DAMVAD
ANALYTICS

All on red:

- The economic cost of missed Swedish job opportunities in the online gambling industry

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Table of contents

1 Introduction

1.1 Background

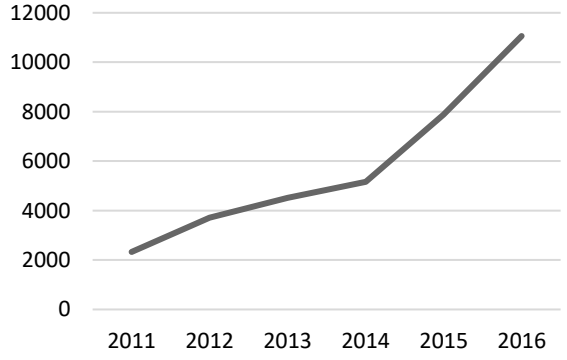
Over the last 23 years the gambling industry in Sweden has been regulated by the Lotteries Act (1994:1000)[1], which entails a state monopoly of offering gambling services to the public. The law was thus passed before the internet disrupted the industry and the access to online gambling during the mid-2000s. The ban for private businesses in the gambling industry has forced large private Swedish businesses like Kindred (previously named Unibet) and Betsson to establish their organizations abroad in e.g. Malta or Gibraltar, despite being listed on the Stockholm stock exchange and originally being Swedish innovations. Political progress has been made in the last few months towards deregulating the industry. The government report *En omreglerad spelmarknad* (SOU 2017:30)[2], suggests that the best course of action is to dissolve the gambling monopoly and replace it with a licensing system to increase the channelization and government control of gambling activities.

The situation during the last decade has led to a suboptimal economic structure with on the one hand missed job opportunities, missed economic growth and missed tax income for the Swedish economy, and yet on the other hand full access to gambling services to consumers via the internet and digital platforms.

At the same time, the Swedish gambling companies[3] has grown rapidly over the last decade to an industry with 20 companies and just over 11 000 employees to date. The industry has grown hand in hand with technological progress, such as the introduction of smartphones which enables a completely new flexibility and consumption on demand of gambling services, which has also led to new service offerings like betting in real time, or gamification of gambling. Furthermore, calculations show that foreign regulated companies provided 55 percent of the market of online gambling in Sweden in 2015, which demonstrates the problems and flaws in the current regulation (Jordahl and Sundén, 2016).

Figure 1 below shows the development in number of employees within the Swedish gambling companies over the last 6 years (including both operators and service providers).

FIGURE 1
Number of employees in Swedish private online gambling companies by year end



Source: Annual reports
Note: The time series is constructed by available annual report data in terms of 1) number of employees by year end and 2) if no such info exists, the average number of employees.

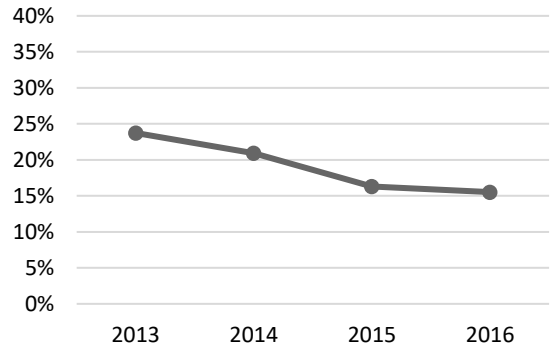
The trend in the figure displays a strong development for the industry over the last years and the high growth rate that the companies in the industry currently experience.

[1] Lotteries Act is the translated version of Lotterilagen.
[2] English translation corresponds to *A deregulated gambling market.*
[3] The companies classified as "Swedish online gambling companies" are listed in Appendix A. The definition is if the companies are currently or has recently been listed on the Stockholm stock exchange.

As the number of employees in the industry grew rapidly the last 4 years the share of employees based in Sweden decrease steadily each year. This trend is illustrated in Figure 2 below and indicates that these companies are expanding mainly overseas. This does not necessarily mean that the number of Swedish employees that are moving overseas are growing since the companies also recruit locally. A plausible scenario is that Swedish labor played a central part in the initial growth and establishment on the Swedish market, but as the companies kept growing into continental companies they also went after new markets and thus specifically Swedish labor has become less important. The Swedish consulate on Malta however estimates that there are at least 3 500 Swedes currently employed within the gambling industry on Malta.

