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HAUT-COMMISSARIAT AU PLAN

INFORMALITY, GENDER AND AGING

CUMULATIVE INEQUALITIES AND INTERGENERATIONAL EFFECTS

EXECUTIVE SUMMARY

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Informality, Gender, and Aging

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Executive Summary

Since 2021, His Majesty King Mohammed VI's High Guidance on social development has driven a structural project to extend social protection, focusing on the expansion of mandatory health coverage, the gradual integration of self-employed workers into pension schemes, and the introduction of universal family allowances. The New Development Model sets out this vision by establishing objectives in terms of decent employment, the economic inclusion of women, and intergenerational sustainability.

The analysis presented in this report examines, in light of the recent results of the 2024 General Population and Housing Census, the conditions for achieving these goals based on a threefold dynamic that aggregate indicators do not capture in isolation, namely the structural weight and persistence of informal employment, the low economic participation of women, and the acceleration of demographic transition. This triptych, whose evolution will determine the environment for future economic and social choices, structures long-term balances and gradually alters the mechanisms of intergenerational redistribution.

These reforms pursue a central economic objective, namely the sustainable broadening of the contribution base, whose effectiveness and sustainability depend on the capacity to reduce the prevalence of informality, increase female participation, and strengthen overall labour productivity. These reforms constitute the institutional framework from which the results of this study derive their operational significance.

Informality, Gender, and Aging : a system of cumulative inequalities

The Moroccan economy is characterized by a structural configuration in which three dynamics interact cumulatively. Informality accounts for more than three-quarters of total employment¹ and encompasses more than two million production units, concentrating widespread precariousness and persistent deficits in social security coverage. This structure of the labour market is not limited to a divide between formal and informal employment; it is also linked to profound disparities in participation based on gender.

Women's economic participation, estimated at 19.1% in 2024 compared to 68.6% for men, remains among the lowest in middle-income countries. When employed, 70.0% of working women are engaged in informal forms of work, compared to 76.9% of men. However, the nature of this informality differs significantly. Women are overrepresented in non-contributory roles as unpaid family caregivers, while men are more likely to be self-employed or in informal employment generating income. At the same time, rapid demographic change is profoundly altering the age structure of the population. The proportion of people aged 60 and over will rise from 9.4% in 2014 to 23.2% by 2050. The old-age dependency ratio, currently at around 20%, will exceed that of young people, reaching 39.4% in 2050, reflecting a lasting shift in the intergenerational balance.

These three dynamics form a feedback loop in which each imbalance reinforces another. The precarious nature of informal employment weakens social security coverage, while the low economic inclusion of women reduces

1. In the sense of informal employment, defined as the share of employed workers not affiliated with health insurance and a pension scheme, as a percentage of total employment.

the contribution base by accentuating gender asymmetries. At the same time, longer life expectancy is transforming past accumulation deficits into growing future commitments for public finances and family solidarity mechanisms. All of this generates gaps that gradually build up throughout the life cycle and materialize in old age in the form of deferred inequalities, the most visible expression of which is pension rights and pension gaps between women and men.

According to data from the 2021 National Employment Survey, 15% of women aged 60 and over receive an effective pension, compared with 37% of men. This gap does not correspond to a break at the end of the trajectory. It is the result of cumulative inequalities organized around four interdependent determinants, namely the probability of being employed, the probability that this employment is salaried, the probability that it is formal and therefore subject to social contribution, and the level of declared earnings on which entitlements are calculated. The cohorts currently in the workforce are a key factor in this regard, as their paths to integration, formalization, and remuneration will determine the evolution of the contribution base when the old-age dependency ratio reaches its highest levels.

Modeling framework and scenarios

The prospective analysis carried out for this study is based on an overlapping generations framework incorporating 21 cohorts, disaggregated by gender and according to four levels of education. The formal and informal labour market is characterized by the presence of search and matching frictions that prevent the immediate alignment of labour demand and supply. At the sectoral level, the number of jobs created is determined by matching functions and wages are determined by bilateral negotiation. The model endogenizes unemployment, as well as the size of the informal sector and, at the individual level, transitions between formal employment, informal employment, and unemployment, in response to simulated shocks. The breakdown by gender makes it possible to analyze gaps in terms of participation, formalization, and remuneration, and consequently in terms of the accumulation of social entitlements, over the entire life cycle. It thus makes it possible to assess the conditions under which a measure that changes the incentives for formalization will result in a lasting reduction in deferred inequalities for cohorts reaching retirement age between 2040 and 2070. The breakdown by education level is also essential, as labour market behaviour varies significantly according to educational attainment. Activity rates, probabilities of access to formal employment, the stability of career trajectories, and remuneration levels differ markedly between low-skilled workers and those with higher levels of education.

