enrichment. The main products of this initiative are TIM Ads and TIM Insights.
(ii) Strategic Partnerships that seek to achieve the same objectives as above in an accelerated manner. In this model, in addition to TIM Ads and TIM Insights products, we use TIM's brand to make an endorsement of the partner's brand, thus encouraging the consumer to join the partner's brand through an exclusive offer of GB bonus. Moreover, this measure is further encouraged by TIM's commercial capillarity in the country through the large number of stores, points of sale, touch points (My TIM, Stories, In App Push Notification) and the company's partner vendors. In this model, TIM's compensation is linked to the commercial success of the partnership and composed of a customer acquisition rate in real (R$) and by the equity share in the partner companies. Among the product portfolio of this initiative are financial services and digital education.

d) Other Revenues

Other revenues mainly comprise gains from leases / swaps of infrastructure (fiber optic backhaul) and capacity, the sale of SIM cards and contractual fines.

Revenue from fixed telecommunications services consists of:

a) Traditional landline telephony:

(i) Customer Generated RevenueThe company's main source of revenue comes from subscription revenues and the use of voice packages. Most of TIM's plans include franchises for the use of voice services (local) and long distance (local). The long distance
revenue, in turn, corresponds to national (long distance) and international (long distance) calls.
(ii) Interconnection
The interconnection revenue corresponds to the payment of interconnection fees by the other telephony operators for the use of TIM's network, as explained in 'item b' of the section of Revenue from Mobile Services.

b) Fixed Broadband:

In this context, broadband revenue corresponds to services provided and associated with TIM Live, the company's fixed broadband product, which has FTTH and FTTC coverage in multiple cities in Brazil. In the last few years, this line has been an important source of growth for TIM's revenues, associated to the quality and geographical expansion of the service.

Revenue from the sale of products consists mainly of the sale of telephony devices, such as cell phones, which are often used as a customer loyalty and retention strategy, associating a promotional price for one of these products with the customer's subscription to a telecom services plan for a certain period of time. In addition, the line includes sales of other products, such as modems and peripherals.

TAXES AND DISCOUNTS

Taxes on Circulation of Goods and Services (ICMS)

ICMS is levied on revenues from telecommunications services, both mobile and fixed. Since the ICMS is a state tax, it varies from state to state, and the average rate for Telecom is 27%2.

It is important to remember that the Value-Added Service mentioned above is not considered a telecommunications service and, because of this, is not subject to ICMS, but to ISS.

For other revenues, such as the sale of devices and chips, the incidence of ICMS (own ICMS) occurs and, in many cases, there is also the incidence of ICMS tax substitute. The ICMS tax rate varies for internal and interstate purchases, being 18%[2] for internal operations, 12%[2] and 7%[2] for interstate operations, and 4%[2] for imports.

PIS and COFINS

The applicable taxation varies according to the nature of the revenue (cancelled sales and unconditional discounts granted, when applicable, are excluded from the calculation):

• Revenues from telecommunications services: subject to the cumulative regime that consists of applying the rates of 0.65% and 3%, respectively, on gross revenue;

• Revenues from sales of devices and activities not related to telecommunications (non-telecom): subject to the non-cumulative system, which includes the discounting of credits related to the purchase of goods for resale and inputs used in the activity, for example. The tax rates of 1.65% and 7.6%, respectively, are applied to the calculation base resulting from the comparison of debits and credits;

• Financial revenues: rates of 0.65% and 4%, respectively.

Discounts

The management of discounts is a fundamental part of the telecom operators' strategy for customer acquisition and retention. In offers of telephony plans and handsets, discounts applied on the base price of services and products are deducted from Gross Revenue in these lines. For example, when a plan or handset is offered at a discount to the company's standard selling price, Gross Revenue is booked based on this standard price and the discounts applied in the offer are booked under the Discounts line, with Net Revenue reflecting the price at which the service or product was actually sold. Discounts are part of the company's pricing strategy with regard to both gaining market share and building customer loyalty.

MAIN INCURRED COSTS

The Company's main costs arise from:

(i) provision of mobile telecommunications services;
(ii) provision of fixed telecommunications services and;
(iv) purchase of products (appliances).

The Company's service rendering costs include all the expenses related to the operation and are broken down into:

a) Personnel Expenses

Personnel expenses are essentially composed of salaries (including 13th salary and vacation), overtime, benefits (meal vouchers, transportation vouchers, medical and dental care, among others), charges (INSS, FGTS and others) and employee profit sharing.

b) Commercialization Expenses

Selling expenses mainly include expenses with advertising campaigns in different media, commissions to our sales partners, professional technical and other third-party services, Anatel fees (Fistel, including Fistel for antennas) charged on each active fixed line and mobile line, among others.

c) Network and Interconnection Expenses Formatted:

Interconnection expenses mainly correspond to the payment of TIM's interconnection fee to the other phone companies for the use of their networks. For example: when a TIM client makes a call to another operator, TIM must pay a fee to access the other operator's network. The types of Interconnection existing in Brazil were mentioned previously under Interconnection Revenues.

