Not in Education, Employment, or Training in MENA: Lessons from Morocco's Labor Market

Middle East Center for Economics and Finance (CEF) Webinar
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Morocco's Jobs Landscape

Morocco's Jobs Landscape: Identifying Constraints to an Inclusive Labor Market (The World Bank, 2021).

The report identifies four priorities:

i.   Accelerate structural transformation.

ii.   Encourage formalization and improve the quality of jobs.

iii.   Increase female participation in the labor force and connect women to better jobs.

iv.   Support youth in their transition from education to the labor market and lower the large numbers of youth not working.

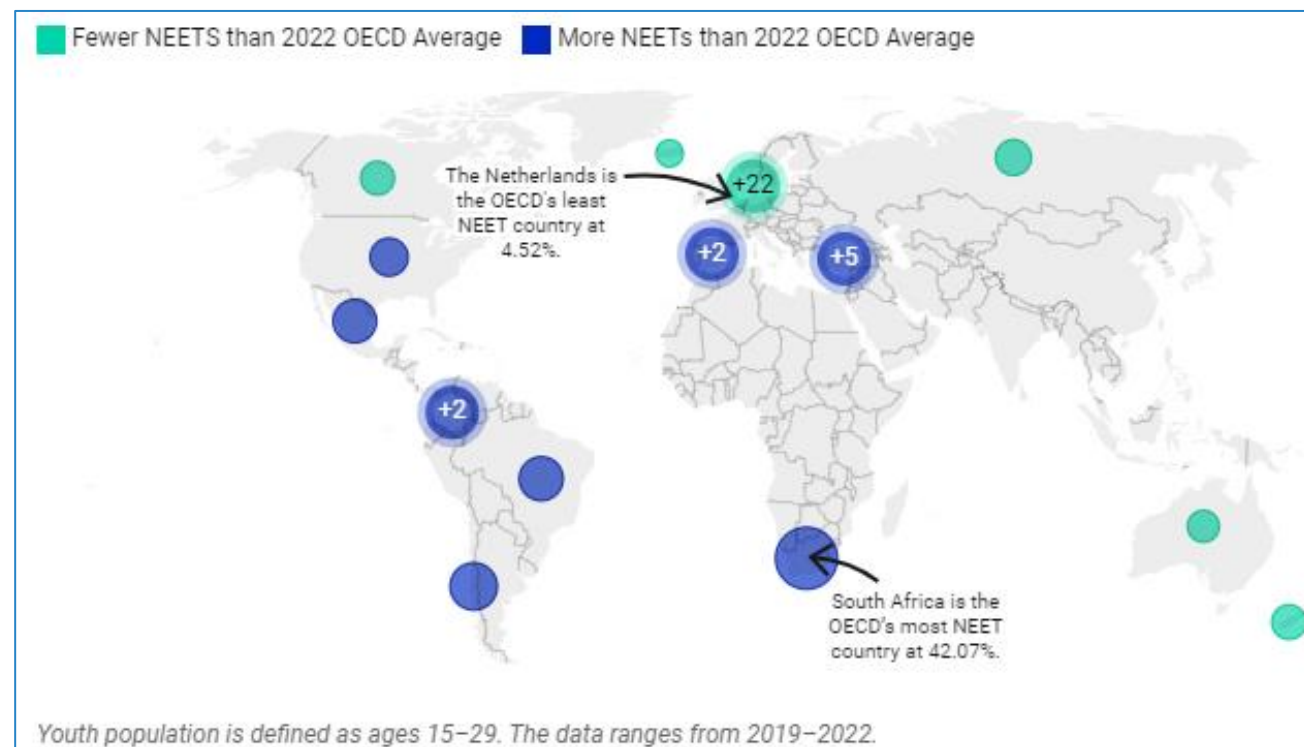Once NEET, Always NEET? A Synthetic Panel Approach to analyze the Moroccan Labor Market (Alfani *et al.*, 2024).

What explains youth unemployment in Morocco? A look at Moroccans not in education, employment, or training (Alfani et al., 2023).

What is a NEET?

✓ NEET is an acronym meaning "not in employment, education, or training," first used by researchers in the United Kingdom in the 1980s and adopted in 2010 as a trend indicator by the European Commission Employment Committee.

✓ Individuals traditionally counted in a country's unemployment numbers → unemployed but looking for work & those who have stopped applying for jobs.

