

Estimating Short-Term Costs of NEET Youths: Evidence from Morocco

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Estimation of the short-term costs of NEET Youths: Evidence from Morocco

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Abstract:

In this article we estimate the overall costs of the NEET youth population in Morocco in terms of public finance and opportunity costs focused on three of five aspects: unemployment, health, and girl mothers.

The results show that young rural women have the significant percentage of young NEETs in Morocco. The total costs of young NEET in terms of public finance is estimated to 60 592 858 600 Dhs in Morocco in 2019, equivalent to and in opportunity costs to an amount of 55 043 899 000Dhs.

Key words: NEET, unemployment, health, opportunity cost

Introduction :

Given the considerable share of young people in the world's population (42%), their qualifications and integration into the labour market are among the greatest challenges facing governments and policy makers around the world.

In fact, in terms of qualifications, it is worth noting that a high proportion of the world's youths do not attend school. The UNESCO Institute for Statistics (UIS) noted that in 2016, a population of 263 million children were not in school, including sixty-three million children of primary school age, 61 million adolescents of lower secondary school age and 139 million young adults of upper secondary school age.

Regarding the employment dimension, it is worth noting that between 1997 and 2017, the youth population worldwide increased by 139 million, while the youth labor force decreased by 35 million (ILO, 2017).

This situation has resulted in the emergence globally, of a new population of inactive youth, which means, youth who are neither in school nor employed.

We refer to inactive youth who are not in any form of education or training and who are not working as the "NEET" population, which stands for "Not in Education, Employment or Training. The NEET youth population accounts for 21.8% of the labor force globally, a substantial portion of which are women (United Nations, 2018).

This disengagement of young people from the labor market, education, and/or vocational training is considered by the International Labor Organization (ILO) (2017), to expose them to both labor market and social exclusion, as they neither improve their future employability by investing in skills nor gain experience through employment.

In developing countries, including Morocco, the share of young people who are "NEET" (aged 15-24) continues to grow (HCP, 2017). This situation generates a set of costs, not yet estimated, that the State must bear (ONDH, 2019) throughout the years to come.

It is in this sense, that we have deemed it appropriate to estimate in this research the costs generated by the NEETs population, the opportunity costs of households and the effects on public finances.

In this sense, addressing the issue of costs related to young NEETs requires answering the following questions:

- What is the situation of young NEETs in Morocco (in terms of statistics)?
- What are the causes of the situation of these young NEETs?
- What are their costs (in terms of opportunity costs and public finances)?

I. Literature review

According to Bălan (2015) who analysed the youth labor market in Romania, the NEET youth population refers to people whose age is between 15 and 29 years regardless of their education level, are not employed and do not attend any educational program, which puts them at higher risks of social and labor market exclusion.

On the other hand, Genda (2007), who looked at the case of young NEETs in Japan, considers them to be mainly single non-working people aged 15 to 34 who fall into two categories: non-job seekers, who express a desire to work but are not looking for a job, and on-job seekers, who express no desire to work.

Estimating the Cost of Being "Not in Education, Employment or Training" at Age 16-18 by Christine Godfrey, Sandra Hutton, Jonathan Bradshaw, Bob Coles, Gary Craig* and Julia Johnsonet is an article that shows the methodology for estimating the costs of NEET young people to England in 1999/2000, both in terms of public finance and opportunity cost.

According to Bynner & Parsons (2002), NEET status reflects the dynamics of young people's lives and should be defined longitudinally, i.e., it should represent a minimum period out of education, training, and employment. However, the precise boundaries between these periods are not always clear. As a result, exploratory analyses were conducted on the data to separate between youth classified as NEET and non-NEET. According to Bynner & Parsons (2002), the final decision was to define NEETs as those who spend "6 months or more during the 16–18-year-old period outside of education, employment, or training."

Maguire (2015) analysed the UK's NEET youth prevention and reintegration policies, considers NEETs to be those detached from the labor market and the education and training system. In fact, in the United Kingdom, there were one million NEET youth aged 16 to 24 in 2015.

The National Institute of Adult Continuing Education considers NEET youth to be the population of young people aged 16 to 24 or adults aged 25 and over who are unemployed and not in any form of government-funded education or training. This population also includes those undertaking volunteer work or personal development opportunities, those seeking (or waiting to start) a job or apprenticeship, or those who are not active in the labor market (including those in poor health, caring for children, etc.).

According to Quintini & Martin (2014) "for many young people, inactivity results from discouragement and marginalization." This is seen as a reflection of the accumulation of multiple importunities, such as lack of qualifications, health problems, poverty and other forms of social exclusion.

