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The Reconstruction of the Mechanisms of Educational Credential Devaluation: A Multi-Level Integrative Analysis of Educational Expansion, Institutional Absorption, and Labour Market Restratification

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Abstract: Against the backdrop of the continued massification of higher education, educational credential devaluation does not imply that diplomas have become meaningless. Rather, it reflects a declining marginal discriminatory power of educational credentials as proxy signals of ability and productivity, thereby inducing a systematic reordering and internal differentiation of the returns structure within the labour market. Building on the theoretical lineage of signalling and screening, and synthesising evidence from cross national micro data, job advertisement data, and cohort studies, this article conceptualises credential devaluation as a form of structural revaluation triggered by educational expansion. When the growth of highly educated labour supply outpaces the creation of high skill jobs and the intensification of task complexity, credentials shift from a core differentiating signal to an entry threshold. Screening weight correspondingly moves towards observable skills, institutional prestige, field of study matching, and relative educational position, while reinforcing the degree completion premium and threshold based hiring practices. Its observable consequences are concentrated in four dimensions: downward shifts in job match quality and declining skill utilisation; persistently high levels of qualification mismatch that translate into wage penalties; a separation between returns to years of schooling and discrete degree premia; and intensified stratification driven by rising entry thresholds and credential inflation. The article further argues that youth mismatch is not a linear trend, but a context dependent outcome shaped by the interaction of cyclical shocks, institutional absorption, and labour market entry timing effects, with cross border mobility functioning as an exogenous buffer.

Keywords: Educational Credential Devaluation; Educational Expansion; Signalling Congestion; Qualification Mismatch; Credential Inflation; Cohort Effects

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1.Introduction

1.1 Research background and significance

Against the backdrop of the continued massification of higher education, educational credential devaluation has become a

central concern across labour economics, the sociology of education, and human resource management. The key issue is not whether diplomas have become completely meaningless but that the marginal discriminating power of credentials as proxy signals of ability and productivity has declined, thereby driving a systematic reordering of the returns structure in the labour market (Araki & Kariya, 2022). As the supply of highly educated workers expands, the scarcity value of educational credentials is eroded, and the exchange value of identical credentials diverges markedly across national institutional settings, industrial occupations, organisational selection rules, and entry cohorts. Existing studies show that such divergence often externalises as downward shifts in job match quality and changes in skill utilisation at the task level (Horowitz & Ramaj, 2024). It may also appear as persistently high or structurally rising levels of qualification mismatch, which couple with the tempo of occupational upgrading and the evolution of job skill demands (Salvatori, 2021). At the same time, under rising selection costs organisations are more likely to strengthen threshold based hiring and credential inflation, expanding competition from the level of formal education to finer gradations of credentials (Lin et al., 2024). When educational signals become congested, the market tends to treat credentials as an entry threshold while relying on measurable skills for differentiation. This structural shift is especially pronounced in occupations related to emerging technologies and the green transition, where the rise of skill oriented recruitment further highlights this reorientation (Bone et al., 2025). Because these outcomes do not always appear synchronously and because they combine differently depending on macro cycles, demand structure, and institutional context (Wiedner, 2024), single studies often capture only one aspect of credential devaluation and cannot explain why the same trend of educational expansion yields divergent patterns across societies, for example compression of wage premia, pronounced overeducation and job downgrading, or stronger declines in task level skill utilisation. Therefore, a systematic literature review must do more than summarise conclusions; it must reorganise dispersed evidence into comparable and integrable causal chains, move the discussion from description of phenomena to structural explanation, and lay a firm foundation for subsequent conceptual specification, measurement of variables, and theoretical model construction (Brun-Schammé & Rey, 2021).