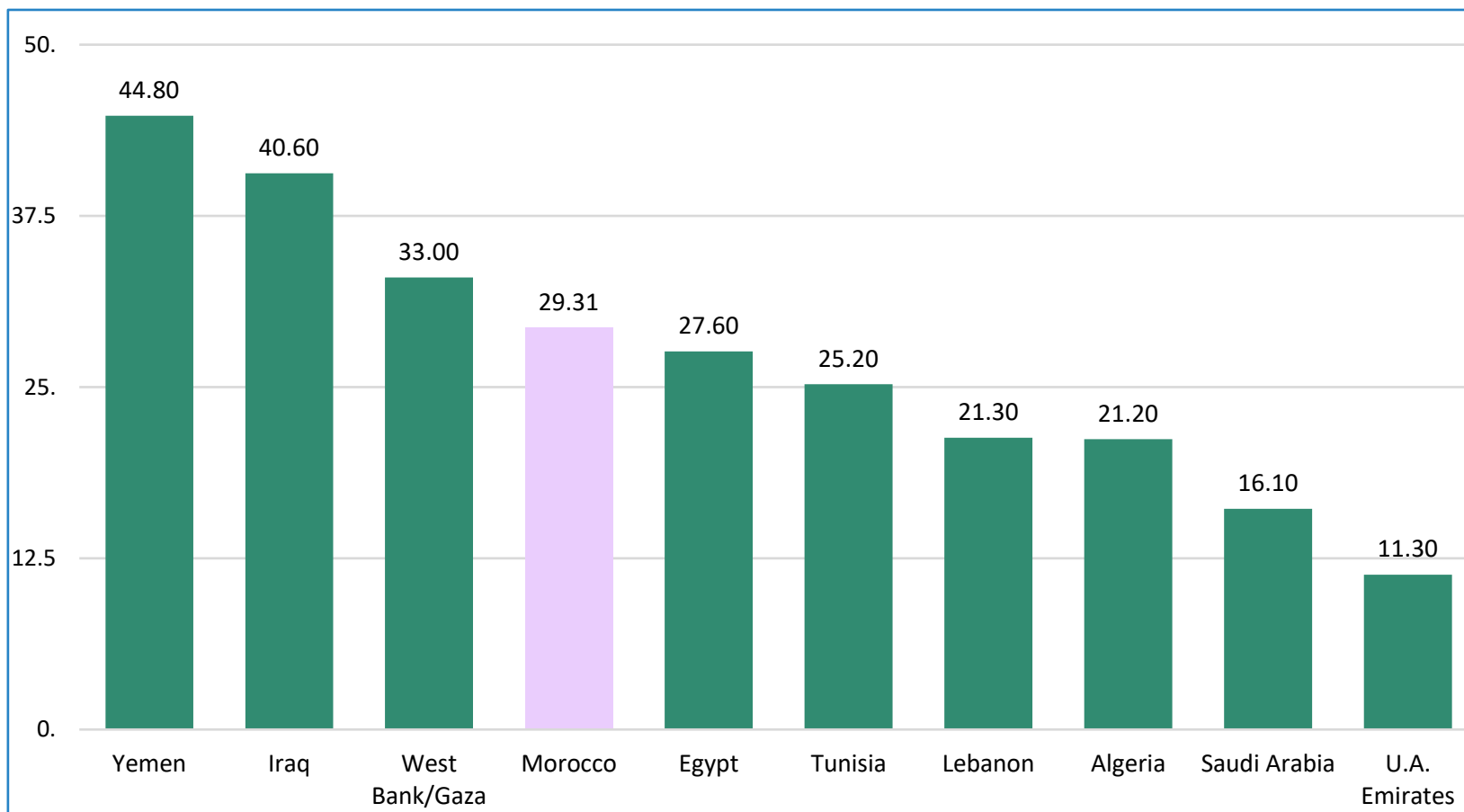✓ Worldwide 21.7% between 15 and 24 years old were considered NEETs in 2023 (ILO).

Profiling the NEETs around the World

- In 2022, NEET rate for the 15-29 yo population across OECD countries was around 12.65%.

- NEET rates higher for women than for men; the OECD average rate is almost 4 percentage points higher for young women (14.66%) than for young men (11.06%).

- NEET rates generally higher for young people in their 20s than for those in their teens. This difference may be the result of the expansion of upper secondary education in many OECD countries.

- About 50% of NEETs live with their parents compared to about 75% of non-NEETs. About 26% of NEETs, but only 9% of non-NEETs, live with a partner and 1 or more children

Fewer NEETS than 2022 OECD Average   More NEETs than 2022 OECD Average

The Netherlands is the OECD's least NEET country at 4.52%.

