Nestlé's Global Youth Initiative Impact Valuation

- Methodology notes

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Note from Nestlé about this Study

Nestlé launched its Global Youth Initiative in 2017. This sets out to create 10 million opportunities for young people in the next 10 years. This study explores how we might measure the impact of this initiative and calculate the value created by the initiative for Nestlé and also for society.

Whilst there are increasing examples of companies calculating their impact upon society, there are as yet few examples of calculating the business value for the company. This report presents a first attempt.

We are therefore making this report public to raise awareness of the possibilities to measure and value the impact that companies have upon society, and to stimulate debate upon methodologies and data sources. For this public version of the report we have replaced the actual figures with indicative figures. These indicate the same magnitude of value created, but maintain a level of confidentiality of the actual base data. We have done this to concentrate the debate upon the methodology and assumptions.

We particularly welcome scrutiny of the methods and assumptions we have taken in order to strengthen the approach for future iterations.

This methodology report provides supporting information to the Study Summary provided in PPT format and should be read in conjunction it.

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Content

Important note: This methodology report is a supporting information to the Study Summary provided in PPT format.

1. Objective

The objective of this report is to document the data and assumptions used to develop the impact valuation of the Global Youth Initiative of Nestlé.

The overall objective of the project is to measure the value to Nestlé and to the society of the Global Youth Initiative.

2. Framework

2.1. General approach

Definition of value

- **Nestlé value**: equivalent to operating profit

- **Nestlé costs**: financial costs

- **Human capital**: net increase in income or impact of income on well-being (for youth employment, apprenticeship and internship)

- **Social capital**: Tax contribution and reduced societal costs (when possible)

- **Accounting scope and timeframe**: annual value creation – Net present value of the incremental activity related to the accounting year (FY17 or FY 16, when data was not available)