I. Methodology :

To better estimate the costs generated by the NEET population in Morocco, it is appropriate to first analyse its evolution over time, by region and by gender. Thus, we first present descriptive statistics on young NEETs in Morocco. In addition, the second point presents the methodology to estimate the costs of these young NEETs in Morocco.

1. The NEET Population in Morocco: Descriptive Statistics

Morocco is currently in a development process that demographers call a "demographic bonus" (Mhrazı & Louridi, 2020). This means that the proportion of people of working age in the total population is high compared to the share of the population that is either younger or older than the productive age group (15-64 years), especially among young people, which can create a two-sided situation, either young people present an opportunity and a strength for the economy, or these young people will be a burden and an inconvenience for the state, indeed Morocco has a relatively high rate of young people aged 15-24 years who are unemployed, out of the school system and without training (NEET).

In this section we show descriptive statistics concerning the number of these young people, their evolution over the years, and their characteristics.

1.1 The characteristics and evolution of NEET youth in Morocco

In 2016, one in four young people aged 15 to 24, or 1.68 million at the national level, were not working, not in school, and not in training. This proportion is more pronounced among young women where it reaches 44% (1.32 million) against 11.7% among young men (366 thousand).

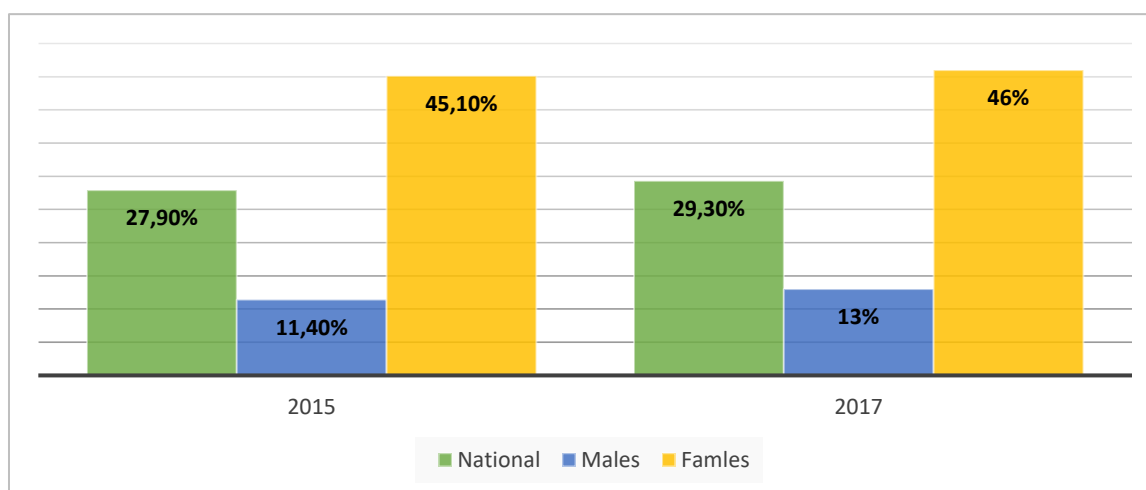
Among the population of school age in secondary education (15-17 years), 14.2% (300 thousand adolescents) do not work, do not attend school and are not in training. This proportion is 24.6% among girls (243 thousand) and 5.1% among boys (58 thousand). Among 18–24-year-olds, this proportion reaches 34.6% (1.38 million), 53.5% among girls (1.07 million) and 15.5% among boys (308 thousand).

Table 1: Persons aged 15-24 without jobs and not participating in education or training:

	2011	2012	2013	2014	2015	2016
Set	30.7	30.6	29.9	28.9	27.9	27.5
Males	12.2	12.3	12.2	11.9	11.4	11.7
Females	49.6	49.5	48.2	46.5	45.1	44.0
By environment						
Rural	35.0	35.9	34.3	33.1	32.2	32.0
Urban	27.0	26.2	26.3	25.4	24.5	24.0