Regarding the current state of scholarship, although a large body of empirical material has accumulated, explanations for the causes of credential devaluation remain notably nonconvergent. First, measurement indicators are still highly heterogeneous. Some studies characterise credential value with wage premia or occupational status, while others focus on mismatch between education and job and its labour market consequences. These indicators do not have a simple one to one relationship; without systematic integration their use can fragment explanations of the same phenomenon (Varona Cervantes & Cooper, 2022). Second, identification of macro cyclical shocks and entry timing of cohorts is insufficient. In particular, short term mismatch and long term scarring effects caused by entering the labour market during a recession can be misidentified as long term devaluation driven by educational expansion if not clearly separated, which may lead to systematic overestimation of structural deterioration (Kondo, 2024). Third, cross national comparisons highlight the importance of institutional differences, yet many studies remain at the level of juxtaposing outcome differences and lack a mechanistic account that brings supply expansion, demand absorption, institutional regulation, and information recognition into a single logical framework. This limits the ability to explain why countries follow different paths such as over expansion, under expansion, or structural absorption. Fourth, research on organisational level threshold shifts and credential inflation remains insufficiently connected to macro level studies of mismatch and compression of returns. As a result, the process through which selection rules endogenously drive signal congestion and re stratification competition at the micro level is often split across different academic traditions (Gelbgiser & Gabay Egozi, 2025). Given these shortcomings, a systematic literature review is not merely an organisation of existing research but a reconstruction of explanatory frameworks. Its aim is to link multi level evidence into coherent causal logic, identify boundary conditions and contexts of applicability for mechanisms, and thereby clarify which conclusions are robust and which remain contested or under researched. This foundation will support the formulation of more precise research questions and more explanatory analytic frameworks.

1.2 Conceptual definitions and integration of research perspectives

In this paper credential devaluation refers to the systematic weakening and internal re stratification of the exchange value of identical educational credentials in the labour market, which arises when the proportion of higher education attainment

continues to rise and when occupation structure and organisational selection rules evolve simultaneously. The concept emphasises that credential devaluation is not equivalent to the disappearance of diploma value; rather it denotes the reordering of returns to credentials across different contexts, groups, and occupations. Based on the evidence reviewed in this paper, credential devaluation primarily manifests through four observable outcomes. First, job match quality declines, reflected in lower occupational status, reduced job complexity, and diminished analytical task content associated with identical credentials. The formal credential remains unchanged while skill utilisation declines, and these effects show stronger heterogeneity by gender and field of study. Second, qualification mismatch remains at high levels or rises structurally; overeducation and undereducation diverge across national trajectories, reflecting differences in the relative speed of educational supply growth and occupational upgrading. Third, structural revaluation of educational returns becomes more pronounced: the discrete premium associated with degree completion separates from the marginal returns to years of schooling, and competition shifts from holding a credential to having completed a degree and to the relative educational position within a cohort. Fourth, organisational recruitment thresholds rise and credential inflation becomes more evident, with education and institutional prestige used as alternative standards to reduce screening costs. This expands competition from educational tiers to finer credential strata and produces stronger threshold based selection tendencies in the academic labour market and in high skill occupations. These results point to a central judgment: expansion of higher education alters the relative weights of education and skills within selection systems, and credential devaluation typically occurs through re stratification rather than through wholesale collapse.

From a research perspective, this paper understands credential devaluation as a multi level mechanism arising from the interaction of supply expansion, demand absorption, institutional regulation, and information recognition, and uses this understanding to converge the analytic framework of the paper. Supply side mechanisms stress that an increase in nominal supply of high skill labour does not automatically translate into effective supply expansion. When the share of credential holders rises and signal scarcity falls, markets are more likely to re screen using skills, prestige, and relative ordering. Demand side mechanisms focus on the tempo of occupational upgrading and task re organisation. When growth in high skill occupations lags or task content does not become more complex in line with rising credential thresholds, credential devaluation may appear as declines in task level skill usage rather than immediate wage collapse. Institutional mechanisms emphasise differences in national education system stratification, vocational education and training, labour market regulation, and organisational recruitment institutions. These factors determine whether expansion is absorbed, compressed, or transformed into persistent mismatch and wage penalties, and may produce phase like threshold jumps. Cognitive and information mechanisms explain how micro level equilibria endogenously generate over investment and signal degradation. When employer learning is slow, abilities are not fully observable, and belief updating is insufficient, low ability individuals are more likely to mimic investment near thresholds while high ability individuals are forced into further investment, producing concurrent signal congestion and return compression. In addition, a spatial dimension as a supplementary perspective reveals the transferability of institutional differences. When domestic absorption is insufficient, international mobility can improve skill utilisation and occupation matching through cross border matching and policy based selection, thereby providing an exogenous buffering channel against credential devaluation. Based on the above definitions and integrative perspectives, the subsequent literature review and comparative analysis in this paper will focus on four operational measurement domains: job matching and task structure, qualification mismatch, differentiation of the returns structure, and recruitment thresholds and credential inflation. These domains will be interpreted within the multi level mechanism framework to explain heterogeneity across countries, groups, and periods.