The following figure illustrates the impact pathway for **Nestlé value**.
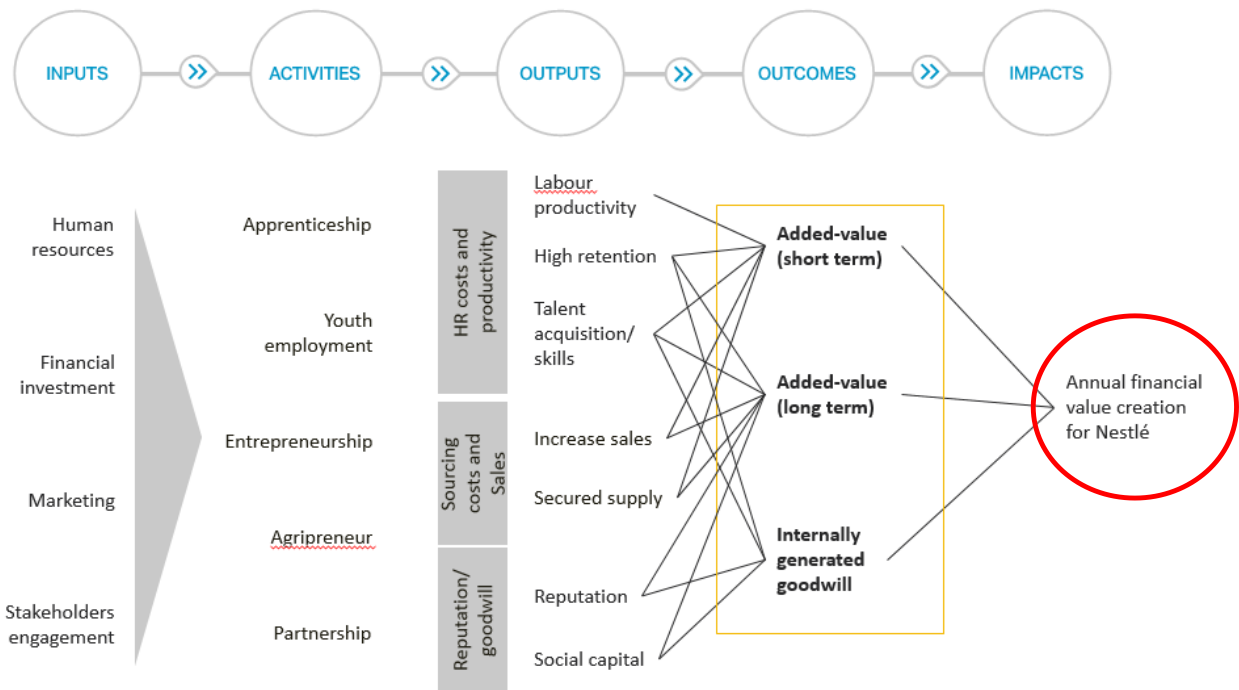
The following figure illustrates the impact pathway for the **value to society**, with in red circles the pathways values in priority in this project.
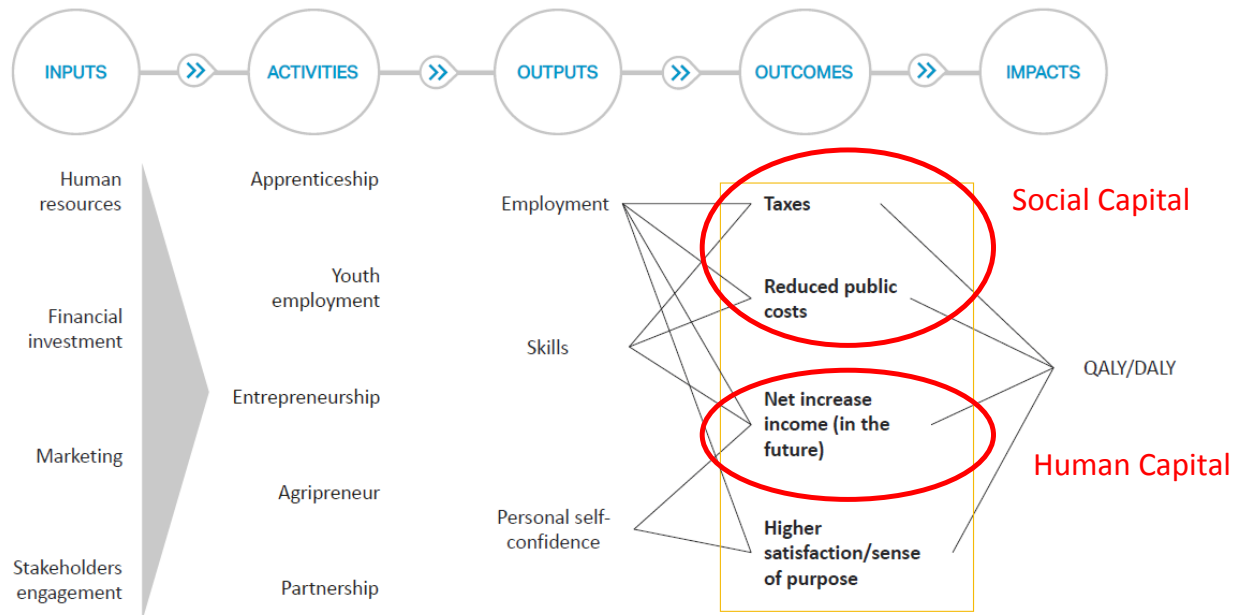
2.2. Agripreneurs – Societal value

The human and social capital value for **agripreneurs** encompass both the net increase income for the farmer (human capital) and the increase in tax income for the government (social capital). This activity promote farmers entrepreneurship through training, coaching and specific additional support (access to material, loans, etc). As data on income of farmers is not available, we used the global average GDP per capita (9'488 CHF/capita, World Bank 2017) as the average income of all farmers, which is probably an overestimation in many developing countries. Based on two case studies mentioned through discussions with Nestlé (Nescafé Ambassador SAIN 2017 and distribution of arabica plantlets to growers in Colombia, SAIN 2016) I estimated the net increase income at 40% thanks to the agripreneur activity. This parameter is highly uncertain though.

The net present value of this increase income (3'795CHF/year/agripreneur) is calculated over 20 years with a discount rate of 8%. This leads to an NPV of 46'780 CHF/agripreneur in total. The values obtained for both human and social capital are then simply split into human and social capital using a flat income tax rate of 10%. It is unlikely that smallholder farmers in developing countries are taxed, so this is probably an over-estimation. We used the assumption that 4'500 agripreneurs will be "created" in 2017 (Nestlé data).

Regarding **farmers training**, we used internal data from Valuing Nature to estimate that the value of training could be roughly 15CHF/h per farmer. This value represents a NPV of future income increase thanks to the training received. The result is entirely allocated to human capital. I used the assumption

that 4.8 million hours of training are provided in 2017, which is the result of the consideration of the 300'000 farmers trained (Nestlé data) multiplied by an average of 2 days of training at 8h per day.