+22 +2 +5 +2

South Africa is the OECD's most NEET country at 42.07%.

Youth population is defined as ages 15–29. The data ranges from 2019–2022.

Source: Blue MarbleSource: Organisation for Economic Co-operation and Development Get the dataCreated with Datawrapper

The NEETs in the MENA region

- ✓ In 2017, Morocco was the worst performer among MENA countries not in a situation of conflict or state fragility
- ✓ Its NEET rate is 2 percentage points above Egypt, and 4 and 5 points higher than that of Tunisia and Algeria, respectively.

Assessing NEETs in Morocco: Data and Descriptive Statistics (1/2)

✓ This paper makes use of the *Enquête nationale sur l'emploi*, a nationally representative labor force survey conducted by the Moroccan *Haut-Commissariat au Plan* (HCP).

✓ The survey has been conducted every year since 1999 using a comprehensive questionnaire covering both urban and rural areas. On average, every year the sample comprises about 80,000 households, out of which 60,000 reside in urban areas and 20,000 in rural areas.

✓ The survey also contains a rotating panel component that can be used to examine the persistence and dynamics of labor market status. This rotating panel component, however, is available only for about half of the sample for two adjacent years.
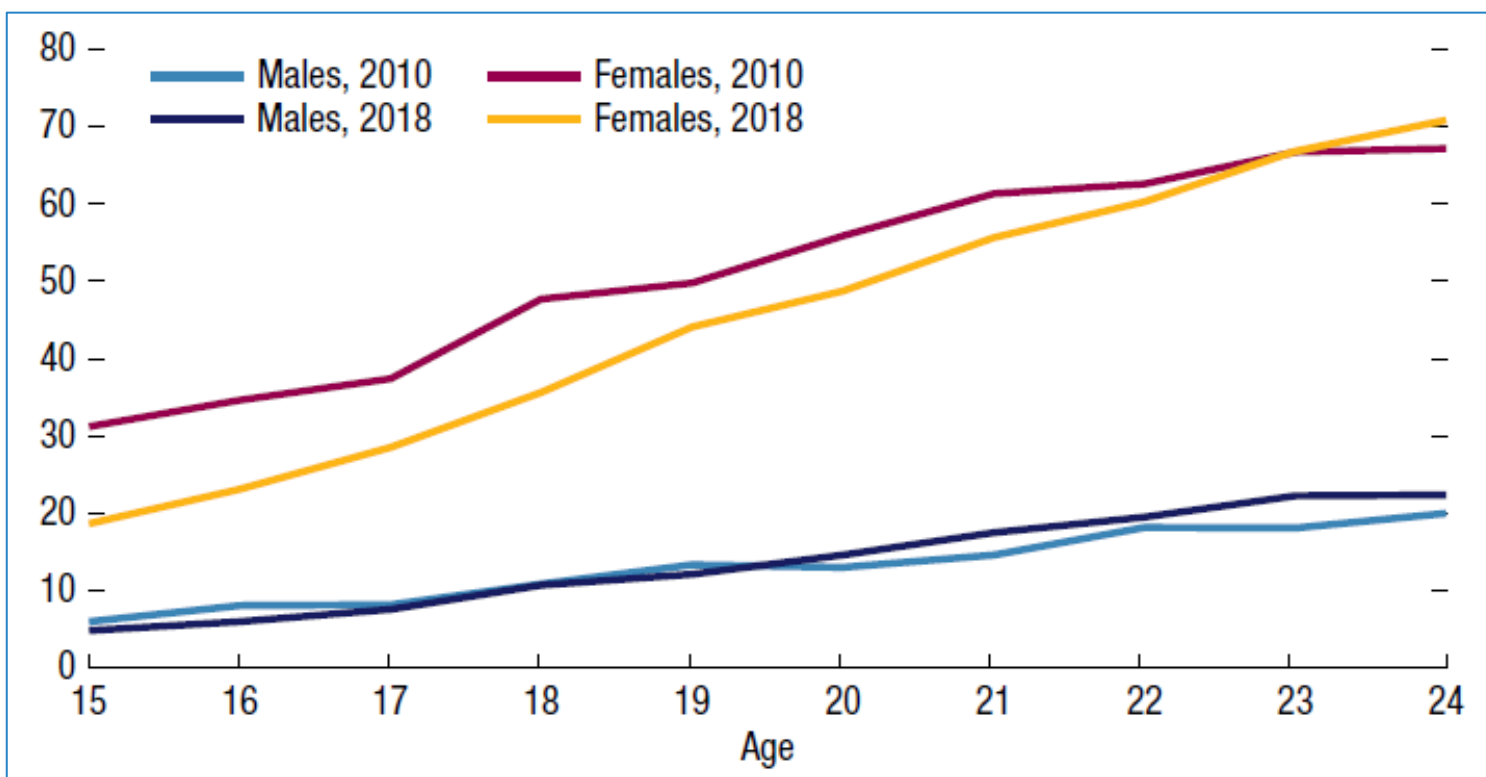
Assessing NEETs in Morocco: Data and Descriptive Statistics (2/2)