FIGURE 2

Share of employees in Swedish private gambling companies based in Sweden

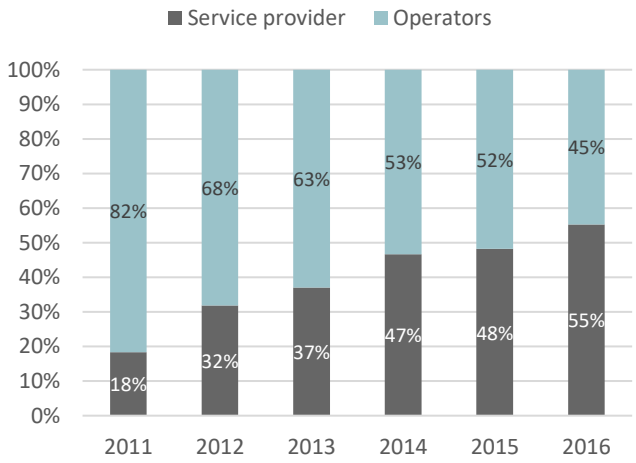


Source: Annual reports
Note: The time series are constructed based on annual report information regarding 1) number of employees by year end and 2) if this information is missing, the average number of employees, in the entire company w.r.t the number or average number in Sweden.

In Figure 3 below, the companies are divided into operators and service providers. Operators deliver gambling and betting services directly to the consumer (B2C) while service providers deliver services to operators, such as e.g. platform development (B2B). Both types of companies grew rapidly during the period (2011-2016) and the relations between them appears to have shifted from being dominated by operators in 2911, to a more equal relation in 2016, as service providers grew quicker. The development is mainly driven by the growth of Evolution Gaming who went from 670 employees in 2011 to 3 402 employees in 2016.

FIGURE 3

Share of employees in Swedish operators and service providers in the gambling industry



Source: Annual reports
Note: The time series are constructed based on annual report information regarding 1) number of employees by year end and 2) if this information is missing, the average number of employees.

Keeping these figures in mind, we calculate the economic cost of missed job opportunities in the online gambling industry to the Swedish economy. We calculate effects for the companies' contribution in terms of production value and tax income. Calculations are carried out in three time perspectives, i) on an annual basis based on the current situation, ii) over the last decade and iii) based on future scenarios of growth. Missed job opportunities are in this report defined as Swedish employees who have moved overseas to Malta to work within the gambling industry.

1.2 Delimitation

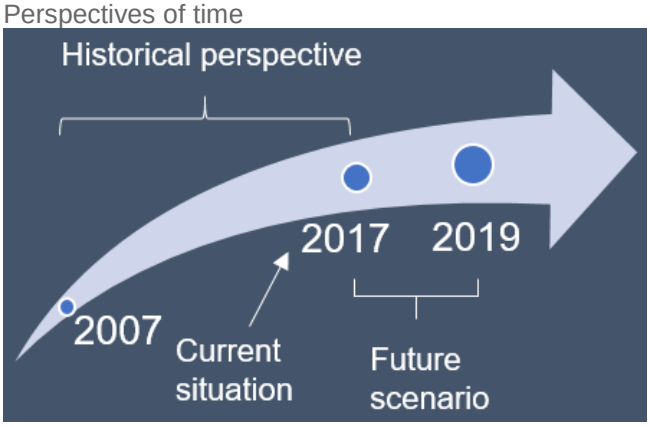
The calculations are based on estimations of the number Swedish employees in the online gambling sector located on Malta.[4] The delimitation is due to avoid hypothetical reasoning regarding where the companies would have established their business during different circumstances. It is for example possible that the companies would have established their operations on Malta (or other countries) even if the market situation where different in Sweden. It would thus be troublesome to assume that all the job opportunities in the Swedish online gambling companies would have been located in Sweden if so would have been allowed by the regulation.

1.3 Perspectives of time

The calculations in this report are based on three different perspectives of time, illustrated in Figure 4 below.

1. The historical perspective is based on a summation of the annual values over the last decade, 2007-2016. The values are calculated for each year separately and then aggregated together over the full period.
2. In the calculations of the current situation, we calculate the annual opportunity costs of missed job opportunities to the Swedish economy, all else equal.
3. Calculations are also carried out based on future growth scenarios given three different assumptions of growth rates over the next 3 years (2017-2019). The scenarios also provide insight into how the economic cost changes if the number of job opportunities that are based overseas grows at the same pace as the industry in general.