2.3. Agripreneurs – Nestlé value

The Nestlé value for **agripreneurs** is based on the fact that the cost of sourcing of commodities will be reduced by 2% (without specific driver identified, whether it is quality increase, prices variability decrease, price reduction, etc). We estimated the average spend per farmer using the following assumptions: The Cost Of Goods Sold (COGS) of Nestlé in FY16 is 44.2 billion CHF, which I estimated to be 20% linked to the purchase of commodities (based on internal discussions at Nestlé). The farmers base of Nestlé is 4 million (internal estimation of Nestlé). This gives an average spending per farmer of 2'210 CHF/farmer, which thanks to the agripreneurs' activity might be doubled to 4'420 CHF/farmer (doubling the yield is often reported as an objective and achievement of many similar activities). The resulting value to Nestlé in term of COGS is 2% of this value so 88.4 CHF/farmer. We calculated the NPV of this value over 5 years using a 8% discount rate. This leads to a value of 381 CHF/farmer. This value is a direct contribution to the operating profit.

We estimated Nestlé costs as the spending on training (5 days of 8h), at 30CHF/hour of training, provided for each farmer individually, which leads to a cost per agripreneur at 1'200CHF. This is of course a very rough estimate, but we prefer having a value reported rather than no value.

Regarding **farmers training**, we estimated that the value to Nestlé is 10% of the value of an agripreneur, without further assumption or calculation. I then divided this value by the estimated volume of training (16h per farmer) to obtain the value per hour of training. I then calculated the NPV of this value for 5 years using a 8% discount rate. This leads to a Nestlé value of 0.6 CHF/hour of training.

I estimated the costs based on the 30CHF/hour of training already used above, assuming that farmers are trained per group of 20.

2.4. Entrepreneurs – Social and Nestlé value

The model is based on the Nescafé case study[1] from Mexico only (using indicative values only). It is not representative for all regions, but alternative data is lacking.

The Nescafé business model is based on a sales team of 8 sellers and 1 operator, which represents a street sales unit of Nescafé products. For social value, the net sales figures for both the sellers and operator is calculated based on projected activity provided by Nescafé. A cost of business acquisition of 20% was accounted for the operator. Sellers get a 35% margin on their results. On average, a person in this business model obtain 4'000 CHF/year (average over sellers and the operator). Note that the difference of income between sellers and operators can be important.

For Nestlé value, the income was first calculated based on the same sales data provided by Nescafé, used in the social value part of the model. We estimated the net income by subtracting the cost of bicycles (8 bikes at 150CHF/bike) and training costs (30CHF/h for 2 days of training for the sales team). The business model provides on average 2'000 CHF/person to Nestlé. As this represents net sales, we estimated the

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[1]http://microfranquicia.org.mx/caso-de-referencia-carrito-cafetero-nescafe-una-ded-de-distribucion-de-microempresas-que-genera-valor-de-mercado/

contribution to profit (Nestlé value) by multiplying the net sales by the overall ratio of profit over net sales of Nestlé, which is 15%. This latter result can vary a lot depending on the business unit, products sold and markets.

2.5. Apprenticees, trainees, interns and employees – Social value

The human capital value of apprentices, trainees and interns is composed of three elements:

1. the income component
2. the potential future additional income due to the educational value of the position
3. the reduced time to employment.

The valuation is based on the entire duration of the apprenticeship (24 months), traineeship (6 months) and internship (6 months). For the countries comparison, it was not possible to differentiate between trainees and interns.

The **income component** is not based on real Nestlé salaries, but based on average estimated salaries calculated from GDP statistics per country (World Bank, 2017) linked to income distribution data[2] (inequalities data per quantile) and using the assumption that apprentices, trainees and interns receive half the average income of the poorest 40% (equivalent full time). We accounted for the fact that trainees and interns work usually full time, whereas apprentices work half time on average as they have to follow a parallel education not provided directly by Nestlé. In order to avoid double counting, and ensure we use a reasonable baseline, we accounted for the income component only when the person will be unemployed as the likely alternative. In practice, we used the rate of youth unemployment per country (World Bank, 2017) that we used to inform this choice (this rate varies from 6.1%, in Germany, up to 47.2%, in Greece). We assume that the other person would receive a similar opportunity elsewhere, so we cannot attribute this benefit for Nestlé. Additionally, we accounted for the net income received only by the person, by subtracting the income taxes applicable to each country (World Bank data).