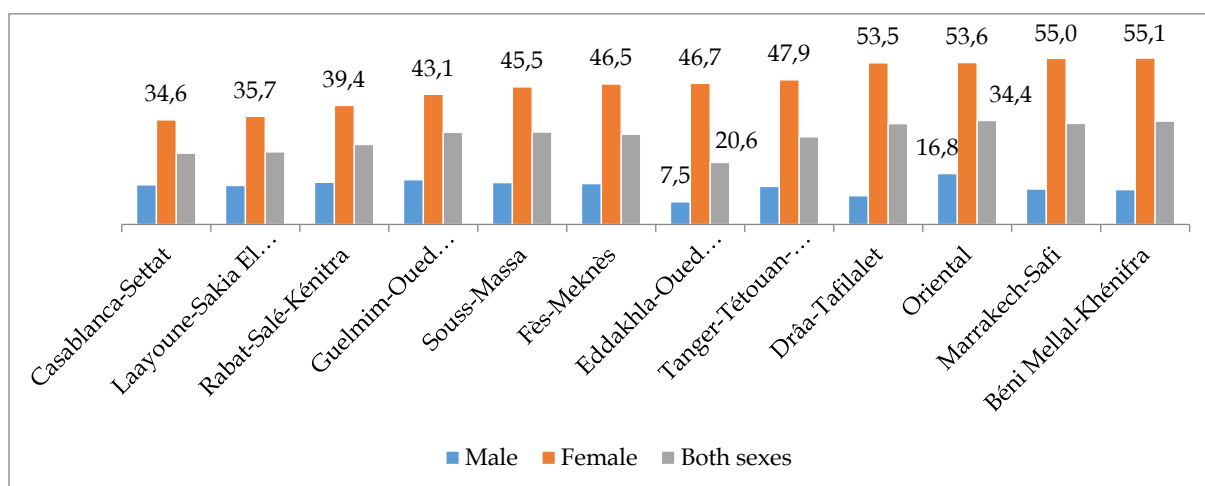
Source : HCP : National Employment Survey 2016

Figure 1: The share of youth ages 15-24 who are not in employment, education, or training (NEET) in the labor force by gender for the year 2015 -2017.



Source: Office of the High Commissioner for Planning (2015) and (2017)

Figure 2: NEET rates by gender and region in 2017 (%)



Source: Office of the High Commissioner for Planning (2017)

Regardless of the area of residence or region, NEET rates are much higher among young women than among young men. The highest absolute gaps between them is in the regions of Drâa-Tafilalet (44 points), Béni Mellal-Khénifra (43.6 points) and Marrakech-Safi (43.2 points). The lowest gaps is in Casablanca-Settat (21.5 points) and Laayoune-Sakia El Hamra (22.8 points)

According to the Household Panel survey of the ONDH (National Observatory of Human Development) in partnership with UNICEF, out of 6 million young people aged 15 to 24, the NEET youth in 2019 amounts to 28.5% or 1.7 million young people, while 55% of young people, that is to say 3.2 million, are pursuing their studies, are doing an internship or are undergoing vocational training, and 16.1%, that is to say 1 million, are engaged in a trade. The qualitative survey was based on 549 individual interviews and eighty-three focus groups with young people aged 15 to 24.

The following findings emerged from this study: Of 1.7 million NEETs, just 22% of NEETs, are permanently and actively seeking employment.

This situation reflects the limits of public policies to enable reintegration into the education and training system and a generalized improvement in the Moroccan productive sphere, which effectively excludes 75% of NEETs.

NEETs are mostly female and rural. Thus, young women represent 76.4% of NEETs, 36.1% of whom are rural, compared to only 23.3% who are urban.

Moreover, the quantitative analysis, based on the Panel survey, identified 5 profiles of NEETs, which are: "Rural housewives with family responsibilities" (54.3% of NEETs), "Discouraged urban youth" (25%), "NEETs in transition" (7.8%), "NEETs who volunteer by choice" (7.5%), and "NEETs with health problems" (5.1%).

The influx of young people who have not completed their education or who have low skills leads to an extremely important level of underemployment, offering little remuneration to young people but also few opportunities to acquire the professional skills required by companies. This situation creates a vicious macroeconomic cycle.

1.2 Causes and factors that increase the risk of being a NEET youth

According to the joint UNICEF and ONDH (2019) analysis of NEET youth trajectories, there are two main factors that determine the situation of these youth. The first factor is family support, including the possibility of young people having economic support. The second factor is the possession of professional skills recognized by economic operators either a diploma or a certification.

Also, according to the qualitative study of Mhrazi & Louridi (2020), many factors contribute to the risk of being a young NEET. Notably:

- The family socio-economic level: the low level of education of parents impacts the education of their children to the extent that some parents are unable to guide their children. Also, lack of autonomy and sense of responsibility is highlighted as a factor that Favors NEET.
- The Education System: NEET Youth Explain Their Dropout Situation¹ by various failures of the educational system in Morocco².
- Job skills and the job market: young NEETs report not finding a job to or not staying in a job for the following reasons: Lack of job skills and soft skills, lack of experience, unwillingness to take any job under any conditions.
- Public policies: These refer to the failure of public policies in the education system and the labor market.
- Depressed mood: Young NEETs adopt a negative attitude towards the circumstances and conditions of their family, school, and environment in general. This attitude combines two feelings in constant struggle: "guilt" towards their parents and family, they think they have let them down and feel like a burden to others, and "victimization" by blaming their family, school, and state for their situation. Another state of mind is

¹ Generally, between elementary and bachelor's degrees or not graduating from high school and post-secondary education or even pursuing higher education.

