

Education

What a difference a university degree makes

New report series analyzes employability and income under educational lens

We could write countless pages brainstorming over the real meaning of quality when it comes to higher education. But, looking at the final “client” (i.e. the student), it seems clear that it’s all related to employability. PNAD (National Household Sample Survey) tries to outline on a quarterly basis the correlation between (i) average real wages + unemployment rates and (ii) different educational levels and age brackets. It is with this mindset that we thus launch our new product. Unfortunately, it remains impossible to analyze things on a “per institution” basis, but the aggregate figure gives us a rough idea of the potential value added from obtaining a diploma, so it’s a good starting point.

Get a diploma and you’ll make, on average, 2.8x more money

In Brazil, college graduate students earn, on average, 2.8x more than students who stopped studying at high school level, as per PNAD data. Interestingly, this gap has been steady for the last six years, ranging from 2.7x to 2.8x. In nominal terms, the average income of people graduating from college was R\$4.8k/month in 2018 vs. R\$1.7k for those with full secondary education but no college degree – see page 3.

Worsening, but college graduates still show lowest unemployment rates...

While intuitive, the data show college graduates with the lowest unemployment rates, at 6% by YE18, despite virtually doubling from Dec/14’s bottom (3.4%), which correlates with the greater difficulty of repaying student loans. The study also shows a lower unemployment rate (10%) for uneducated people versus those who completed elementary or high school (both at 13% - chart 1), as the average income of uneducated people is 50% and 40% lower than high school and elementary school graduates, respectively, and because uneducated people tend to get “lower quality” jobs, with higher turnover levels. The recent improvement in unemployment rates may create better conditions for intakes further down the road.

...and highest penetration growth in the workforce

College graduates are the education group gaining most penetration in the workforce since 2012, from 14% to 20% in 2018. High school graduates also gained share, moving up 300bps to 33%. In the other hand, we saw a decline in “lower education levels”, with uneducated people only 3% of the workforce at YE18 (vs. 7% in 2012).

18-24-year-olds suffered most from the crisis, impacting postsecondary intakes

Representing 38% of the total workforce, the 18-24-year-old age group suffered most from the crisis. Between 2014 and 2018, the unemployment rate of this age group jumped from 14% to 25%, with the average salary showing a 3.6% 2014-18 CAGR (R\$1.1k/month), directly reflecting lower demand for higher education courses (students tend to work and pay for their courses). Unemployment among 25-39 year-olds also worsened to 11% at YE18 (from ~6% low in YE14), with a 6% 2014-18 salary CAGR (R\$2.1k/month) – charts 2 and 4.

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“An investment in knowledge pays the best interest”

When Benjamin Franklin quoted the sentence above, he was clearly referring to all the unquestionable benefits that compound knowledge growth brings to everyone's life, both in a professional and personnel sense. In due course, we analyze the same sentence in another context, asking ourselves if students “investing in knowledge” (i.e. paying for a higher education course) really manage to get the best “interest” out of it (i.e. better employability / salary dynamics).

In his *Equality of Educational Opportunity* report from 1966, James Coleman (staunch defender of education's importance) empirically showed the direct (positive) correlation between education levels and average family income. When enrolling in a postsecondary course, a student is clearly looking for (at least) one of these: (i) a job; (ii) a new job (changing careers, i.e. moving to another field) and/or (iii) a salary boost.

When you buy a beer from Ambev, hire TV/internet services from Vivo or go to Fleury for a clinical analysis exam, the value perception of the consumed product is clear and immediate. But when a student starts paying (or investing) R\$600-700 per month for 4-5 years to get an onsite higher education diploma, the value perception only appears (if it appears) over time, sometimes even years after the first cash disbursement.

Some companies have recently started tracking this. Kroton launched its employability platform, *Canal Conecta* (marketplace linking students to job positions) and plans to consistently fine-tune its academic model with the f-back received from employers AND start collecting data on students' employability metrics and salaries during and after graduation. A survey by Neoway, taken with ~30k students of the company, shows that, on average, there's a 95% salary boost after graduation.

But, unfortunately, the truth of the matter is that we still have few official data showing the real added value for students. The big questions alluded to in the subtitle are: (i) what is students' income jump after graduation? (ii) what is the IRR for the investment? and (iii) how do two students from different universities with different diplomas compete for the same job? All these big questions still linger and are all genuine LT concerns.