Regarding Network expenses, we can highlight the rent, sharing and infrastructure maintenance expenses.

d) General and Administrative Expenses

General and administrative expenses are mainly composed of: expenses with building infrastructure, such as rental and maintenance of real estate, expenses with systems maintenance and amounts paid as a result of professional services contracted, such as consultants, auditors and lawyers, and donations for cultural purposes.

e) Provision for Doubtful Debtors (PDD)

Allowances for doubtful accounts are based on expectations of losses from defaulting customers. The indicator widely used for this measurement is the allowance for doubtful accounts over total gross revenue. It is worth noting that in recent years, due to the significant change in the profile of the company's customer base, with postpaid segment revenue growing more than prepaid segment revenue, corroborating the strategy adopted from "volume to value", the indicator accompanied the growth of the base exposed to default.

f) Other Operating Income (Expenses)

The other net operating income (expenses) include the records related to the Company's provisions, being the main ones: provision for tax, civil and labor contingencies, besides other taxes, fees and contributions like FUST / FUNTTEL.

DEPRECIATION AND AMORTIZATION

The Depreciation accounted for by the company focuses mainly on telecommunication and infrastructure equipment and financial leases, while Amortization focuses mainly on software and frequency authorizations. Information about the annual rates and average periods of depreciation and amortization of assets can be found in Notes 13 and 14 of the company's Financial Statements, respectively.

Importantly, the Depreciation line has significantly increased its relevance with the adoption of accounting standard IFRS 16 as of January 1, 2019, since this standard now treats all lease/rental contracts, previously classified as "operating leases," as "finance leases."

FINANCIAL RESULTS

The Company's financial result includes:

a) Financial Revenues

The main financial revenues refer to: (i) income on investments in financial institutions with the highest ratings in the market, in CDBs and committed operations backed by debentures linked to DI rate (Interbank Depositary); (ii) interest on lease/rental agreements (active leasings); (iii) monetary updates (mainly on contingencies and deposits and loans); and accounting of the mark-to-market of equity investments in partners.

b) Financial Expenses

The main financial expenses refer to: (i) interest on loans and financing with banks and other local and international financial institutions; (ii) interest related to tax rates; (iii) interest on lease/rental agreements (lease liabilities); and (iv) monetary restatements (mainly on contingencies and deposits and loans).

Importantly, the Financial Expenses line has significantly increased its relevance with the adoption of the IFRS 16 accounting standard as of January 1, 2019, since this standard now treats all lease/rental contracts, previously classified as "operating leases", as "financial leases".

c) Net Exchange Variation

The foreign currency loans and financing contracts are 100% hedged through mark-to-market derivative contracts. Thus, the net impact of exchange rate variations on foreign currency loans is null. The contracts with suppliers that render services or sell products (appliances) foresee an "exchange rate band", in which the foreign currency can vary, without affecting the costs incurred, so they are partially subject to exchange rate variation.

INCOME AND SOCIAL CONTRIBUTION TAXES (IRPJ AND CSLL)

We can separate the company's income tax and social contribution into two main groups:

• Current IRPJ and CSLL: the calculation basis is the profit before taxes for the calculation period, adjusted by the additions, exclusions or compensations prescribed or authorized by the tax legislation. After the offsetting of tax losses and negative bases (limited to 30% of the taxable income), the rates of 25% for IRPJ (15% and an additional 10%) and 9% for CSLL are applied.

• Deferred IRPJ and CSLL: recognized on accumulated tax losses and negative bases and on temporary differences between the tax bases of assets and liabilities and their

carrying amounts. The calculation is made using rates of 25% for IRPJ and 9% for CSLL.

It is important to note that IFRS 16 has an impact on this line, since the accounting standard is not used for tax matters.

In addition, TIM has tax benefits and uses methods of distributing profits to its shareholders that reduce its effective tax rate. Among them are:

• Tax benefits: the company enjoys a discount on Current Income Tax due to its operations in the areas of the Superintendence for the Development of the Northeast (Sudene) and the Superintendence for the Development of the Amazon (Sudam).

• Tax credit from accumulated loss carryforwards: the Company has deferred tax assets arising from the amounts it has the right to use as tax losses and negative basis of social contribution on income, recorded in full after the corporate restructuring of its subsidiaries TIM Celular and TIM S.A. (the name of Intelig Telecomunicações Ltda.), in which the former merged with the latter on October 31, 2018. On this date, the amount was R$950 million.