² NEETs report a lack of guidance and information about educational opportunities whether in college (middle school), high school (qualifying high school) or university.

quite rare and specific to girls: fatalistic "resignation" who think they will get out of it by getting married and therefore studies and work will no longer be a priority.

2. An attempt to estimate the costs of NEET youth in Morocco (short term)

For this axis, we propose an estimation methodology based on the literature review, in particular that developed in the article (*Estimating the Cost of Being "Not in Education, Employment or Training" at Age 16-18 by Christine Godfrey, Sandra Hutton, Jonathan Bradshaw, Bob Coles, Gary Craig* and Julia Johnsonet*).

Their method was done on three levels, the short term, the medium term, and the long term. In the case of this work, we propose a methodology that aims to provide an estimate of costs only in the short term for NEET youth in Morocco. This is explained by the absence and insufficiency of data and information related to the medium- and long-term costs of NEET youth in Morocco.

According to the literature review, the situation of a young NEET may be a consequence of factors depending on each young person and his or her conditions, but the main point is that their situations may create losses or costs in four forms: individual, family, public finance, and opportunity costs.

The estimation methodology involves three steps:

- **First:** Determine the effects of being a NEET person, compared to non-NEET people, to see what variables may be costs to the NEET population.
- **Second:** Determine the number of NEET individuals for each effect (variable). Determine the cost of each variable (effect) for each person (unit cost).
- **Third:** Multiply the number of NEET individuals by the unit cost of each variable.

It should be noted that the costs associated with NEET youth differ from one country to another, due to the characteristics and policies of each country. In the present work, we try to estimate the costs of NEET youth here in Morocco, theoretically and practically, according to the literature review.

Other variables may exist but due to the lack of data we cannot estimate their costs. Therefore, our estimates are based only on the costs that can economically estimate.

2.1 The costs associated with NEET youth:

The costs or effects of the situation of young NEETs in Morocco can be grouped into 5 costs, namely: (i) unemployment costs, (ii) health costs, (iii) crime costs, (iv) substance abuse costs, and (v) costs related to teenage mothers.

In fact, there are other costs but due to the lack of data and the inability to estimate all the costs, we try to deal only with the 5 costs that we mention above.

❖ The cost of unemployment:

Young people in Morocco if they are not studying, they can work, but this is not always the case, since we are talking about NEET youth. These young people can be without any activity and of course without work, between 15 - 24 years old, or throughout their working life, but we analyse the current impact of unemployment of these young people who have an age between 15 and 24 years old in Morocco. Note that different durations of unemployment are likely to have different outcomes.

- Individually: The unemployed individual experiences a loss of income, increased likelihood of depression, poor health, and difficulty maintaining relationships.
- Families: Families are likely to be involved in providing financial and other support for an unemployed youth.
- Opportunity costs: The resource costs of unemployment arise from the lost output of unemployed youth; the additional health costs resulting from the poor health and depression associated with unemployment; and the voluntary sector costs incurred in working with unemployed youth. Unemployment can also lead to a breakdown in social cohesion.
- Public finance costs: the loss of contributions and tax revenues are direct public finance costs. State-funded social protection to reduce unemployment is also a cost to the public purse. The contribution of the voluntary sector often includes an element of public funding.
-

❖ **The cost of health care:**

Among those who are NEET are youth with various disabilities such as mental illness and depression; long-term illness; or physical disabilities. Premature death or suicide may be a result.

- Individually: The costs to the individual of such circumstances are obvious: stress, pain and frustration in achieving goals, suffering from illness, depression or isolation
- Families: Families of young people with disabilities or long-term illnesses often pay a high price through financial and social costs, as well as stress and informal caregiving.
- Resource or opportunity costs: Disability clearly results in the loss of the individual's full contribution and subsequent loss of production.
- Public finance costs: Public health costs paid by government health and social services for NEET people who cannot pay for their health care, as the "Ramed program", or any other program that helps people get the health care they need.

❖ **The cost of crime :**

Unemployed youth are more likely to commit crimes, specifically crimes against property (Winter-Ember & Steven, 2001), and this has effects both on the individual concerned in terms of inclusion and other issues, and on the public purse including finances.