The **potential future additional income (education component)** due to the educational value of apprenticeships is calculated based on the fact that those positions provide an educational value, which leads to better future income prospects. Educational value was not accounted for traineeship and internships. The World Bank published a study showing the average additional income per year of schooling in different regions of the world, which ranges from 7 to 10%[3]. We estimated that apprenticeship is equivalent to schooling, at the pro-rata of their average duration. We used median incomes per country to estimate the future average income, multiplied by the potential gain (in %) of income due to the educational value of the positions. We calculated the future net increase income by accounting for the income tax rates of countries. As this potential additional income is in the future, we calculated the net present value of this income by using a 8% discount rate over 20 years (arbitrary).

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[2] https://www.wider.unu.edu/data
[3] Montenegro and Patrinos (2014) Comparable estimates of returns to schooling around the world. Policy Research Working Paper.

The **reduced time to employment** was calculated for traineeships and internships only. It accounts for the fact that after having benefited from those positions, the time to find the next job is reduced by six months on average, leading to an increase income at short term (based on the average poorest 40%).

For **young employees**, we used a similar methodology, but translated the potential future additional income due to schooling into an experience gain. This experience gain is estimated equivalent to two times the global average inflation rate (World Bank, 2016) in equivalent income increase. A net present value is calculated with a discount rate of 8% and a period of 20 years. For the income component, the median income per country is used, at the pro-rata of the unemployment rate in the country. A net present value is calculated during 5 years for fixed employees, while temporary employees' value is calculated during only one year.

In order to translate a net change of income into a more social indicator, we used a method that allows to assess the effect of a change of income into a change of life quality and expectancy[4,5]. Those factors are developed per country. Countries with a lot of inequalities and social issues will thus have greater factors showing that a change of income can have a greater effect than in countries with less social issues and inequalities. The indicator used is expressed in DALY/change of income, where DALY is Disability Adjusted Life Years (1 DALY is equivalent to one year of life lost, or 5 years of life in disable state with an incapacity equivalent to 20% of a standard person). We valued the DALYs using the productive value of life, equivalent to the average GDP per capita of OECD countries (OECD, 2016).

The overall results for apprentices, trainees/interns and employees is shown at the following figure.
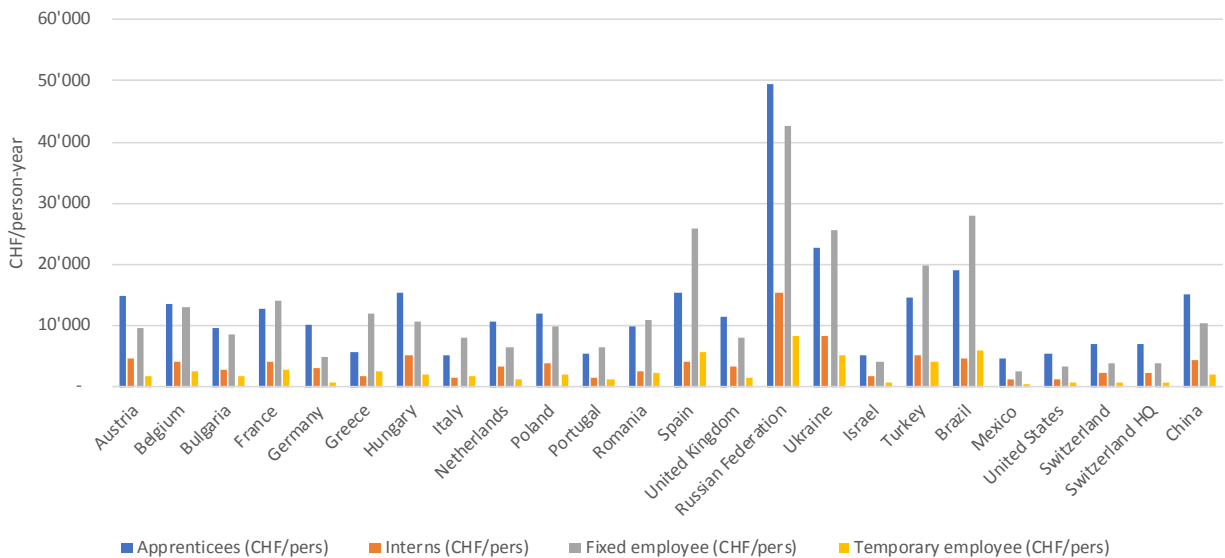
Regarding social capital value, the taxes is calculated based on the same principles than the human capital. We added to the social capital value the avoided cost of education for the country, using a world average

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[4] Vionnet and Duncan (2017) Social Impact Valuation – A social impact model of employment and Nestlé case study.