• Interest on Equity (IOE): In Brazil, an alternative method to the payment of dividends for a company to distribute profits to its shareholders is the IOE. In Brazil, dividends are not taxed, but the company has an income tax rate of 25% of its EBIT. The Interest on Equity, on the other hand, has a tax rate of 15%, taxed at source at the time of distribution. However, the JCP is deductible from the company's IR calculation basis, which makes its effective tax rate reduced. Thus, there is a benefit for both the investor and the company in using this method of distribution.

NET PROFIT

Net profit for the period is the sum of operating profit, non-operating profit, and share of profit.

Regarding the distribution of dividends, TIM, as provided for in its by-laws, has set as minimum distribution fraction on its adjusted net income the percentage of 25%. Adjusted net income considers the adjustment related to the legal reserve, allocation to contingency reserves and the accounting of unrealized profits.

BALANCE SHEET

In TIM's Balance Sheet, there are a few lines specific to the telecom sector or features that are worth highlighting. These are:

a) Trade accounts receivable - accounts receivable net of Bad Debt, due to customers with overdue invoices and calculated based on the company's criteria.

b) Prepaid expenses - the expenses related to FISTEL (TFF, CFRP and Condecine), related to fees with Anatel, paid once a year, are recognized monthly in the result and have the remaining balance accounted for under the prepaid expenses line in the balance sheet.

c) Derivative financial instruments - referring in their totality to hedge operations for foreign currency debt.

d) Finance leases - referring to the balances of financial leases related to the sale-leaseback agreements of towers, LT Amazonas and IFRS 16.

e) Fixed assets - the balance of the company's permanent assets, either via own investment (CAPEX) or financial leasing contracts.

f) Intangible assets - include licenses for spectrum use, acquired from Anatel.

g) Authorizations payable - commitments to pay for authorizations with Anatel. The company's contracts with the agency consist of two terms. The first term is guaranteed by payment of the offer made at the frequency auction. In case of renewal for the second term, a 2% payment is due on the net revenue of the region covered by the authorization that ends each biennium. TIM's licenses are composed of two terms of 10 or 15 years each.

h) Pension plans and other post-employment benefits: The company sponsors defined benefit private pension plans for a group of employees from the former TELEBRÁS system, which are currently under the administration of Fundação Sistel de Seguridade Social and Icatu Fundo Multipatrocinado. The balance sheet amounts represent total liabilities and not net liabilities.

NET FINANCIAL POSITION

TIM's Gross Debt is calculated by adding the lines of: (i) loans and financing from current and non-current liabilities; (ii) net balance of derivatives (short- and long-term derivatives liability balance less short- and long-term derivatives asset balance); and (iii) finance lease net balance (short- and long-term finance lease liability balance less short- and long-term finance lease asset balance).

The Net Debt (or Net Financial Position) consists of deducting the position of the Cash, Banks and Financial Investments lines from the Gross Debt.

CASH FLOW

TIM's Cash Flow Statement inlcudes:

a) Cash Flow from Operating Activities (FCO)

The FCO groups the cash movements related to the company's operating activities, such as, for example, revenues from telephone service plans and disbursements on handset purchases for sale. In TIM's ITR and DFP, the company presents its cash flow indirectly, i.e., starting from Pre-Tax Profit, adjusting it for non-cash effects - such as Depreciation and Provisions - and non-operational effects - such as Interest on Loans and Leases - and then reconciling the DRE entries (on an accrual basis) with the cash movements through changes in the balance sheet lines. Changes in the balances of operating assets and liabilities, such as Accounts Payable and Account Receivable, as well as non-cash operating items, such as Depreciation, are classified by the company in other materials - in the Earnings Release, for example - as Change in Working Capital.

b) Cash Flow from Investment Activities (FCI)

These cash movements of the company refer to the investments made in the period in Fixed Assets (e.g. Infrastructure) and Intangible Assets (such as Licenses). Since the Cash Flow presented by the company deals with changes in the cash position of the Balance Sheet, eventual investments and divestments in financial assets, classified under the Securities line in the Current Assets of the Balance Sheet, are also reflected under the FCI.

TIM's Capex is mainly composed of investments in infrastructure, network and IT (about 90%).

c) Cash Flow from Financing Activities (FCF)

These flows deal with the company's cash movements with its capital providers. These movements refer to the changes in the debit balances of loans, financing and lease contracts (contraction of new loans and amortization of existing financing), as well as interest payments on these liability balances and payments of dividends and Interest on Equity. Note: in Q4 2018 and Q2 and Q3 2019, TIM recognized in its Balance Sheet, PIS/COFINS credits arising from lawsuits owned by TIM Celular S.A. (merged by TIM S.A.), as well as TIM S.A. itself, with final favorable decisions in Superior Courts that discussed the exclusion of ICMS from the calculation basis of PIS and COFINS contributions, in the total amount of R$3.4 billion (approximately R$2.0 billion of principal and R$1.4 billion of monetary adjustment).