Descriptive Statistics for Selected Control Variables

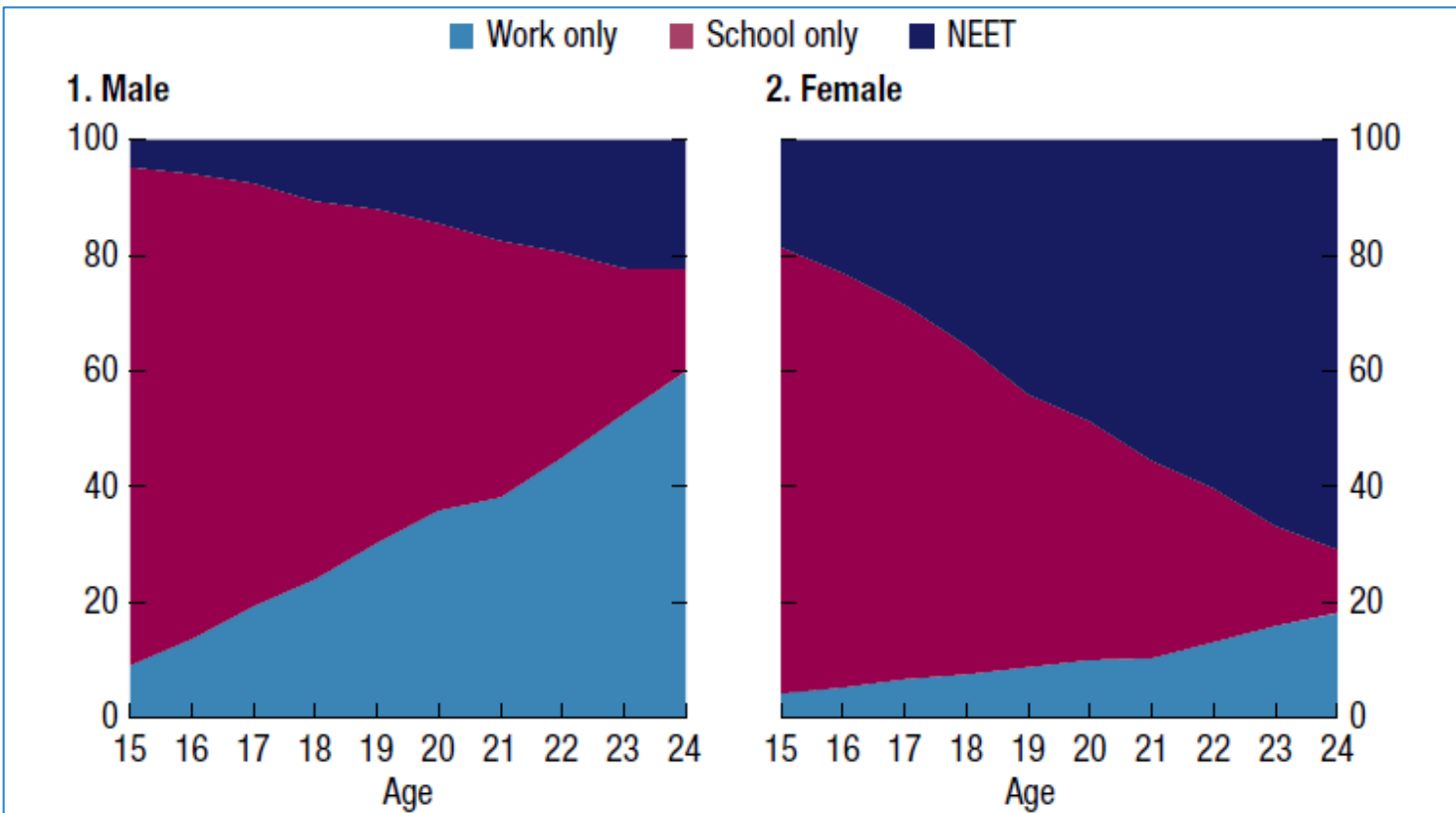| Variable	2010			2018		
	Mean	Min	Max	Mean	Min	Max
NEET (1 = yes)	32.4	0	1	28.4	0	1
Household member is female (1 = yes)	49.7	0	1	49.5	0	1
Household member is 20–24 years old (1 = yes)	55.7	0	1	54.2	0	1
Household member is single	87.8	0	1	88.3	0	1
Household member is married	11.8	0	1	11.2	0	1
Household member is widower/divorced	0.4	0	1	0.4	0	1
Household living in rural area	46.2	0	1	40.3	0	1
Household living in most developed regions	68.7	0	1	50.5	0	1
No education	12.5	0	1	5.1	0	1
Koranic school	1.3	0	1	0.7	0	1
Primary school	56.2	0	1	50.6	0	1
Secondary school	23.2	0	1	29.7	0	1
Tertiary education	6.7	0	1	13.8	0	1
Asset index (normalized)	37.4	0	1	43.6	0	1
Household living in rural accommodation (1 = yes)	35.8	0	1	26.9	0	1
Household living in villa (1 = yes)	1.3	0	1	1.3	0	1
Household living in apartment (1 = yes)	7.3	0	1	10.3	0	1
Household living in traditional house (1 = yes)	3.3	0	1	2.6	0	1
Household living in modern house (1 = yes)	47.3	0	1	55.5	0	1
Household living in shanty (1 = yes)	5.0	0	1	3.4	0	1