FIGURE 4
Perspectives of time



To calculate the economic costs in terms of production value and tax income, a production function is applied. The production function is based on the income method approach which is a standard method to calculate economic values created by labor and capital.[5]

[4] The delimitation to Malta are made since the Swedish consulate of Gibraltar has not been able to estimate how many Swedish employees that are working in the gambling industry in the country.

[5] The execution of the calculations is described in further detail in Appendix B.

2 Economic cost

In this chapter, we present the calculations of economic costs to the Swedish economy due to the missed job opportunities in the online gambling industry. The calculations are explained in further detail in Appendix B.

2.1 Significant annual economic costs due to the regulation

Our calculations of the annual economic cost of the regulation of the online gambling industry are based on somewhat careful estimates that there are currently 3 500 Swedish employees working in the online gambling industry on Malta. The calculations show that the Swedish economy currently lose 2,6 billion Swedish krona (SEK) in missed production and SEK 1,4 billion in missed tax income on an annual basis. This is illustrated in Figure 5 below.

FIGURE 5
Production value and tax income (billion SEK)

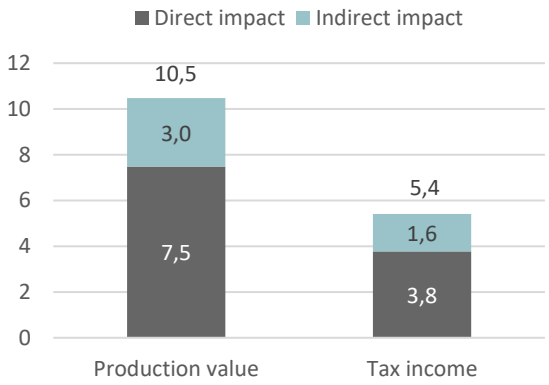
The economic cost includes direct and indirect impact. The direct impact describes the value created by the employees themselves, whereas the indirect impact reflects values that arise as spillover effects in other parts of the Swedish economy, such as increased consumption and an increase in demand for subcontractors.

The direct impact of the production value amounts to SEK 1,9 billion whereas the indirect impact amounts to SEK 0,8 billion. The direct impact of the tax income amounts to SEK 1 billion and the indirect impact amounts to SEK 0,4 billion.

2.2 Ten billion SEK over the last decade

Over the last decade, we estimate the total number of lost job opportunities on the Swedish market to 13 205. We calculate the cost of these missed job opportunities to SEK 10,5 billion in production value and SEK 5,4 billion in tax income. The results are summarized in Figure 6 below.

FIGURE 6
Production value and tax income over the last decade (billion SEK)



Out of the SEK 10,5 billion in production value we estimate that SEK 7,5 billion stems from direct impact and another SEK 3 billion arise due to indirect impact. The direct impact of the tax income is estimated to SEK 3,8 billion and the indirect impact amounts to SEK 1,6 billion over the last decade.
The economic production and tax income lost over the last decade are calculated based on the currently estimated jobs overseas, namely 3 500. From this population, we go back in time, year by year and

estimate the growth rate for the Swedish online gambling industry in general. We assume that the growth rate of the population of swedes working on Malta in the online gambling industry evolve similarly to the Swedish industry in general.

For the period from 2011-2016 the estimated growth rates are based on data collected from annual reports in this study. For the years 2007-2011 we apply estimates by Jordahl and Sundén (2016).