The recognition of these amounts positively impacted TIM S.A.'s results in the aforementioned quarters, but had no cash effect, creating a Taxes Recoverable asset on the company's balance sheet.

TIM will use the balance of this asset to replace the disbursement of PIS/COFINS calculated monthly, so that these taxes will normally impact negatively the company's income statement,but will not imply cash disbursements.

ACCOUNTING STANDARDS

IFRS 9 (CPC 48) and IFRS 15 (CPC 47)

On January 1, 2018, IFRS 9 and IFRS 15 became effective. The former includes new accounting standards on the classification and measurement of financial assets. IFRS 15, in turn, deals with the recognition of Revenue, changing the timing of accounting and the allocation of amounts between products/services rendered. In addition, IFRS 15 ends the capitalization of selling expenses (commissions), leading to a difference in allocation between OPEX (selling expenses) and CAPEX.

IFRS 16 (CPC 06 R-2)

As of January 1, 2019, IFRS 16 became effective. The new rule does away with the nomenclature of financial leasing and operating leasing contracts, so that all leasing contracts with terms longer than 12 months must appear on the Balance Sheet, by recording the right to use those contracts. In TIM's case, the leasing contracts are of the following nature: Towers, Land (network), Vehicles, Stores and Kiosks, Real Estate and Deleted Fiber.

The change does not cause a change in the company's cash flow. However, it causes significant changes in the asset (Fixed Assets) and liability (Leasing) balances of the Balance Sheet. In addition, the income statement is impacted, since the leasing contracts are no longer accounted for under the OPEX line, but under the Depreciation (write-off of the fixed assets of these contracts) and Financial Expenses (interest on leasing) lines.

To calculate the impact of adopting IFRS16, the amount paid periodically for renting/leasing a certain asset should be brought to present value by a predefined discount rate. In TIM's case, the discount rate is defined by multiplying the average cost of debt (in % CDI) by the pre-defined rate (defined by the term of each contract).

Depreciation of assets is calculated on a straight-line basis based on the contract term. The financial expense, in turn, should be calculated using the rate obtained and the liability balance.

The last impact on the income statement is related to the deferral of income tax and social contribution. Since IFRS 16 has no tax impacts, that is, it is not used for tax purposes, all the difference in income tax and social contribution observed compared to the previous standard is deferred.

Finally, for Cash Flow purposes, the amortization of the lease liability balance (shown under Financing Activities Cash Flow) is obtained through the difference between the amount paid periodically under the contract and the Finance Expenses in the same period.

It is important to note that the use of IFRS 16 should not lead to value creation for TIM's shares, since the standard does not change the company's Cash Flow and Cost of Capital. TIM suggests that the Free Cash Flow to Equity (FCFE) is adopted for modeling and projecting the company's numbers. However, below we will also comment on the suggested step-by-step modeling of Free Cash Flow to Firm (FCFF).

To model and project TIM's cash flow under IFRS 16, it is essential that the investor/analyst has an estimate of the company's strategy with respect to leases vs. acquisitions. That is, through an understanding of whether the company's strategy is to increase the volume of leasing to the detriment of own investment (CAPEX), it is important to project the growth of the balance of leasing contracts, for example. Thus, Rated Public based on the volume of Fixed Asset Depreciation, Financial Expenses, Deferred Taxes and Lease Amortization (the four exclusively in function of the standard) observed in previous years, associated with the individual projections on TIM's strategy with regard to the use of leases (with an estimate of the behavior of additions to Fixed Assets and Lease liabilities), it is possible to project the Annual Report, Balance Sheet and Cash Flow using IFRS 16.

In the case of using Free Cash Flow to Firm (FCFF), the modeling becomes a little more complex as it does not consider the Cash Flows from Financing Activities in its calculation, not accounting for Financial Expenses and Lease Amortization. As an immediate consequence of applying the standard, value generation is observed (EBITDA is higher compared to the standard prior to IFRS 16, due to a lower OPEX, but with no inverse counterpart). Thus, the EBITDA growth between standards should be expunged from the result in another way.

TIM's suggestion for using this technique is to first calculate the present value in perpetuity of the EBITDA difference between IFRS 16 and the previous standard for the last year, using the discount rate of the leasings and the growth rate of the leasings estimated based on the company's expected strategy. The difference between the amount obtained and the liability balance of Leasings, related to IFRS 16, should be deducted from Firm Value (as is done with Debt) to calculate Equity Value.

It is worth noting that with the incorporation of IFRS 16, debt/leverage indicators and multiples, or those that use EV, EBITDA, EBIT, and Profit (if there is a mismatch between the value of OPEX in the previous standard and Depreciation and Financial Expenses in IFRS16), are impacted, and may change levels.