- *Individually*: The individual involved in crime has more difficulty than others in obtaining or maintaining employment and is more likely to be drawn into crime. They have a lower employment potential.
- *Resource or opportunity costs*: Resource costs resulting from criminal activity cover items such as property damage and personal injury during the crime, including any victim costs (listed in Barnett, 1993).

- *Public finance costs:* The main public finance costs of crime are related to the costs of the police and the criminal justice system. Social service costs are also incurred, so in general, we look at how much crime has cost our government in terms of GDP.

❖ **Costs of substance abuse :**

Those who are NEET have a higher propensity for substance abuse than other youth (Godfrey, et al., 2002), which can impact their lives, the health impact of smoking tends to occur later in life, so the costs below are primarily related to alcohol and drug abuse.

- **Individual:** Substance abuse can mean that the individual has difficulty getting or keeping a job with a resulting loss of income. Abuse can lead to illness and premature death. Addicts are at risk of being drawn further into drug trafficking and crime to support their habit.
- **Resource or opportunity costs:** Drug abuse leads to excessive use of health and other services, high job turnover, and decreased productivity. Drug abuse has consequences in terms of victims of drug-related crime, the broader effects of drug use on the community, and the impact of the illegal economy. Alcohol abuse can result in property damage and violence to the individual. Smokers affect others through passive smoking.
- **Public finance costs:** The obvious public finance costs of substance abuse are related to the costs of health and welfare services, drop-in centers, rehabilitation units; treatment and prevention costs. Because of the association between drug use and crime (Nurco & Hanlon, 1991), costs are incurred by the police and the criminal justice system. Alcohol-related accidents and public order problems can be costly to health, police, and the criminal justice system.

2.1 Population of NEET youth and their estimated unit costs.

To estimate the cost of NEETs in Morocco in 2019, we used the following data:

- *Unemployment*: The Official Report Card for 2019³, the labour code⁴, as well as data from the ONDH Panel survey (2019).
- *Health*: The National Household Consumption and Expenditure Survey 2013/2014, National Health Accounts data from 2013 and 2015, as well as data from the ONDH Panel Survey (2019).
- *Girl mothers*: We based on the National Population and Family Health Survey (2018).

(1) Estimated unit cost of unemployment for NEET youth:

- *The number of unemployed NEET youth:*

According to the High Commission for Planning, the number of NEET youth who are unemployed⁵, is estimated at 1700,000 young people. According to the literature review, the unit cost of unemployment is calculated by taking into consideration the cost to public finances and also the opportunity cost.

- *The unit cost of unemployment:*

The cost of public finance refers to the GDP that can be created if these young people had a job. In fact, there are three methods to calculate the GDP, "production method, expenditure method, and income method, we have used the income method because it is the method that is suitable with our case. Thus, we summed the two variables, compensation of employees and taxes, to find the GDP.

The NEET youth being inactive represents a loss for the state, at least in terms of taxes, if these youth were in an active situation. Thus, under the assumption that all NEETs can, at least, work for a minimum wage, the loss to the state is estimated as follows:

Employee remuneration:

The minimum wage that these young people can have, if they were workers, is represented by the minimum salary per month.

³ According to the official bulletin 2019, the minimum wage per hour is 14.13Dh

⁴ The source that showed us the working hours for employees in year, (2288 hours).

⁵ (This is the total number of NEET youth)

According to the labor code, the normal working hours for employees are set at 2288 hours per year, and the minimum wage per hour in 2019 was 14.13Dh, according to the official bulletin. As a result, the minimum annual salary that a young NEET could receive is estimated at 32,329.44dh.

Table 2: Minimum annual compensation of an employee in 2019

Minimum monthly gross remuneration for an employee ⁶ in Dhs	2 694.12
Minimum annual remuneration of an employee in Dhs	32 329.44

Source : Author

The inactivity of these young people therefore represents lost tax resources for the Moroccan state. Thus, we proceed in what follows to the estimation of the taxes that the State could have deducted.

Taxes:

The income tax to be paid in an employment situation is estimated at 10% for a minimum salary⁷. Thus, based on the unit cost of a young NEET in terms of GDP in 2019, the minimum income tax for a young NEET in Morocco in 2019 is estimated at 3,232.94Dhs.

Table 3: Minimum annual tax on individual income lost to the state in Dhs.

Minimum annual remuneration of employees in Dhs	32 329.44
Tax rates	10%
Minimum annual tax on individual income lost to the state in Dhs	3 232.94

Source : Author

Now we will calculate the unit cost in public finance, which means the unit GDP cost of a young NEET = Wages + Taxes.

Table 4: Unit cost of a NEET youth in terms of GDP in 2019.