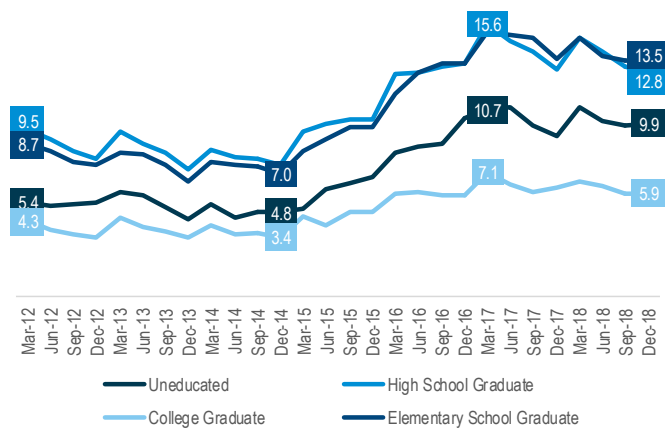
We plan to update all our exercises quarterly as per the frequency of data releases.

PNAD Survey under Educational Lens

We've always lacked official data showing the real value that a diploma adds to a student. Our macro team called our attention to the PNAD survey, which analyses key characteristics of the Brazilian workforce. So, we tried to grab the most interesting ones related to education levels and age groups to understand how they correlate with employability / income dynamics.

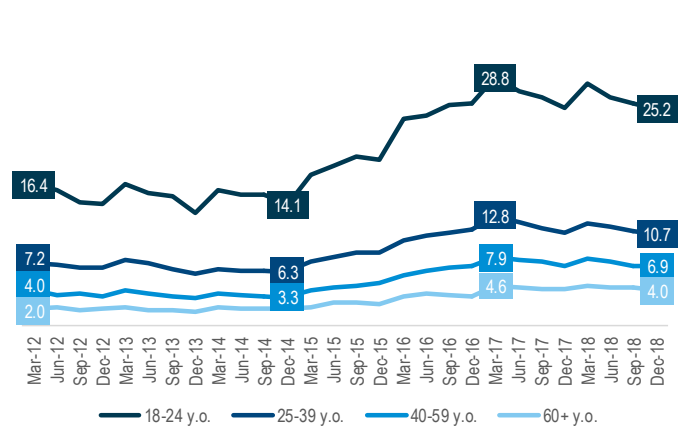
Please see below the key charts we elaborated to share our main conclusions.