2.In depth literature review

2.1 Supply expansion and signalling congestion: declining credential distinctiveness and rising skill weights

Under educational expansion, credential devaluation is first manifested as a decline in the distinctiveness of educational credentials as screening signals, rather than the complete invalidation of diplomas per se. According to classic signalling theory, when the prevalence of a given educational signal rises substantially, its marginal efficiency in separating high ability

from low ability individuals decreases, and employers must shift towards more differentiating supplementary signals to sustain screening efficiency (Spence, 1973; Stiglitz, 1975). As higher education moves from an elite phase into a mass phase, diplomas no longer carry their original scarcity value, and their market sorting function is naturally weakened. This provides the theoretical point of departure for subsequent empirical research on credential devaluation. Cross national evidence further corroborates this mechanism. Using multilevel models with PIAAC data from 26 countries, Araki and Kariya (2022) show that the greater the degree of educational expansion, the weaker the marginal explanatory power of higher level degrees for occupational status, while cognitive skills significantly buffer this tendency. Gelbgiser and Gabay Egozi (2025) similarly demonstrate that in societies with a higher share of university degree holders, overall credential wage premia are compressed, whereas the importance of literacy and numeracy remains stable or even strengthens. In the same vein, Barone and Ortiz (2011) argue that in countries with higher levels of educational massification, the occupational differentiation effect of credentials weakens, and the structure of fields of study and the distribution of skills become more central stratifying mechanisms. From a macro supply demand perspective, Goldin and Katz (2008) also indicate that when educational supply grows faster than skill demand, the education premium tends to compress in particular periods. Therefore, credential devaluation does not mean that credentials have become ineffective. More precisely, educational expansion erodes credential scarcity, reduces their discriminating power, and reshapes the relative weights of credentials and skills.

Building on declining distinctiveness, the market screening logic often shifts from credential dominance to a dual track structure in which credentials operate as an entry threshold while skills serve as the basis for differentiation. Research on wages and skill returns shows that cognitive abilities and task relevant skills have an independent and stable role in explaining income disparities. Using PIAAC data, Hanushek et al. (2017) find that skill levels continue to significantly affect earnings and employment probabilities within educational levels, indicating that within credential skill heterogeneity has become an important source of return differentiation. Deming (2017) argues that as task structures change and automation advances, the importance of cognitive and social skills continues to rise, while credentials increasingly function as an access device. Meanwhile, based on job advertisement data, Hershbein and Kahn (2018) show that firms more frequently raise educational requirements after economic shocks, yet job task complexity does not increase in parallel, suggesting that credentials partly serve as substitute screening signals. Bol and van de Werfhorst (2011, 2013) further argue that under educational expansion, relative educational position predicts occupational status more strongly than absolute credentials, implying intensified rank competition alongside declining credential distinctiveness. Di Stasio et al. (2016), using cross national experiments, find that employers place greater weight on field match and competence indicators than on credential level alone. Overall, signalling congestion driven by supply expansion does not eliminate credential value. Instead, it reconfigures the returns structure: credentials shift from a core differentiating signal to a baseline threshold, while the weight of skills and task relevant competencies in explaining job access and income differences rises substantially.

2.2 Insufficient absorption capacity and institutional variation: supply demand misalignment, rising mismatch, and compressed returns

A second causal chain of credential devaluation stems from labour market absorption capacity and institutional regulation. When educational supply growth persistently outpaces occupational upgrading, the human capital associated with credentials cannot be fully absorbed, which becomes visible as rising qualification mismatch and compressed returns. Comparing long run data from the United Kingdom and Germany, Wiedner (2024) finds markedly different trajectories in the evolution of expansion and mismatch, suggesting that the consequences of expansion depend on the alignment of supply demand structures rather than on supply growth itself. This conclusion is consistent with the OECD systematic reviews on qualification mismatch and skill mismatch, which argue that overeducation is often not an individual decision error but more commonly reflects structural misalignment caused by insufficient adjustment of job structure and skill demand (Quintini, 2011). Further, by constructing a graduate jobs indicator and conducting comparative analysis across OECD countries, Henseke and Green (2016) show that the share of jobs with intensive high skill use differs substantially across countries and is associated with factors such as industrial structure and research and development intensity. This implies that whether higher education expansion can translate into stable returns depends largely on the speed of high skill job creation and the

capacity for structural upgrading. In other words, when the expansion of graduate jobs lags behind graduate supply growth, overeducation and return compression are more likely to become persistent.