Minimum annual remuneration of employees in Dhs	32 329.44
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⁶ The minimum wage in Morocco for 2019 is estimated at 2,694.12Dhs. (This is 190.67 hours * 14.13dh/hour)

⁷ The 10% rate is applied for annual salaries between 30001Dh and 50000Dh.

Minimum annual tax on individual income lost to the state in Dhs	3232.94
The unit cost of a young NEET in terms of GDP in 2019 (in Moroccan Dirham)	$32\,329.44 + 3\,232.94 = 35\,562.38$

Source : Author

As noted earlier, the inactivity of NEET youth results in a revenue shortfall represented by the minimum individual income tax lost to the state. This shortfall is referred to as the opportunity cost of unemployment if these young people are inactive. It is therefore represented by the minimum wage (SMIG) which is estimated at 32 329.44 Dhs for the year 2019.

(2) Estimated unit cost of health (ill health) for a NEET youth:

- *The number of NEET youth in poor health:*

According to the quantitative analysis based on the ONDH Panel survey, 5.1% of NEET youth suffer from health problems, a population of approximately 86700 youth.

- *The unit cost of health/poor health*

It should be noted that due to the insufficiency and unavailability of some data related to the health sector and NEET youth in Morocco, estimating the health costs of NEET youth is complicated. However, our study attempts to approximate these costs using data from different sources (national reports, surveys, finance laws, etc.).

The cost of health care in the public finances:

The Moroccan health system only covers expenses incurred in the public health sector (public hospitals) where The State covers between 70% and 90% of the costs (depending on the treatment) and the remaining amount is paid by the patient.

In 2013, total health expenditure (SDR) reached 52 billion Dirhams, or 1,578 Dirhams per capita (188 US dollars at the current exchange rate in 2013). It represents 5.8% of GDP compared to 6.2% in 2010. (According to the 2015 National Health Accounts report)

Opportunity cost:

In Morocco, low-income people are covered by the medical assistance plan for poor persons, (RAMED) "*Régime d'assistance médicale aux personnes économiquement démunies*". So, we can have young people who do not work (NEET young people) and who can benefit from "RAMED", but due to the lack of data, it is impossible to know how many sick young people will or will not benefit from this program, so we estimated that not all sick young people will benefit from RAMED.

According to the results of the national survey on household consumption and expenditure in 2013/2014, the average annual expenditure per person (in current DH) on health care, was 965Dh.

It should be noted that due to the insufficiency and unavailability of some data related to the health sector and NEET youth in Morocco, estimation is difficult.

(3) The cost of crime:

According to the Presidency of the Public Prosecutor's Office, 27,231 juvenile offenders were registered during 2019. These are minors who have not reached the criminal majority set at 18 years and have committed acts incriminated and punished by law.

Due to the unavailability of data on the number of young criminals (regardless of their status: NEET or non-NEET), estimating the cost to public finances and the opportunity cost is impossible. Therefore, the cost of crime will be excluded from the estimate of the costs of NEET youth.

(4) Estimated unit cost of a 15/19 year-old NEET girl mother (Teenage mothers):

▪ The number of girls who are NEET mothers (15/19 years old):

According to the literature review, NEET mother girls are girls aged 15-19 who are married or previously married, pregnant, not working, and not in school.

To estimate the population of NEET girl/woman mothers we mined data from the National Population and Health Survey (2018)⁸. Thus, for the year 2018, the estimated population of teenage girls in NEET status is twenty-eight young women.

- *The unit cost of a girl mother:*

Public finance costs:

Concerning the public finance costs of young mothers in NEET situation, there is not enough information to add them, that is why we excluded this cost.

Opportunity costs:

Public hospital charges:

Public hospital charges refer to the costs associated with giving birth in a public hospital. Indeed, women usually stay 24 hours for a natural birth and three to four nights for a caesarean surgery⁹. Therefore, public hospital fees cost between 1,000 and 1,500 dirhams while a cesarean section will cost between 2,500 and 3,500 dirhams.

Private Clinic Costs:

The cost of a delivery in a private clinic depends on many factors such as the doctor's delivery fee, the clinic's fees, the length of stay, drugs and treatments provided, amenities etc. As a result, private clinic costs can range from 2,000 to 10,000 dirhams for a natural delivery and 3,000 to 20,000 dirhams for a caesarean section surgery.

- (5) The cost of substance abuse:

About the costs of drug abuse, it should be noted that there is no clear and direct information on the percentage of NEET or non-NEET youth who use drugs in Morocco. Indeed, the only survey concerning drug use is conducted by "MedSPAD" (Mediterranean School Survey Project on Alcohol and other Drugs) among students aged 15-17 years.