✓ Between 2010 and 2018, the NEET rate remained high, hovering around 30%, with little sign of decline. In 2018, 28% of young Moroccans (about 2 million people) could be classified as NEET.

✓ Enrollment in secondary education moved from 23% to 30% between 2010 and 2018, with tertiary education rising from 6.7% in 2010 to 13.8% in 2018.

Source: Authors' elaboration based on the Enquête Nationale sur l'Emploi.
Note: Figure is based on 48,024 observations in 2010 and 55,280 in 2018. Max = maximum; Min = minimum; NEET = not in employment, education, or training.

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NEETs in Morocco: Males and Females by Age

- NEET rates are much higher for women. A significantly smaller share of younger women (aged 15–20) were in a NEET position in 2018.
- The NEET rate for women aged 23–24 is virtually the same in 2018 as in 2010, more than twice as high than for men.
- The age distribution of male NEETs did not change substantially between 2010 and 2018.

The School-to-Work Transition

Legend: ■ Work only ■ School only ■ NEET

1. Male / 2. Female (Age, 15–24)

- In 2018, just 19% of girls aged 15 were NEET compared. Of the remaining 81% of 15-year-old girls, 77% were in school and 4% were working. About 5% of boys aged 15 were NEET in 2018.

- At 24-year-old more than 70% of women in were NEET. About 10% of women aged 24 were in school, and fewer than 20% were working, compared to about 20% of their male counterparts in school and about 60% working.
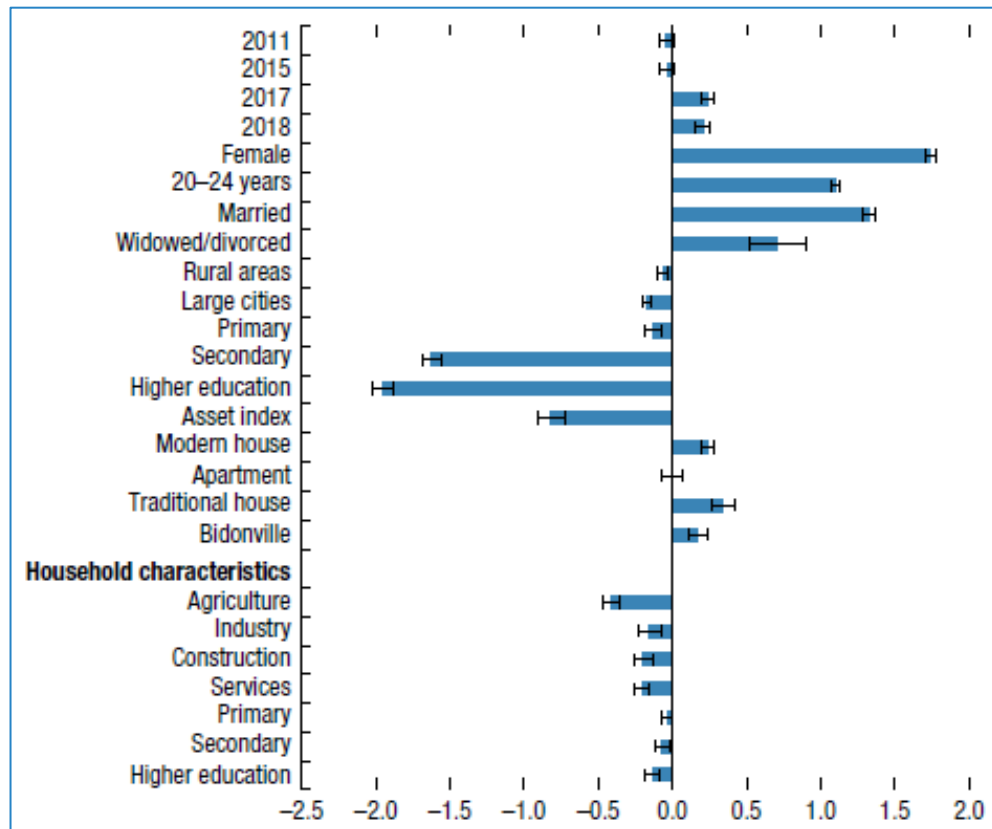
What affects the probability of being NEET? (1/3)