Eight prospective scenarios are evaluated over the period 2020–2070 and compared against a baseline scenario that extends current structural trends. They are organized into three sets. The first concerns the implementation of reforms acting on the female labour supply through three complementary levers, namely the restructuring of education toward secondary and higher levels, the increase in the female activity rate, and the improvement of effective productivity in the formal sectors. The second set targets frictions in the formal labour market by reducing job search costs, improving matching efficiency, and strengthening sanctions related to informality. The third examines two integrated strategies combining these instruments, with or without a coercive component, in order to identify the complementary effects that distinguish coordinated policies from the isolated activation of each lever.

Absorption constraint and informality as a product of supply-demand mismatch

The simulations highlight a trilemma between employment, formalization, and unemployment that is not specific to any particular scenario but rather stems from the very structure of the labour market. When instruments

are activated in isolation, they shift the tensions between these dimensions without allowing for their simultaneous improvement.

On the supply side, the participation scenario generates the largest expansion in female employment, with a gain of 6.0 percentage points for women. However, this increase is accompanied by an 8.3-point decline in the female formalization rate and a 6.2-point increase in female unemployment, with more than two-thirds of the new jobs in the informal sector. The education scenario improves female formalization by 3.6 percentage points but is accompanied by a 2.3-point increase in female unemployment and a 1.5-point contraction in male formalization, as the influx of female graduates exceeds the formal absorption capacity of the economy without stimulating demand for male labour. The productivity scenario reduces female unemployment by 2.1 percentage points and improves female formalization by 2.6 percentage points, but generates a transitory compression of male formal wages in the short term and degrades male formalization by 1.6 percentage points, as the improvement in relative female productivity reallocates existing formal jobs without creating new ones, to the detriment of male accumulation trajectories.

As for demand-side policies, the friction reduction scenario reduces male unemployment by up to 3.2 percentage points and female unemployment by up to 2.1 percentage points, while improving the formalization of both groups. However, their effect on total employment remains limited. The sanctions scenario improves formalization by 2.3 percentage points for women and 2.1 percentage points for men, but at the cost of a contraction in total employment, an increase in unemployment of around 2.6 percentage points among women and 3.0 percentage points among men, and a slowdown in activity. Formalization achieved through coercion is therefore not accompanied by equivalent productive gains.

In addition, the absorption constraint appears to be segmented by skill level. Under the integrated policy scenario without a coercive component, the strongest pressures affect women with no diploma and those with primary or lower-secondary education, whose unemployment rates increase by 5.0 and 7.1 percentage points respectively in 2070, while women with tertiary education experience a decline of 5.3 percentage points. This distribution of effects indicates that the expansion of formal employment opportunities for low-skilled workers depends on investment and sectoral transformation mechanisms that operate upstream of the simulated instruments.²

The analysis also reveals an asymmetry in the absorption constraint, which explains why supply-side policies, taken in isolation, frequently lead to informalization rather than formal integration. When the potential labour supply increases, through participation or higher education, without any change in the expected profitability of formal jobs, the formal sector's absorption capacity remains determined by capital accumulation and productivity. The excess supply is then absorbed through unemployment, a shift to the informal sector, or a reduction in formal wages.

In the participation-only scenario, more than two-thirds of the jobs created are in the informal sector, and the average formal wage for women falls by 8.0% in the long term. This result indicates that improvements in individual endowments do not automatically translate into formal jobs if productive dynamics do not encourage the

2. The simulated instruments act on the profitability conditions of formal hiring, search costs, matching efficiency, and declaration incentives, without directly modifying the volume or sectoral composition of productive capacity. The expansion of formal absorption capacity depends on investment decisions whose determinants follow an endogenous logic that formalization policies do not directly control. These instruments fall outside the scope of this study.

creation of formal positions. The constraint is not due to insufficient leverage, but to a lack of synchronization between supply and demand levers that promote the creation of formal jobs.