As a result, the unavailability of information on the cost to the public purse of young NEETs who use drugs in Morocco makes it impossible to estimate the cost. Regarding the opportunity cost, it should be noted that Morocco has sixteen addiction centers where people addicted to cocaine and heroin can receive a substitute, methadone. Previously considered expensive (over

⁸ See appendix.

⁹ Except for cases that are exempt from medical expenses (such as those with a RAMED card).

1,000 DH per month), the price of this substitution treatment has been reduced by 50%. At present, it is necessary to count 500 DH for the care of a drug addict with methadone¹⁰.

Because of the lack and inadequacy of information on the cost of drug addiction, we have excluded it.

II. Results

The attempt to estimate the overall costs of the NEET youth population in Morocco in terms of public finance and opportunity costs focused on three of five issues: unemployment, health, and girl mothers¹¹.

The calculation of the cost of the NEET population is based, as previously mentioned, on the determination of the costs (effects) and an initial estimate of the unit costs. Thus, we present in the following the global costs in terms of public finance and opportunity costs for the three aspects retained.

(1) The cost of unemployment:

With an estimated NEET youth population of 1,700,000, the public finance cost of unemployment for NEET youth in 2019 is MAD 60,456,046,000. In addition, the opportunity cost is represented by the loss or non-receipt of wages by young NEETs. This is estimated at 54,960,048,000Dhs.

(2) Health care cost :

The estimation of health-related costs, either to public finances or to opportunity costs, is also confronted with the unavailability of data at the micro level. In this sense, we estimate the total public expenditure on health care per capita in 2013, which is estimated at Dhs 1,578.

¹⁰ (<https://aujourd'hui.ma/societe/dr-hicham-abad-soigner-la-toxicomanie-coute-desormais-moins-cher-119578>)

¹¹ The unavailability of data on the cost of crime and substance abuse made it impossible to estimate these costs with the NEET youth population.

This approach will allow us to find at least the minimum of the state-financed health care costs¹².

According to the ONDH survey (2019), the population of ill NEET youth is 86700 youth. Therefore, the cost of public finance related to health for these youth was Dhs 136,812,600 for the year 2019.

On the other hand, the opportunity cost of health for NEET youth in 2019 refers to direct household spending. According to the latest National Household Consumption and Expenditure Survey (HCP), the annual per capita expenditure on health care is estimated at 965Dhs. Therefore, the estimated opportunity cost of NEET youth health was Dhs83,665,500 for the year 2019.

(3) The cost of girl mothers - (Teenage mothers):

We have already mentioned that the estimated population of young pregnant NEET women is 28 girls¹³, and we also mentioned that the calculation of public finance costs related to girl mothers is impossible due to the unavailability of data.

From this fact we are left with the opportunity cost of these girl mothers calculated, if we estimate that half of the girl mothers between 15-19 years, will give birth in public hospitals and the other half in private clinics, the public hospital costs amount to 31 500dhs¹⁴ while the cost of care in private sector health centers will be around 154 000dhs¹⁵. The opportunity cost of these young pregnant NEET teenage women is therefore around Dhs 185,500 for the year 2019.

¹² This is assuming that these young people only use public hospital services.

¹³ See appendix

¹⁴ With a unit cost of 2250dhs

¹⁵ With a unit cost of 11000dhs

Total costs:

Table 4: Public finance cost and opportunity cost of NEET youth in Morocco for the year 2019

Costs	Population	Unit cost		Public Finance	Opportunity cost
		Public Finance	Opportunity cost		
Unemployment	1 700 000	35 562.38dh	32 329.44dh	60 456 046 000Dhs	54 960 048 000Dhs
The health	86 700	1 578dh	965dh	136 812 600Dhs	83 665 500Dhs
The girl moms	28	-----	PHC : 2250dh CPC :11000dh	-----	185 500Dhs
The total costs in 2019				60 592 858 600Dhs	55 043 899 000Dhs

Source : Author

PHC : Public hospital costs

CPC: Costs of private clinics

III. Conclusion

The present research attempts to estimate the costs of young NEETs in Morocco in the short term along three dimensions: unemployment, health, and young mothers. For this we exploited several data sources namely: Morocco Social Indicators (HCP, 2018), ONDH Panel Survey data (2019), as well as National Health Accounts data from 2013 & 2015, National Survey of Household Consumption and Expenditure in 2013/2014, National Population and Family Health Survey (2018).

The results show that unemployment costs are the highest burden. This is particularly due to the number of NEET youth in unemployment, as this cost affects all NEET youth in total (1,700,000). This situation has a negative impact on public finances with an amount of 60,456,046,000Dhs and also in opportunity cost for these young people, which is estimated at 54,960,048,000Dhs.