✓ Following Bilgen Susanli (2016), we first estimate the probability of being NEET (NEET=1, non-NEET=0) using a simple logit model based on a set of individual (*e.g.,* age, gender, and level of education) and household characteristics, geographical location, and housing conditions.

$$logit(p_{it}) = \beta_t x_{it} + \varepsilon_{it}$$

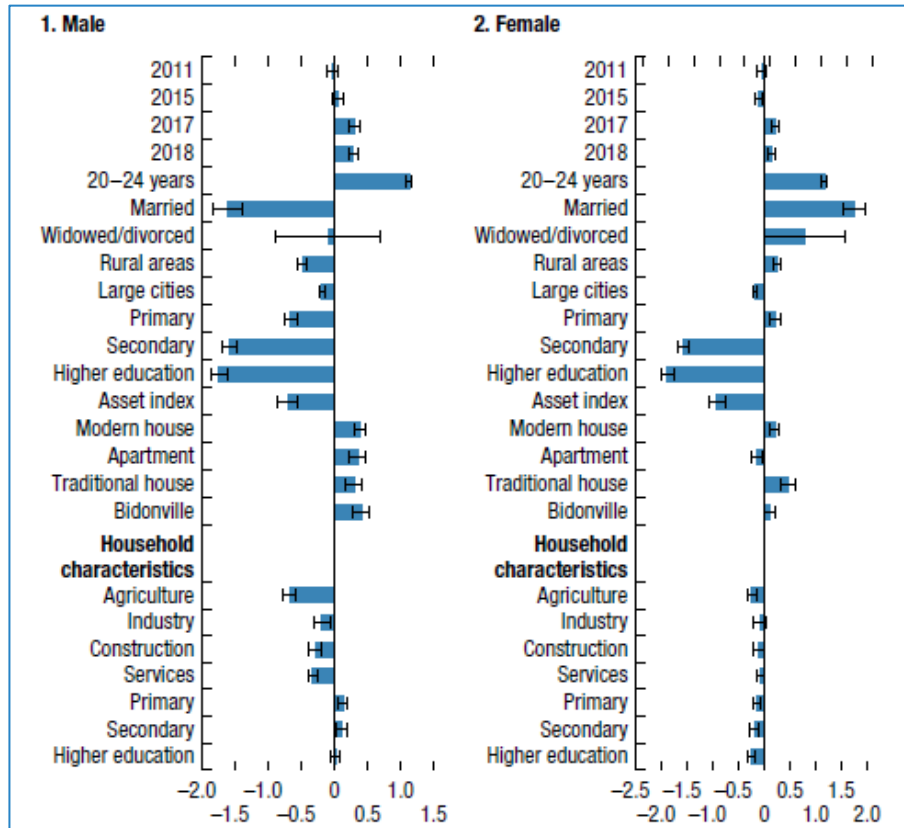✓ The model calculates the probability that the dependent variable acquires value 1:

$$E[Y_{ith} = 1 | X = x] = P(Y_{ith} = 1)$$

What affects the probability of being NEET? (2/3)

- ✓ The likelihood of being NEET increases with **age**, suggesting a complex transition from school to the labor market that tends to result in unemployment.

- ✓ People living in **big towns** or in **rural areas** are less likely to become NEET than those living in medium-sized towns.

- ✓ The **education level** of the household head and their **sector of activity** both significantly impact the probability of having NEETs in the family. When the household head is active in agriculture, young family members tend also to be active in that sector.