At the institutional level, Capsada Munsech (2020) argues, from the perspective of institutional structures and occupational upgrading tempo, that the speed of upgrading and the degree of stratification within education systems jointly determine whether expansion translates into overeducation. Salvatori (2021), adopting a dynamic approach to test synchronisation between high skill job growth and graduate growth, likewise shows that when job upgrading lags behind credential supply, mismatch tends to persist. In addition, evidence from CEDEFOP based on the European Skills and Jobs survey further strengthens the link that mismatch translates into compressed returns. It finds that overqualification and underutilisation of skills produce significant wage penalties and lower job satisfaction, even within groups with the same educational level (Cedefop, 2015). Regarding wage structures, McGuinness, Pouliakas, and Redmond (2021) connect quantitative mismatch to wage consequences and show that some countries exhibit simultaneous increases in overeducation and wage penalties, while others achieve structural absorption through wage compression or occupational diversion. This judgment that mismatch penalties display institutional heterogeneity is also supported by OECD research on mismatch and wage consequences in developing and transition economies (Aleksynska & Tritah, 2021). Moreover, evidence is growing on whether penalties deepen over time or with structural change. Related studies indicate that wage penalties associated with education occupation mismatch are increasing in certain labour markets, further suggesting that when structural misalignment accumulates, credential devaluation may manifest as more pronounced return compression (Cassidy, 2023). In sum, credential devaluation is often an equilibrium outcome of insufficient institutional absorption. Its intensity depends on the combination of occupational upgrading tempo, diversion mechanisms, and wage structure adjustment, and it is persistently amplified on the returns side through the cost mechanisms of overeducation and skill underutilisation.

2.3 Cyclical shocks and cohort dynamics: youth mismatch is not a linear increase but context dependent

To explain credential devaluation and mismatch among young people, a more critical entry point is to situate observed increases in mismatch within macroeconomic fluctuations and institutional differences. If cyclical shocks such as recessions are ignored, researchers may misinterpret short term downgrading and mismatch at labour market entry as a long run trend generated by educational expansion. Cross national evidence first shows that youth overeducation does not necessarily rise systematically with educational supply expansion. Using panel estimation with quarterly EU LFS micro data from 30 European countries, Delaney et al. (2020) find that the incidence of youth graduate overeducation does not follow a consistent linear pattern aligned with supply growth. In countries with more mature vocational education and diversion systems, new supply is more readily absorbed, producing milder mismatch outcomes. From a cohort perspective on early career match quality, Levels, van der Velden, and Di Stasio (2022) show that later birth cohorts do not universally face higher mismatch risk and emphasise that demand side growth and adjustments in youth job search strategies may create buffering effects. Kiersztyn (2021) further distinguishes cyclical fluctuations from structural trends, showing that youth mismatch risk does rise in the short run during recessionary phases, but after controlling for macro shocks, educational expansion itself does not necessarily generate sustained long term increases in overeducation. It follows that the evolution of youth mismatch is not a linear function of supply expansion alone, but a context dependent outcome shaped by cyclical conditions and institutional absorption capacity.

Stronger mechanistic support comes from the evidence chain on labour market entry timing effects and mismatch persistence. These directly explain why different graduating cohorts exhibit different match trajectories, leading to temporal divergence in the observed extent of credential devaluation. Research on entry scarring shows that entering the labour market during recessions increases the probability of young people obtaining low quality jobs and generates earnings and career trajectory losses that can persist for many years (Kahn, 2010; Oreopoulos et al., 2012). In European labour markets with higher rigidity, recession shocks similarly produce longer cumulative income losses and job stickiness effects (Cockx & Ghirelli, 2016). Large sample long horizon estimates further indicate that such cohort effects are persistent and more adverse for disadvantaged groups (Schwandt & von Wachter, 2019). Meanwhile, studies that explicitly integrate cyclical factors

into mismatch research show that the incidence and persistence of overeducation vary with macro conditions and exhibit substantial heterogeneity by field and institutional context (Cuesta et al., 2024; Verhaest & van der Velden, 2010). From more explicit cross national comparisons, Verhaest and van der Velden (2013) argue that country level supply demand imbalance and the business cycle conditions at graduation explain a substantial share of cross national variation in overeducation. To avoid mistaking period effects for cohort trends, age period cohort methods provide a direct route to identifying non linear evolution. APC evidence from Vera Toscano and Meroni (2021) indicates that mismatch trajectories across countries do not follow a single linear upward pattern but shift with macro and institutional contexts. In addition, findings that vocational education buffers early mismatch but that this effect may attenuate over time suggest that institutional buffering is often concentrated at labour market entry and interacts with cyclical shocks (Verhaest et al., 2018). Overall, if cyclical disturbances, institutional absorption, and cohort entry timing are not separately identified, researchers are likely to systematically overestimate long run credential devaluation trends attributed to educational expansion.