2.3 The future looks bright – for the industry

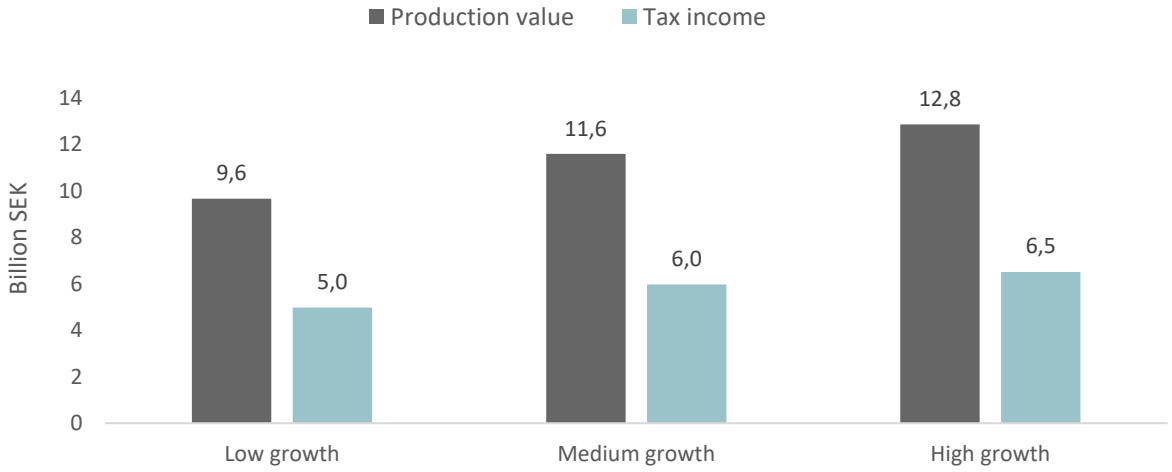
We calculate future scenarios based on three different growth rates over a period consisting of the next three years. The scenarios are (i) low growth, (ii) medium growth and (iii) high growth. The growth rates are calculated based on the historic development of the Swedish online gambling industry. The high growth is calculated from the average increase in number of employees during the last three years. The medium growth reflects the average annual growth in number of employees by the end of the year during the last 10 years (2007-2016). The low growth is equivalent to the medium growth divided in half. The growth rates are summarized in BOX 1 below.

BOX 1
Growth rates for scenario calculations

Low growth = 10 percent annual growth
Medium growth = 20 percent annual growth
High growth = 26 percent annual growth

The economic values from the scenario-calculations for the next three years are displayed in Figure 7 below. The scenario with low growth of Swedish jobs allocated abroad are aggregated to a production value of SEK 9,6 billion. This is almost on the same level as the estimated economic cost over the last decade. The estimated missed tax income amounts to SEK 5 billion.

FIGURE 7
Scenarios of economic values (2017-2019)



The estimations for the scenario with medium growth amounts to a production value of SEK 11 billion and the tax income amounts to just over SEK 6 billion. The corresponding values for the scenario of high growth reaches almost SEK 13 billion in production value and SEK 7 billion in tax income. In interviews, many of the companies in the industry foresee a bright future over the next few years. Several companies foresee that the current growth rate will be maintained or increase further during the next few years.

2.3.1 Market regulation and company allocation

Initially the gambling companies had low degrees of freedom for as to where to locate their business, due to the Lotteries Act and other similar regulation in other countries. This led to that most companies established themselves abroad, mainly on Malta. Malta were on the one hand early to allow the businesses to provide gambling services. On the other hand, Malta offered a competitive corporate tax rate. The companies do however see a large value in being listed on the Stockholm stock exchange. This is mainly due the access of capital and the fact that Swedish investors are well informed about the industry. A Swedish gambling company even claims that if you're going to be a listed betting company, there are no better market to be listed on than the Swedish stock market.

Most Swedish gambling companies thinks that it is good that the Lotteries Act are now being scrutinized. The companies however mean that they have established their companies abroad for a longer period, and that it is unlikely that this will change in the near future, even if the law is reformed. The Swedish market is still important to the companies, although many of the companies are currently growing faster in other markets and some of the companies identifies themselves more as European companies rather than Swedish companies. It therefore seems improbable that new regulation of the Swedish online gambling market would influence the strategic allocation of the operations of the companies in the short run.

The companies do however not rule out that it can be of interest to establish some kind of cluster in Sweden over a longer time horizon. Some of the companies also mean that a reason that employees leave their company is because they wanted to leave Malta. Many employees see the experience of working on Malta as an adventure but for a limited period of time. If the companies can offer similar roles in Sweden, the possibilities to ensure that workers stay in the company increases.

The allocation decision differs for service providers and operators, though general market conditions, tax terms and distance to the client are important factors for both company types. The service providers also depend on finding the specific skills in the labor force that suits their needs. This is mainly because development of the platforms and services are the core business for the service providers (and developing practices among the operators). In an analysis from 2015 conducted by IT&Telekomföretagen[6], it is estimated that Sweden were lacking approximately 30 000 workers with the relevant IT-skills. This number is expected to reach 60 000 workers by 2020. Some companies mention in the interviews that this affects the allocation decision of the company since workers with IT-skills in Sweden

[6] IT&Telekomföretagen can be approximately translated into IT&Telecom-companies, which is an interest organization representing the companies within the IT & Telecom sector.

are relatively expensive in comparison to other countries.