[5] Vionnet and Haut (2018) Measuring and valuing the social impact of wages – The living wages global dataset and the health utility of income.

cost of education of 2.5USD/day[6]. We could in the future incudes as well the avoided cost of social security (unemployment benefit) however at this stage, information is lacking to integrate it in the results.

EXAMPLE - Human capital for apprentices, for Italy, in CHF (in real CHF and not DALYs):

Italy has an average low income of 16'940 CHF/capita (average Q1 and Q2), leading to an average income for apprentice of 8'470 CHF/capita (estimated at half the low income). Youth unemployment is 36.6% and benefit from schooling is equivalent to 10% additional income per year of school. Average tax rate is 32%. Average duration of an apprenticeship is 2 years and they work at 50% at Nestlé. The calculation of human capital value is:

Income component: 8'470 * (100-32% "tax rate") * 36.6% "unemployment" * 2 years "duration" * 50% "occupation ratio" = 2'108 USD

Education component: 30'613 * (100-32% "tax rate") * 10% "value of education" * 2 years "duration" * 50% "occupation ratio" * 10.6 "NPV ratio" = 22'065 USD

Total human capital value = 2'108 + 22'065= 24'173 USD

2.6. Apprentices, trainees and interns – Nestlé value

The value for Nestlé is composed of two elements, the costs savings and the productive value.

The costs savings include:

1. The **avoided hiring cost**, estimated as the normal hiring cost (6'000 CHF/person)
2. The **tenure benefit**, as those employees will stay on average three times as long as normal hired employees. It is applicable only to the apprentices or trainees/interns staying at Nestlé (50% and 20% respectively). It is calculated as the avoided cost of hiring a new employee, which is provided in point 1.

Additionally to those cost savings above, the person will be productive. Three methods could be used to estimate this productivity (a value based method could be added, but requires much more precise source of data):

1. **The simplified productivity method**: We divided the operating profit of Nestlé by the number of employees (13'163 million CHF / 328'221 employees = 40'104 CHF/employee). We then accounted for a productivity efficiency ratio of 50% for apprentices (an apprentice is productive at a level of 50% compared to a regular employee) and 80% for trainees.
2. **Break-even method:** given the complexity of the productivity assessment, we accounted for the net benefit (negative or positive) of apprentices and interns/trainees, indicating the gap (if negative) that the production of the employee needs to reach the break-even level. As such, it is not a method to account directly for the productivity value.

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[6] https://www.globalpartnership.org/funding/education-costs-per-child . we accounted for twice the average world cost of schooling to account for the fact that we consider as well developed countries and that the level of education is higher than the world average and thus has a higher cost.

3. **Avoided cost method:** the work of apprentices, interns and trainees will need to be done by another standard employee if not done by them. We accounted for the avoided cost of having those positions, which we considered as equivalent to their productive value.

The costs include:

1. The **hiring cost** (2'000 CHF/apprentice and 3'000 CHF/intern-trainee reference costs for Switzerland (internal data), which we made vary according to prices levels in each country)
2. The **coaching costs** estimated at 17.5% of a normal employee, earning the median income in the country.
3. The employee income cost estimated as half of the low income of the country (poorest 40%).

An example of calculation for Switzerland is provided below, using secondary data only on the left, and some primary data on the right.

	Countries model		With primary data	
	Benefit	**Costs**	**Benefit**	**Costs**
Hiring costs	6'000	(2'000)	6'000	(2'000)
Tenure	6'000	-	6'000	-
Productivity (replacement cost method)	30'000	-	66'000	-
Coaching	-	(22'000)	-	(46'000)
Salary	-	(20'000)	-	(36'000)
Reputation	4'000	-	4'000	-
Synergies	?	-	?	-
	46'000	(44'000)	82'000	(84'000)
	Net value for Nestlé = 2'000 CHF		**Net value for Nestlé = -2'000 CHF**	