2.4 Restratification and task level devaluation: rising thresholds, strengthened completion premia, and skill underutilisation

Under signalling congestion and absorption constraints, credential devaluation often appears as a reconstruction of the rules of competition. Typical manifestations include rising thresholds, credential based restratification, and a reallocation of tasks within jobs, which produces skill underutilisation for some highly educated groups. Using Norwegian administrative register data to separate the returns to degree completion from the returns to schooling years alone, Markussen et al. (2024) find a substantial completion premium that becomes more consequential under massification. They also observe widespread overeducation among young people and clear differences by social resources, suggesting that competition shifts from whether one has education to whether one completes and maintains relative advantage. Jaeger and Page (2020) identify diploma completion effects and highlight discrete premia associated with credential thresholds in screening. Bol and van de Werfhorst (2021) further argue that relative educational position predicts match quality more strongly than absolute credentials. From the perspective of class mobility, Bukodi and Goldthorpe (2021) show that advantaged groups possess compensatory mobility capacity, thereby shifting match risk towards groups with fewer resources. Brown, Lauder, and Cheung (2020) argue that massification turns credentials into minimum thresholds even for mid skill jobs, while internal restratification refines selection through institutional prestige and field differences.

Evidence at the organisational and labour market levels suggests that rising thresholds can become further institutionalised. Based on recruitment data from 802 Chinese universities, Lin et al. (2024) document credential inflation and phase like threshold jumps. Requirements for degree level and institutional background rise as the supply of doctoral graduates increases, and the advantage of overseas credentials may strengthen, indicating that devaluation coexists with restratification by credential type. This pattern aligns with Roach and Sauermann (2021), who find that expansion in doctoral supply in the United States intensifies competition for academic positions. Clauset et al. (2020) further show, via hiring network analysis, that academic markets are highly concentrated in a small set of high prestige institutions, thereby solidifying institutional background as a strong screening signal. Rivera and Tilcsik (2022) show from recruitment text evidence that educational thresholds continue to rise even when job tasks do not change substantially. From a stratification perspective, Godechot and Louvet (2023) emphasise that candidates with advantaged backgrounds are more likely to enter higher tier institutions under intensified competition.

A further synthesis indicates that credential devaluation can also migrate into the interior of jobs, manifesting as implicit task level devaluation and declining skill utilisation. Horowitz and Ramaj (2024) match NLS cohort data with O NET skill indicators and find that, under educational expansion, the intensity of analytic skill use declines among bachelor degree holders. The decline is more pronounced for women and varies by field. Deming and Kahn (2020) similarly show that rising educational thresholds do not necessarily coincide with parallel increases in task complexity. Drawing on within firm evidence, Cappelli et al. (2022) argue that some highly educated groups perform tasks with complexity below their skill potential. Carnevale et al. (2021) find that field differentiation expands and that some non technical fields are more likely to enter low complexity jobs. Biasi and Sarsons (2022) show that women, holding the same credentials, are more likely to be

allocated supportive tasks. Autor (2022) proposes at the macro level that technological change may induce task polarisation within highly educated groups. Meanwhile, screening signals can shift from credentials towards more observable experience trajectories. A field experiment by Ndayikeza (2025) finds that low skill work experience can increase employer interest in some scarce markets. Eriksson and Rooth (2020) and Nunley et al. (2021) similarly show that low skill experience can mitigate gap penalties. Abebe et al. (2021) show that in markets with greater information asymmetry, any work experience significantly increases hiring probabilities. Kroft et al. (2020), using an employer learning framework, explain why employment trajectories become key inputs for ability inference. Finally, when the root of devaluation lies in insufficient domestic absorption, cross border rematching can serve as a structural buffer. Ghosh and Grassi (2020) find that cross border migration reduces early career overeducation and overskilling risks among doctoral graduates. Cattaneo et al. (2021) and Musselin and Pénissat (2022) argue that moving to countries with more mature research systems can improve matching and stability. Kerr (2020) emphasises the selection effect of immigration institutions on skill utilisation. González and Velho (2021) provide research output evidence consistent with improved matching. Wang and Miao (2023) further suggest that overseas experience can also strengthen signalling and facilitate rematching after return migration.