What affects the probability of being NEET? (3/3)

1. Male   2. Female

- ✓ **Marital status** appears to have different effects: married men have a lower probability of being NEET, whereas the opposite is observed for women.
- ✓ **Higher education** and **family background** reduces the probability of being NEET more for women than for men.
- ✓ **Area of residence** also has varying impacts. For men, living in rural areas reduces the probability of being NEET, whereas for women, the effect is the opposite. In rural areas men can find work in agriculture or undertake jobs that require high levels of physical effort.

Understanding the Dynamics through Synthetic Panels

✓ The need for a longer-term perspective to gauge Moroccan labor market outcomes encouraged us to adapt a methodology originally developed for analyzing poverty dynamics, the so-called synthetic panel (Dang et al., 2014, and Dang and Lanjouw, 2013).

✓ The synthetic panel approach, which uses repeated cross-sections, produces transition matrices.

✓ The results of these matrices tend not to be significantly different from those that might have been produced using a real panel.

The Synthetic Panel Approach

To use the proposed methodology, the following two assumptions need to be satisfied (Dang et al., 2014).

✓ In the first instance, the underlying population must be the same in all rounds of the survey; this assumption is necessary to justify the use of time-invariant individual characteristics to predict the NEET/non-NEET condition.

✓ Secondly, the correlation between the error terms of the logit model in the two rounds is assumed to be non-negative.

Year	Low-mobility bound estimate	Cross-section	Actual panel	High-mobility bound estimate
2010	–	31.41	31.82	–
		(30.96; 31.86)	(31.14; 32.51)	
2018	46.66	46.66	46.92	46.66
		(46.20; 47.12)	(46.33; 47.52)	

Notes: results are restricted to the sample of individuals aged 15 to 24 in 2010 and aged 23 to 32 in 2018. "Low-mobility" is the upper bound and "High-mobility" is the lower bound. Synthetic panel high-mobility bound estimates are based on 500 replications. Individual-level sampling weights are applied; 95 percent confidence intervals are given in parentheses.
Source: authors' own elaboration based on the Enquête nationale sur l'emploi (ENE) for 2010 and 2018.

Transition IN & OUT of the NEET Condition on the 2010/2018 Synthetic Panel

Status in 2010, 2018	Low-mobility bound estimate (%)	High-mobility bound estimate (%)
NEET, NEET	46.43	36.16
	(45.97; 46.89)	(35.66; 36.66)
NEET, non-NEET	5.35	19.30
	(5.15; 5.55)	(18.80; 19.80)
Non-NEET, NEET	0.23	10.50
	(0.19; 0.28)	(10.00; 11.00)
Non-NEET, non-NEET	47.99	34.04
	(47.52; 48.45)	(33.54; 34.54)

Notes: results are restricted to the sample of individuals aged between 15 and 24 in 2010 and between 23 and 32 in 2018. "Low-mobility" and "High-mobility" refer to the two bounds on mobility; for immobility, "Low-mobility" is the upper bound and "High-mobility" is the lower bound. High-mobility bound estimates are based on 500 replications. Individual-level sampling weights are applied; 95 percent confidence intervals are given in parentheses.
Source: authors' own elaboration based on the Enquête nationale sur l'emploi (ENE) for 2010 and 2018.

Proportion of individuals in the 2018 sample estimated to be in one of four groupings which are exhaustive:

a. In NEET both in 2010 and 2018 (NEET, NEET)
b. Moved out of NEET during that period (NEET, non-NEET)
c. Fell into the NEET condition (non-NEET, NEET)
d. Were never in NEET between 2010 and 2018 (non-NEET, non-NEET)

- The results suggest that **the NEET condition tends to persist**. NEETs in 2010 had a 70 to 90% probability of remaining NEET, and only a 10 to 30% probability of escaping from the condition.

NEET Dynamics for Males and Female

- The share of NEET young women in 2010 is already four times bigger than that of young men (74.23% vs 18.31%).

- The labor market is particularly immobile: after 8 years women have an 80 to 90% probability of remaining NEET, with little chance of improvement.

- For them is less of a problem: most of them are non-NEET in 2010 and remain that way after 8 years.