Chart 1: Unemployment rate (%) by education level



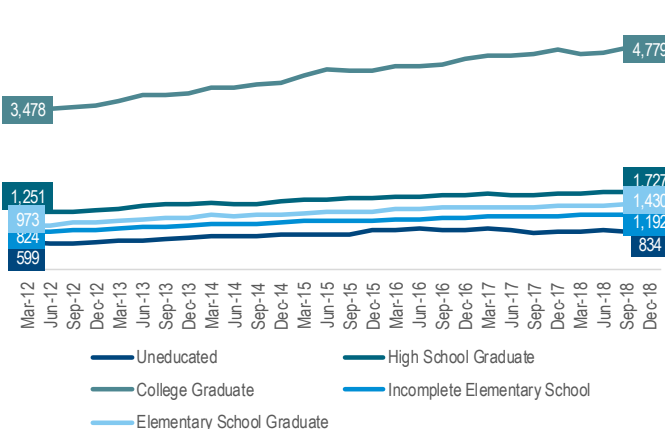
Source: IBGE and BTG Pactual

Chart 2: Unemployment rate (%) by age range



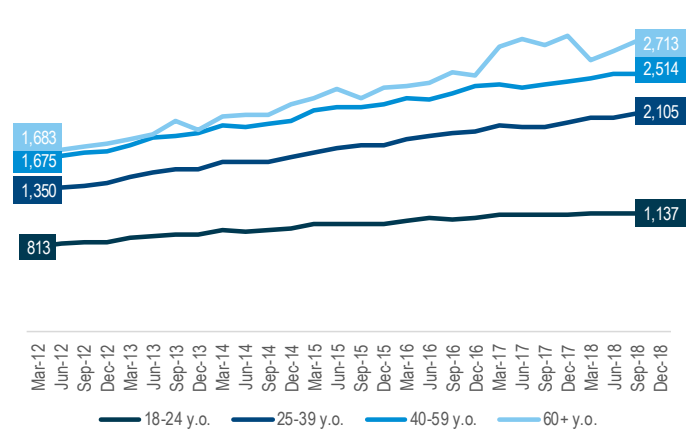
Source: IBGE and BTG Pactual

Chart 3: Average income (R\$ nominal) by education level



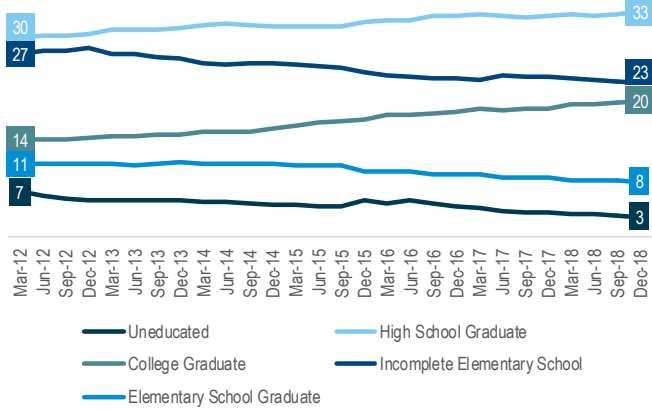
Source: IBGE and BTG Pactual

Chart 4: Average income (R\$ nominal) by age range



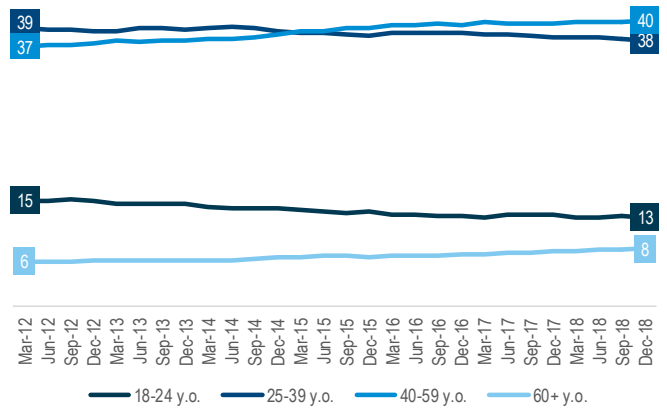
Source: IBGE and BTG Pactual

Chart 5: Share of employed population (%) by education level



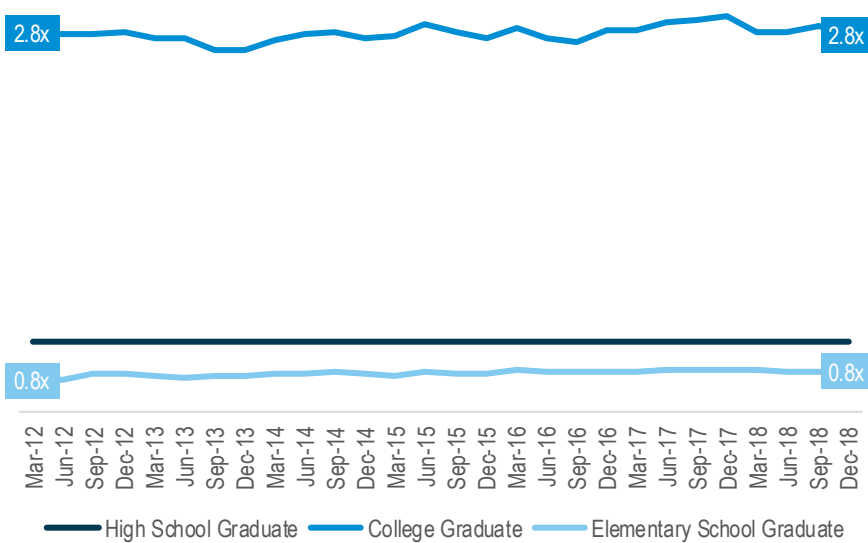
Source: IBGE and BTG Pactual
*The chart does not add 100% as we are purposely hiding some (less representative) education levels in order to improve the graphical visualization

Chart 6: Share of employed population (%) by age range



Source: IBGE and BTG Pactual
*The chart does not add 100% as we are purposely hiding some (less representative) education levels in order to improve the graphical visualization

Chart 7: Average income: multiple of high school graduates



Source: IBGE and BTG Pactual

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Statement of Risk

Anima Educação [BRANIM] - The lack of tangible metrics still makes the "high-quality education" uncertain in this investment case, which could reduce Anima's ability to maintain its price differential over competitors in the mid-term.

Estácio Participações S.A. [BRESTC] - We believe the key risks are: (i) execution risks in the implementation of a standardized academic model; (ii) economic slowdown leading to lower disposable income; (iii) possible overpayment in acquisitions; (iv) additional competition; (v) inflation pass-through; and (vi) regulatory changes in a highly regulated sector.

Kroton Educacional S.A. [BRKROT] - The company could be adversely impacted by an economic slowdown leading to lower disposable income. The education sector faces strict regulatory risks, and may experience increasing competition.

SER EDUCACIONAL S.A. [BRSEER] - We believe the key risks are: (i) an economic slowdown putting a dent in disposable income; (ii) possible overpayment for acquisitions; (iii) additional competition; (iv) inflation pass-through; (v) regulatory changes in a highly regulated sector; and (vi) relatively low stock liquidity.

Valuation Methodology

Anima Educação [BRANIM] - Our 12-month forward target price is based on a 10-year DCF model with a weighted average cost of capital (WACC) of 13.0% and perpetuity growth (g) of 6%, both in R\$ and nominal terms.