Gender asymmetries in adjustment mechanisms

The informality–gender–aging nexus does not affect female and male trajectories solely through differences in levels of employment, formalization, or remuneration. Simulations show that the adjustment mechanisms themselves operate in a structurally asymmetrical manner between the two groups, and that this asymmetry persists even when supply and demand instruments are activated simultaneously. Under the integrated scenario, male unemployment declines uniformly and persistently at all levels of education, reflecting the knock-on effect of macroeconomic growth on overall demand for male labour. Female unemployment shows the opposite pattern, uneven and stratified according to human capital, with female graduates benefiting from a 5.3-point reduction in 2070, while women with no qualifications and those with primary or lower-secondary education see their unemployment rates increase by 5.0 and 7.1 percentage points respectively. This polarization reflects a structural feature of the labour market in which the competitive pressure induced by the expansion of supply is absorbed disproportionately by the female segment, and within that segment, by categories whose productive characteristics do not match the formal jobs whose creation is stimulated by demand and friction reduction instruments.

Educational segmentation reinforces this gender asymmetry by creating two distinct pension entitlement convergence regimes within the female population. For female graduates, the narrowing of the pension gap is achieved almost exclusively through an increase in women’s entitlements without any associated reduction in men’s entitlements in the same segment. For low-skilled female workers, the narrowing of the gap is the result of a mixed configuration in which the progression of women’s entitlements from a very low initial base coexists with a pronounced reduction in men’s entitlements. The nature of convergence therefore varies qualitatively and quantitatively not only between genders, but also between educational segments within each gender, which means that reducing deferred inequalities for the most vulnerable women does not involve the same channels as those used for the most highly qualified women.

Pension gap, convergence, and intergenerational ceiling

The pension gap is the deferred and crystallized expression of the triptych. In 2020, the female-to-male pension ratio stands at 11.1%, meaning that the pensions received by women are on average nearly nine times lower than those of men.³ This extreme gap is not the result of a break at the end of the trajectory, but of the accumulation of four interdependent disadvantages throughout the working life cycle, namely structurally lower participation, reduced probability of salaried employment, concentration in non-contributory informal employment, and lower wages in formal employment.

3. The pension ratio used in this report compares the average pension of women of retirement age to that of men of the same age, each calculated as the total mass of pension benefits paid divided by the total population of the corresponding gender, and therefore including zero pensions for individuals without coverage. By construction, it captures the combined effect of pension levels paid and of contributory coverage among retired cohorts. The formula uses an aggregate replacement rate that synthesizes Moroccan contributory schemes, without reproducing the institutional detail specific to each fund; the simulated values are therefore not directly comparable to the pensions actually paid by each scheme. Compared to the ratio calculated from available administrative data, which does not distinguish between own and derived rights, the simulated ratio remains close.

The analysis distinguishes two complementary indicators. The first is the female-to-male ratio of effective pensions, which measures the rights already liquidated by cohorts currently at retirement age. The second is the female-to-male ratio of potential pensions, which measures the rights currently being accumulated by active cohorts. In 2020, the female-to-male ratio of potential pensions stood at 31.0 percent, compared with 11.1 percent for effective pensions, a gap of 19.9 percentage points that reflects generational catch-up between women currently retired and those still in the labour force.

However, simulations show that this convergence has reached a structural ceiling. Without targeted intervention, the female participation rate would only increase by 3.4 percentage points in fifty years, from 22.8% to 26.2%, reflecting the inertia of the structural forces that limit women's contribution accumulation. From 2040 onwards, the pace of convergence between the active and retired cohorts slows progressively, and generational renewal ceases to produce additional gains. Without coordinated transformation of structural determinants, the female-to-male pension ratio will stabilize at around 41% beyond 2070, with the accumulation potential of active cohorts plateauing between 40.3% and 41.4% over the 2045–2070 period. The employment and contribution conditions of the cohorts scheduled to retire between 2040 and 2060 represent the critical period during which scenario-dependent trajectories diverge most sharply, and which determines whether convergence or persistent stagnation characterizes the pension outcomes of subsequent generations.

The integrated policy scenario without a coercive component improves women's pensions by 36.4% by 2070 compared to the baseline scenario. However, the simulations reveal an analytically crucial distinction between two convergence configurations that are not equivalent in terms of effective social protection. For female graduates, the reduction in the gap is achieved almost exclusively through an increase in women's entitlements, without any associated reduction in men's entitlements, thus representing convergence through catch-up. For low-skilled female workers, the advancement of women's rights from a very low starting point coexists with a marked reduction in men's rights in the same segment, a configuration in which the reduction in the aggregate ratio may mask a deterioration in actual protection. This distinction shows that monitoring the aggregate ratio alone does not allow identification of the nature of the adjustments at work and may thus mask situations where the reduction in the gap is due to a relative deterioration rather than effective catch-up.