2.4 Putting the numbers in a context

The annual production value and tax income from these job opportunities are not of unimportant character. The SEK 1,4 billion in missed annual tax income is comparable to the average annual wage cost of 2 634 nurses in Sweden. The production value of the lost job opportunities corresponding to SEK 2,6 billion annually can be compared to the total production value created within the industry for traffic schools. There are currently approximately 900 such schools in Sweden.

Appendix A – List of Swedish online gambling companies

Table 1

1.	Aha World
2.	Angler Gaming
3.	Betsson
4.	Casumo (listed on Malta)
5.	ComeOn (acquired by Cherry)
6.	Cherry
7.	Evoke Gaming (owned by Bonnier, private company)
8.	Evolution Gaming
9.	Gaming Corps
10.	Kambi
11.	Kindred
12.	Leovegas
13.	Mr Green
14.	Net Gaming Europe
15.	Netent
16.	Nordic Leisure
17.	Nyx Interactive (owners listed in Canada since 2010)
18.	Play Hippo
19.	Quickspin (owners listed in Great Britain since 2016)
20.	Spiffx

Appendix B – Method

This chapter describes the method that has been applied to calculate the economic costs due to the regulation of the gambling sector. We describe the basic principle for the economic model and the variables that are included in the calculations.

1. Variables

The variables in the the economic model are listed and described below:

(N) Number of workers
(T) Time factor (annual basis)
(A) Social fees
(I) Income tax
(W) Average wage
(i) Indirect tax[7]
(j) Tax deductions
(s) Spillover multiplier

The number of workers (N) are the number of individuals that are included in the calculation. This corresponds to the number of Swedish job opportunities that has been allocated on Malta within the gambling industry. This variable is the population of each time perspective and thus a central one to the study. Estimating the population is not a straight forward process. Some surveys have been made by Utlandssvenskar. Their estimates, however, don't include information about in which industry people are working, or if they are even working. Furthermore, the latest survey was made for 2014-2015. The survey shows that 2 000 Swedish citizenslive live on Malta (Utlandssvenskar, 2015). An article from 2015, published by Workwide.com, estimates that it lives approximately 4 000 Swedish citizens on Malta in 2015 (Workwide, 2015). This estimation does not specify either how many people that are working in the gambling industry specifically. In the end, the most precise estimate comes from the Swedish consulate on Malta. They estimate that there are currently at least 3 500 Swedish citizens working in the gambling industry on Malta. This number is not official statistics so there is no way to validate its accuracy, but the consulate has good insights into questions regarding Swedes on Malta. It is also a conservative estimation to avoid overestimations.

The time factor (T) is used to normalize the calculations to annual estimations. The social fees (A), 31,42 percent are specified to account for the entire production value and is also an important inclusion for the estimated tax income. The income tax (I) is mostly relevan to estimate the tax income correctly and is estimated by an average percentage across all municipalities at 32,12 percent.

The average wage (W) corresponds to the gross wage for the average wage level in the Swedish economy in 2015. The annual estimation back in time are made with the respective average wage level for the corresponding year. An annual deduction (j) is also included and estimated to 2 072 SEK per job annually, which corresponds to the deduction size for an average wage for a 30-year old individual in the Stockholm region.

The indirect tax (i) is included to adjust the production value to market price. This value is estimated from the average of the entire Swedish economy at 14,3 percent.

[7] Note that the definition of indirect tax in this context is a term to describe the value added tax and excise tax. The variable should thus not be mistaken for the indirect impacts calculated.

Finally, there's a multiplier for spillover (s) which accounts for impact to other segments of the economy. The multiplier is applied to control for the value derived directly from the job opportunities and values that stems from the other segments. This study use, a multiplier of 1,4 which is a relatively conservative assumption about the size of the spillover impact.

In brief, these variables are estimates from the overall Swedish economy, so in a way the calculations assume that the job opportunities on Malta corresponds to an average job in Sweden, if the job opportunity were to be located in Sweden instead.