Estácio Participações S.A. [BRESTC] - Our 12-month forward target price is based on a 10-year DCF model with a weighted average cost of capital (WACC) of 12.6% and perpetuity growth (g) of 5.5%, both in R\$ and nominal terms.

Kroton Educacional S.A. [BRKROT] - Our 12-month forward target price is based on a 10-year DCF model with a weighted average cost of capital (WACC) of 15.1% and perpetuity growth (g) of 5.6%, both in R\$ and nominal terms.

SER EDUCACIONAL S.A. [BRSEER] - Our 12-month forward target price is based on a 10-year DCF model with a weighted average cost of capital (WACC) of 13.2% and perpetuity growth (g) of 6.5%, both in R\$ and nominal terms.

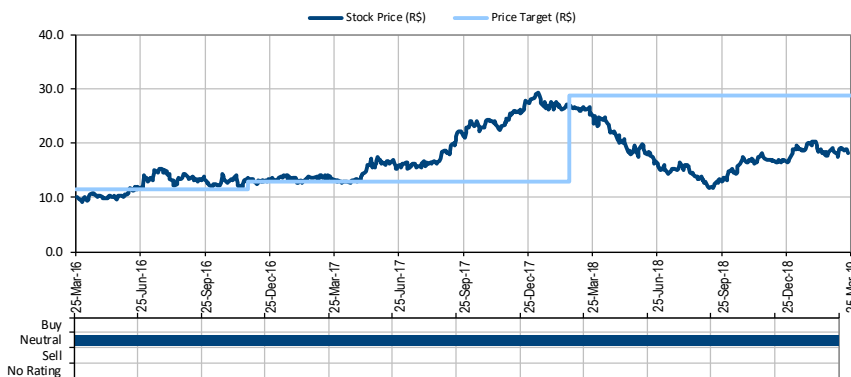
Company Disclosures

Company Name	Reuters	12-mo rating	Price	Price date
Anima Educação <small>1, 2, 4, 6, 10, 18, 19, 22</small>	N.A.	Neutral	R\$18.15	22-3-2019
Estácio <small>1, 2, 4, 6, 18, 19, 20, 22</small>	N.A.	Buy	R\$25.83	22-3-2019
Kroton <small>1, 2, 4, 6, 10, 18, 19, 22</small>	N.A.	Neutral	R\$10.87	22-3-2019
SER <small>1, 2, 4, 6, 18, 19, 20, 22</small>	N.A.	Buy	R\$19.26	22-3-2019

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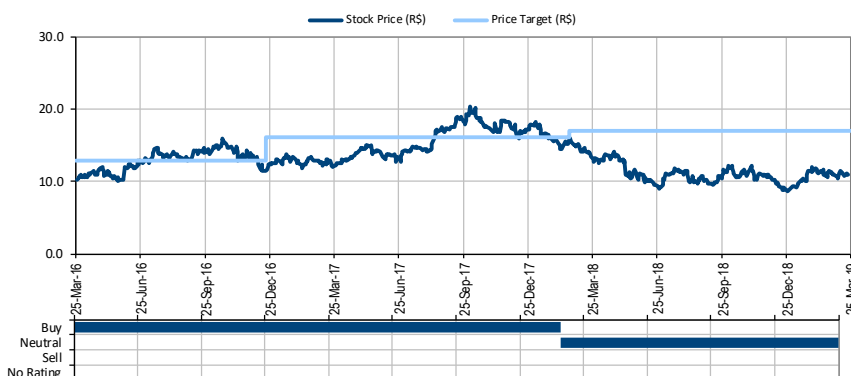
Source: BTG Pactual and Economática. Prices as of 22 March 2019

Estácio



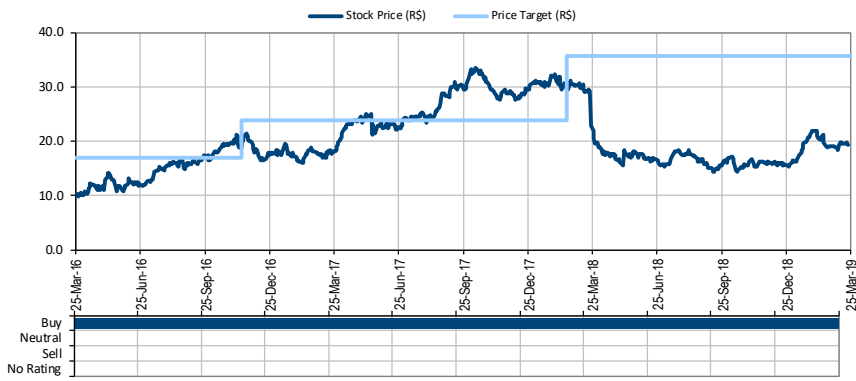
Source: BTG Pactual and Economática. Prices as of 22 March 2019

Kroton



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