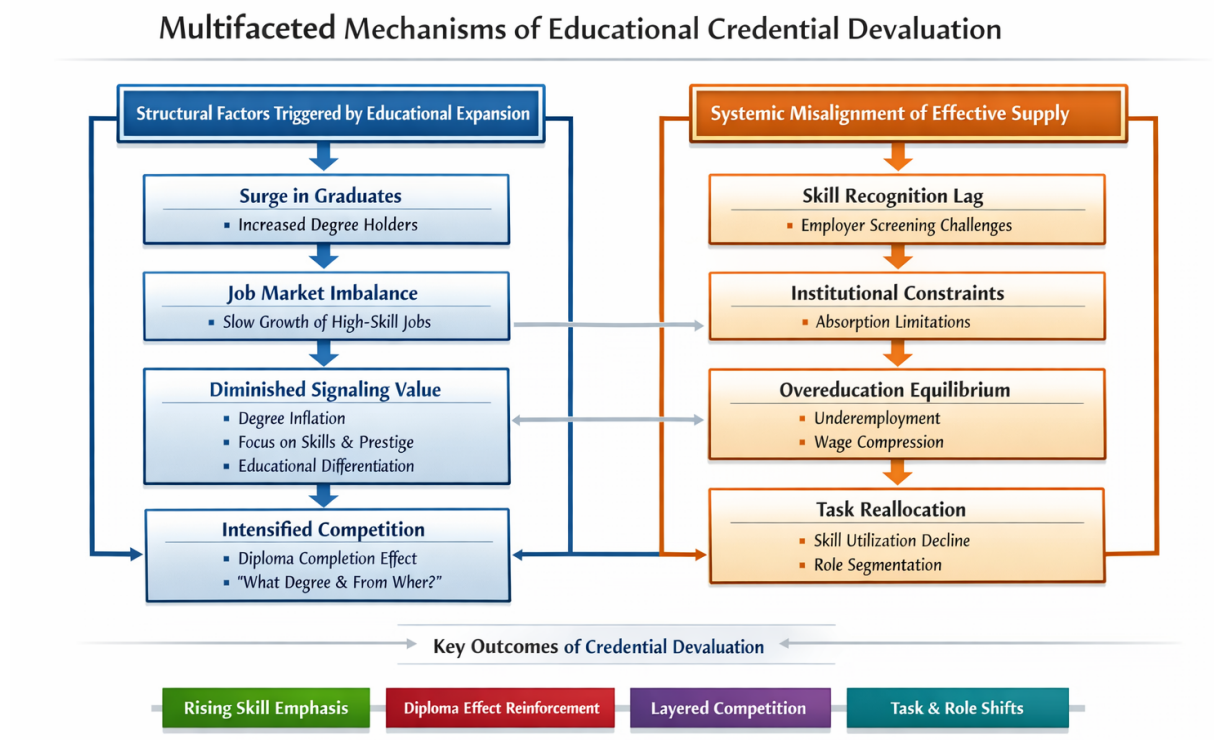
3.In depth discussion

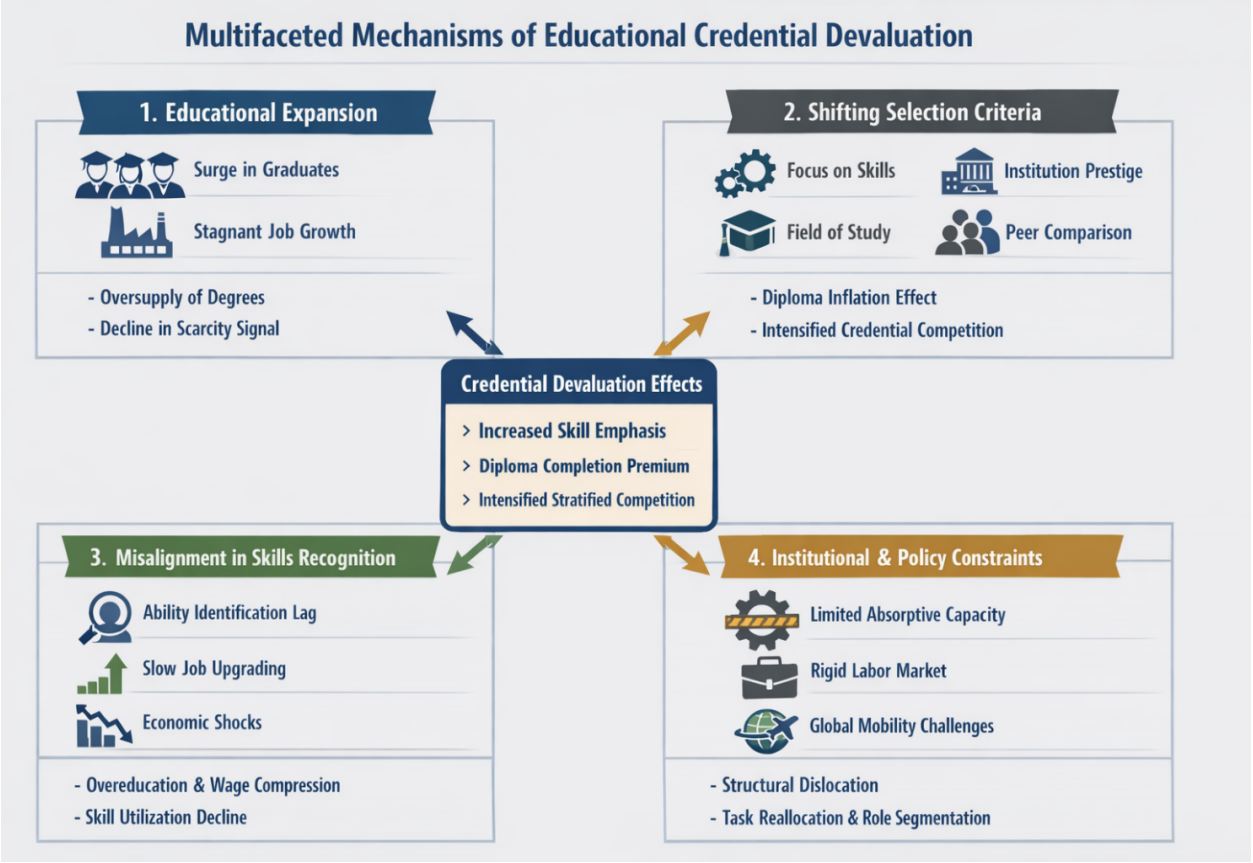
3.1 Multi level causal mechanisms of educational credential devaluation

Synthesising the above literature, educational credential devaluation is more appropriately understood as a form of structural revaluation triggered by educational expansion, rather than a sudden invalidation of credential value. Educational expansion first increases the nominal supply of highly educated individuals. Yet in many countries, the growth of high skill jobs and the upgrading of occupational structures often fail to keep pace with this supply expansion, rendering educational credentials less scarce as signals. As the proportion of university degree holders rises, the marginal distinctiveness of credentials declines, and market screening increasingly shifts towards observable skills, institutional prestige, field of study, and relative rank position within age cohorts. At the same time, the discrete premium associated with degree completion is strengthened, and the focal point of competition gradually moves from whether one has a credential to which credential one holds and what background it represents. Under this reconstructed screening logic, groups with greater resources and opportunity are more able to maintain relative advantage, whereas those positioned in the middle and lower segments of the highly educated population are more likely to encounter overeducation, job downgrading, and compressed returns. In other words, credential devaluation does not imply the disappearance of returns. It indicates internal differentiation within the returns structure, manifested in rising skill weights, strengthened credential completion effects, and intensified stratified competition.