The cost of health comes second in terms of volume of costs, with an amount of public finance of 136 812 600Dhs and an opportunity cost burden that reaches an amount of 83 665 500Dhs.

Regarding the cost of girl mothers, the unavailability of data makes it impossible to estimate the cost in terms of public finance. However, we were able to calculate the opportunity cost of

185,500 MAD for the girl mothers. This cost comes last, which is necessarily due to the small number of NEET girl mothers, which does not exceed 28 girl mothers in 2019.

In sum, the total costs of young NEET in Morocco in 2019, amount in terms of public finance costs to 60 592 858 600Dhs and in opportunity costs to an amount of 55 043 899 000Dhs.

It should be noted that due to the unavailability of certain data (notably those relating to drug abuse and crime), these results do not accurately reflect reality as these costs have not been taken into consideration. However, these limitations provide new avenues of research that we plan to pursue in future research.

Appendix :

Table (1): Relative distribution of women (15-49 years), married or already married by place of residence and selected characteristics, (ENPFS 2018, ENPFS).

The characteristics		The place of residence		The total	Number of married or already married women (15-49) years.
		Urban	Rural		
Age groups	15-19	1.5	3.7	2.4	239
	20-24	8.3	13.6	10.4	1034
	25-29	15.1	19.3	16.7	1669
	30-34	18.6	17.5	18.2	1813
	35-39	19.8	18.6	19.3	1925
	40-44	19.7	15.1	17.8	1779
	45-49	17.1	12.3	15.1	1510

Table (2): Relative distribution of married or previously married women (ages 15-44), by employment status and selected characteristics, (ENPFS 2018).

The characteristics		Professional status in %			Number of married or already married women (15-44) years.
		Working now	Worked in the past	Never work	
Age groups	15-19	2.5	5.3	92.2	239
	24-20	4.0	9.2	86.8	1034
	29-25	8.7	14.2	77.1	1669
	34-30	12.6	15.2	72.2	1813
	39-35	16.2	13.1	70.7	1925
	44-40	16.8	13.5	69.7	1779

Table (3): Distribution of the population in the age group (15-24 years) by education level and selected characteristics, National Population and Family Health Survey-2018.

The characteristics		The level of education in %.					The number
		Without diploma	Primary	Secondary school	Qualifying secondary	Superior education	
Age groups	15-19	3.1	19.0	35.2	34.3	8.4	5693
	20-24	5.8	25.3	25.4	17.3	26.2	5206
Gender	Males	2.8	18.6	36.6	26.8	15,2	5521
	Females	6.0	25,4	24.3	25,6	18,7	5378

Table (4): Percentage of women (15-24yrs) married and pregnant at the time of the survey (National Population and Family Health Survey-2018).

The characteristics		Percentage of women who were pregnant at the time of the survey %.	The number of married women (15-24) at the time of the survey.
Age groups	15-19	15.7	229
	20-24	14.0	981

Calculating the population of girl moms:

Young women between 15-19 years old in Morocco in 2018, are 239. Young women aged 15-19 in Morocco in 2018 who have never worked and those who have worked in the past but now do not work are: $(92.2 + 5.3) \% * 239 = 233$ young women.

Girls between 15-24 years old who have no diploma plus those who have only primary level are $(6 + 25.4) \% * 5378$ girls = 1688 girls.

Girls between 15-19 years old who have no diploma plus those who have only primary school level are: $(3.1 + 19) \% * 1688$ girls = 373 girls.

So we have 373 girls (may be married or unmarried) between 15-19 years old who are not currently in school in 2018.

To find the number of young women (married) between 15-19 years old who are not in school, we need to subtract the number of girls (who may or may not be married) who are not in school from the number of young women who are married or already married, so $373 - 239 = 134$.

So, we find that the number of married or already married young women between 15 and 19 years old who are not currently in school is 134 young women.

So we can have women who are not currently studying, but they have a job, the same thing for young women who are not currently working, they can be currently studying.

To find the share of young women who are not working now, and at the same time they are not currently studying, we need to combine the two shares 233 and 134 and we need to do $(233+134)/2$ to find the number of young NEET women between 15-19 years. Then the number of young women NEET between 15-19 years old in 2018, is $(233+134) / 2 = 183$ young women NEET.

The number of young women between the ages of 15-19 who are pregnant in 2018 is $15.7\% * 229 = 35$ young women pregnant in 2018. We'll do the same thing to find the number of pregnant NEET young women, so $15.7\% * 183$ NEET young women = **28 pregnant NEET young women in 2018.**

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