2. Economic model

The economic mode applied follows the standard procedures of the income method to calculate economic values from job activities. The equations 1-4 below describe how the calculations of the production value and tax income has been executed. The equations also show how the above-mentioned variables interact with each other:

1. $PVD = N * (\mathrm{W} * (1 + A)) * T * (1 + i)$

2. $PVI = (s - 1) * N * (W * (1 + A)) * T * (1 + i)$

3. $SID = (N * W * T) * (A + I) + (N * W * T) * (1 + A) * i - (N * T * j)$

4. $SII = (s - 1) * ((N * W * T) * (A + I) + (N * W * T) * (1 + A) * i)$

The direct production value (PVD) are calculated according to equation 1 above and is calculated as the number of employees multiplied by the gross wage plus social fees, multiplied by the time factor and complemented by adding the indirect tax. The indirect production value (PVI) is calculated by equation 2.

The value of direct tax income (SID) are calculated according to equation 3. The value of the indirect tax income is calculated by equation 4. Furthermore, a tax deduction (j) is applied to further improve the accuracy of the tax income estimates.

These equations merely show the annual economic values. In order to carry out the calculations over time several years needs to be aggregated.

3. Interviews

Within the frame of the analysis 9 interviews has been carried out with Swedish gambling companies. The purpose of the interviews has been to gather information regarding the current market conditions, how the companies are organized, and how the industry view the future development and what challenges the companies foresee during the next few years.

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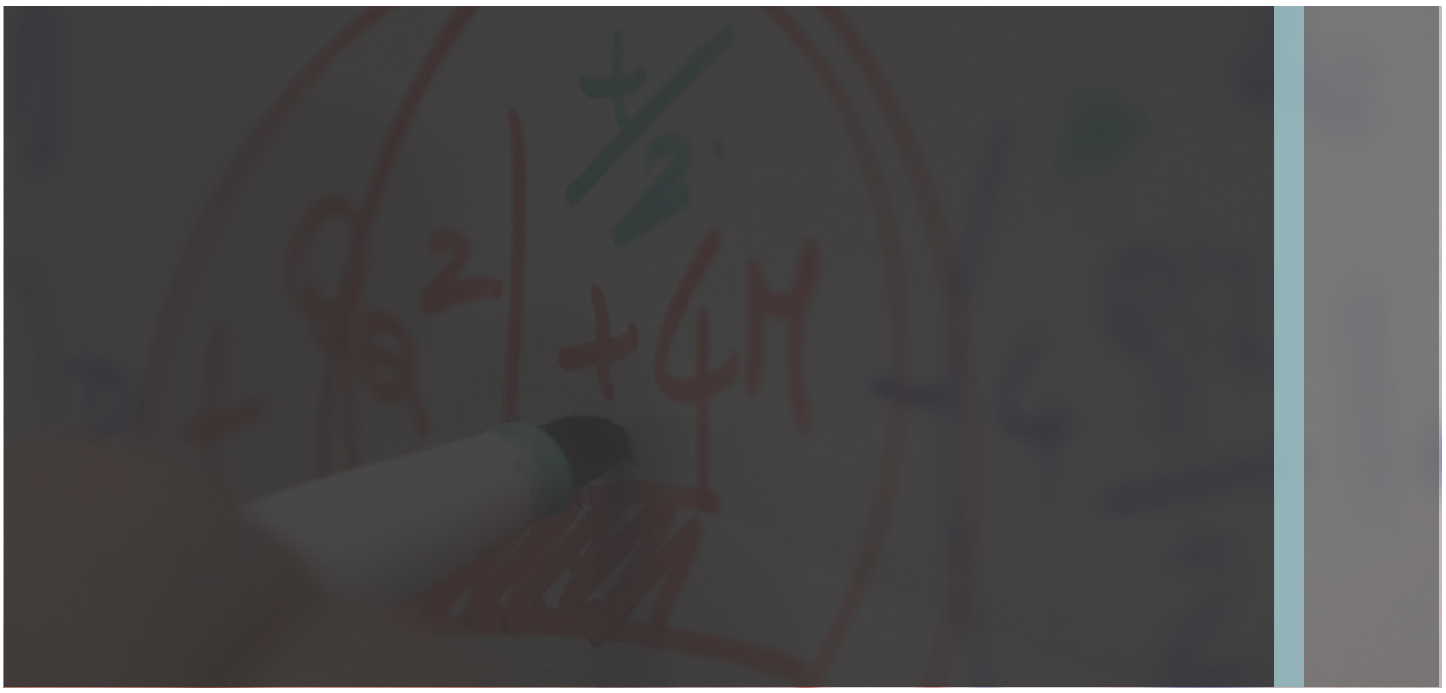

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