At the same time, credential devaluation is also associated with the failure to translate nominal expansion into effective supply, rooted in delayed ability recognition and systematic misalignment generated by insufficient institutional absorption. Educational expansion does not necessarily become a supply of capabilities recognised by the market. When employers cannot accurately identify true skills, when occupational upgrading is slow, or when macroeconomic shocks are superimposed, overeducation and compressed credential wage premia may emerge as an equilibrium. At the micro level, the rising prevalence of credentials weakens signal distinctiveness, thereby altering the equilibrium structure of signalling games. Lower ability individuals can more easily imitate educational investment, while higher ability individuals are compelled to invest further to preserve separation, creating a cycle of overinvestment and sluggish belief updating. Moreover, credential devaluation can extend from the returns dimension into the task dimension, appearing as declining skill utilisation and task differentiation by gender and field, such that credential form remains seemingly stable while the intensity of skill use and task content are reallocated. At the macro level, national institutional environments, the tempo of occupational upgrading, and diversion mechanisms determine whether educational expansion can be effectively absorbed. International mobility, by contrast, provides a spatial rematching channel that can partially mitigate insufficient absorption for highly educated groups. Overall, credential devaluation is not driven by a single factor. It is produced by dynamic misalignments among supply expansion, ability recognition, occupational structures, and institutional regulation. These misalignments externalise through mechanisms such as intensified stratified competition, signal degradation, and task reallocation, constituting the core logic through which credential value is redefined under the massification of higher education.