The definition of pension entitlement convergence targets cannot therefore be limited to the aggregate ratio. It must focus on its determinants, namely participation, formalization, career continuity, and wage valuation, in order to identify situations of effective catch-up and those of relative compression. This requirement is particularly crucial for low-skilled segments, where the structural weakness of contribution trajectories makes it more uncertain that gains in formalization will be converted into actual entitlements.

Structural implications for public policy

The prospective results converge on one key implication. The sustainable reduction of gender inequalities depends on labour market transformations resulting from the implementation of public reforms. The reforms undertaken since 2021, namely the generalization of medical coverage, the lowering of pension eligibility thresholds, and the gradual integration of non-salaried workers, mainly affect the later stages of contribution trajectories. Their effect on reducing deferred inequalities remains conditional on structural transformations in female participation, the formalization of integration, and the wage trajectories that form the basis for this. The misalignment of these two levels of intervention produces unexpected effects that isolated scenarios systematically document.

The recent extension of health coverage illustrates this structural gap. While it substantially broadens access to health protection, it does not in itself create contributory pension rights. Experience also shows that a significant proportion of registrations do not result in actual conversion into rights, due to irregular contributions, particularly among workers with unstable incomes. This constraint highlights the limitations of extending coverage in the absence of secure contribution trajectories.

The simulations indicate that integrated policies, combining expansion of formal demand, reduction of labour market frictions, educational restructuring, and activation of participation, produce effects that cannot be replicated by the isolated activation of instruments. The non-additivity of these effects is due to interactions between simultaneous expansion of supply and demand, bilateral wage bargaining, and macroeconomic spillover effects. This implies that the prioritization and timing of the levers over the period 2025–2035 will decisively condition the contributory and redistributive trajectory observed from 2040 onwards.

The different time horizons of the instruments also determine their sequencing. Demand-side policies, namely reducing recruitment costs and improving matching efficiency, have a stabilizing effect in the short and medium term and qualify as stabilization instruments in the window where supply-side policies have not yet produced their effects. Education and female productivity policies have a slower but more profound influence on cohort structure and long-term trajectories. Coercive regulation of informality, in the absence of compensatory expansion of the formal sector, risks contracting activity without broadening the contribution base. Its role is that of a consolidation instrument, not an autonomous driver of formalization.

Simulations also reveal an underlying productive constraint. Incentives for formalization can increase flows into formal employment, but they do not in themselves increase the productive capacity that determines the absorption of these flows. The conversion of formalization gains into contributory densification thus depends on the parallel expansion of segments capable, in the short term, of integrating profiles currently concentrated in the informal sector or unemployment, and, in the medium and long term, of absorbing a structurally more educated working population. In the absence of this differentiated expansion, the quantitative effects of formalization remain partially constrained.

Conclusion

The prospective analyses conducted in this report establish that the informality–gender–aging nexus forms a cumulative system of inequalities whose effects are amplified at each stage of the life cycle and are transmitted between generations. High and persistent informality, low female participation, and accelerated demographic transition are not isolated phenomena. They interact with each other, with each component reinforcing the vulnerabilities produced by the other two and crystallizing them into unequal accumulation trajectories.

Rapid population ageing, combined with limited growth in the contributory base, exacerbates a widening imbalance between financing needs and the system's contributory capacity. This imbalance results from employment trajectories marked by informality and low contribution density, which translate into insufficient entitlements and increasing pressure on social protection mechanisms. Population ageing thus acts less as an autonomous cause than as an amplifier of imbalances accumulated upstream. From 2040 onwards, the spontaneous convergence of rights loses momentum, and the resulting structural ceiling cannot be overcome without coordinated reforms addressing the mechanisms that produce it.

The cohorts currently of working age are pivotal to this dynamic. Their trajectories of integration, formalization, and remuneration will determine the structure of the contribution base when the old-age dependency ratio reaches its projected peak levels. At this point, simulations indicate that increasing the female labour force participation rate and reducing informality are central parameters in the contribution trajectory, the evolution of which will determine the extent and nature of the convergence of entitlements. The sustainable reduction of inequalities generated by the informality–gender–aging nexus depends on the ability to articulate, across these cohorts and within a coherent timeframe, structural transformations in the labour market and adjustments to social protection. This is a prerequisite for overcoming the identified structural ceiling and sustainably consolidating social cohesion and intergenerational equity.

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