Status in 2010, 2018	Male		Female	
	Low-mobility bound estimate (%)	High-mobility bound estimate (%)	Low-mobility bound estimate (%)	High-mobility bound estimate (%)
NEET, NEET	17.85	3.88	74.22	67.53
	(17.34; 18.37)	(3.38; 4.38)	(73.67; 74.76)	(67.03; 68.03)
NEET, non-NEET	0.08	18.42	10.47	20.15
	(0.05; 0.13)	(17.92, 18.92)	(10.10; 10.86)	(19.65; 20.65)
Non-NEET, NEET	0.46	14.43	0.01	6.70
	(0.38; 0.55)	(13.93; 14.93)	(0.00; 0.04)	(6.20; 7.20)
Non-NEET, non-NEET	81.61	63.28	15.30	5.62
	(81.08; 82.13)	(62.78; 63.78)	(14.85; 15.75)	(5.12; 6.12)

Notes: results are restricted to the sample of individuals aged between 15 and 24 in 2010 and between 23 and 32 in 2018. "Low-mobility" and "High-mobility" refer to the two bounds on mobility; for immobility, "Low-mobility" is the upper bound and "High-mobility" is the lower bound. High-mobility bound estimates are based on 500 replications. Individual-level sampling weights are applied; 95 percent confidence intervals are given in parentheses.
Source: authors' own elaboration based on the Enquête nationale sur l'emploi (ENE) for 2010 and 2018.

NEET Dynamics for Bottom 80% and Top 20% of the Asset Index Distribution

- The sample has been divided into two groups: those in the bottom 80% and those in the top 20% of the asset index distribution.

- There is a higher prevalence of NEETs among households in the bottom 80% compared to those in the top 20%.

- Among the top 20%, there is less persistence in the NEET condition, and individuals have a greater chance of exiting NEET status in 2018 if they were NEET in 2010.

Status in 2010, 2018	Asset index < 80%		Asset index > 80%	
	Low-mobility bound estimate (%)	High-mobility bound estimate (%)	Low-mobility bound estimate (%)	High-mobility bound estimate (%)
NEET, NEET	45.57	36.35	38.92	25.76
	(46.11; 47.04)	(35.85; 36.85)	(35.55; 42.40)	(25.26; 26.26)
NEET, non-NEET	5.37	19.26	4.11	21.32
	(5.17; 5.58)	(18.76; 19.76)	(2.93; 5.75)	(20.82; 21.82)
Non-NEET, NEET	0.23	10.45	0.55	13.71
	(0.19; 0.27)	(9.95; 10.95)	(0.23; 1.32)	(13.21; 14.21)
Non-NEET, non-NEET	47.83	33.94	56.41	39.21
	(47.36; 48.30)	(33.44; 34.44)	(52.89; 59.87)	(38.71; 39.71)

Notes: results are restricted to the sample of individuals aged between 15 and 24 in 2010 and between 23 and 32 in 2018. "Low-mobility" and "High-mobility" refer to the two bounds on mobility; for immobility, "Low-mobility" is the upper bound and "High-mobility" is the lower bound. High-mobility bound estimates are based on 500 replications. Individual-level sampling weights are applied; 95 percent confidence intervals are given in parentheses.
Source: authors' own elaboration based on the Enquête nationale sur l'emploi (ENE) for 2010 and 2018.

Conclusion & Discussion

✓ Young people inactive or unemployed, outside the school system and not undergoing any training form about 30% of the Moroccan population between ages 15 and 24. That number looks even grimmer when compared to NEET rates in the MENA region, already characterized by particularly high rates of NEETs.

✓ Individual characteristics play an important role to the NEET condition. The family context also influences the probability of being NEET.

✓ The vast majority of those who were NEET in 2010 tended to remain outside both the labor market and education even after 8 years, with very little chance of moving out. Likewise, those non-NEET tended to remain as they were after 8 years.

✓ The recommendation is to work on prevention since, as we have seen, initial conditions tend to largely condition a young person's future trajectory.

✓ One important aspect is the persistent disadvantaged position of women. Developing incentives and providing services to encourage them to enter or remain in the labor market.

Thank you!

Annex

Legend:
- ◆ 15–19-year-old men
- ■ 15–19-year-old women
- ▲ 20–24-year-old men
- ✕ 20–24-year-old women

Countries (left to right): Luxembourg, Slovenia, Czech Republic, Norway, Lithuania, Germany, Poland, Latvia, Netherlands, Denmark, Belgium, Switzerland, Portugal, Iceland, Finland, Russian Federation, Hungary, Austria, New Zealand, OECD–Average, Ireland, Sweden, Australia, Canada, United States, Slovak Republic, Greece, Mexico, France, Israel, Spain, United Kingdom, Turkey, Estonia, Italy, South Africa, Argentina, Colombia, Brazil, Costa Rica