Graphic 1. Mechanism Framework of the Formation of Educational Credential Devaluation





3.2 Discussion of policy and practice responses to credential devaluation

To effectively mitigate credential inflation and credential devaluation, the priority is not to encourage individuals to further escalate investment within the same set of competitive rules, but to shift the problem from micro level rank based competition back to structural coordination among educational supply, job demand, and institutional absorption capacity. At the national level, the central tasks are to strengthen the capacity to create high skill jobs and to enhance the institutionalised absorption

of human capital, while building a capability recognition system that can be stably acknowledged by the market. This would reduce, at its root, societal reliance on credentials as the primary screening signal. Accordingly, higher education expansion should be redirected from a scale orientation to a structural orientation. Capacity for absorption should be enhanced through synchronised upgrading of disciplinary structures and growth in high skill employment, thereby avoiding a prolonged situation in which educational supply grows faster than occupational upgrading. In addition, capability observability and market recognition mechanisms should be strengthened, for example through the development of national or sectoral skills frameworks, occupational competency standards, and portable micro credential systems. These instruments enable employers to identify capabilities at lower cost, reducing the tendency for rising educational thresholds and credential inflation generated by imperfect information. At the same time, vocational education and training systems and diversion mechanisms should be improved to form articulated pathways across higher education, vocational routes, and lifelong learning, with institutionalised reskilling and job transition support to enhance the dynamic adaptability of human capital. Given the compounded risks of cyclical shocks and structural misalignment, governments should also strengthen youth employment support and countercyclical policy tools for high skill job creation. Moreover, orderly policies for international talent mobility and qualification recognition can provide channels for cross institutional rematching among highly educated groups, thereby alleviating overeducation and skill waste arising from insufficient domestic absorption.

Within this macro framework, employers are both direct implementers of rising credential thresholds and rational responders to imperfect information and recruitment risk. Thus, at the organisational level the key is to reduce information asymmetry in screening, shifting recruitment and promotion from credential signal dominance to task and capability dominance, thereby weakening the endogenous drivers of credential inflation and job task downgrading from within the firm. Organisations should frontload job analysis and competency modelling by decomposing job tasks into quantifiable competency requirements and performance indicators, and by using tools such as structured interviews, work sample tests, situational judgement tests, and probationary performance evaluations to improve the precision of capability identification. This reduces the tendency to raise educational thresholds simply in response to uncertainty. Further, firms should develop a skill centred internal labour market. Through job rotation, project based task allocation, and skill training, highly educated employees can realise skill utilisation and upgrading within the organisation, preventing internal devaluation in which credentials rise while task complexity falls. At the same time, organisations need transparent and interpretable promotion and pay systems that treat credentials as entry information rather than a decisive threshold, placing primary emphasis on task contribution and capability development trajectories. This reduces unnecessary educational investment driven by an exaggerated degree premium. In contexts where gender and field differences are salient, organisations should also examine implicit biases in task allocation and promotion channels. Fair distribution of project opportunities and capability development support can lower the structural risk that women or certain fields of study face greater skill underutilisation at the task level.

When credential distinctiveness declines and competition becomes increasingly rank based, individuals who continue to pursue ever higher credential levels as their primary strategy are likely to be trapped in a race characterised by diminishing marginal returns to educational investment. Individual responses should therefore shift towards the accumulation of verifiable capabilities, optimisation of signal portfolios, and strengthening of cross context adaptability, so as to rebuild differentiated advantages under congested credential signalling. Individuals need to develop capabilities and proof simultaneously by constructing skill portfolios aligned with key tasks in target roles and by increasing observability through verifiable portfolios, project outputs, professional certifications, micro credentials, or documented records of competitions and internships. This creates clear points of identification for employers. At the same time, career planning should be task oriented, avoiding belief biases that overstate the private returns to educational investment. Priority should be given to learning and work pathways that demonstrably raise skill content and task complexity, with rematching achieved when necessary through job transitions, retraining, or sectoral mobility. Given the strengthening of degree premia and rank based competition, individuals should also conduct marginal return assessments of education decisions. Before upgrading credentials, they should ensure that learning content can be translated into usable skills and visible performance, thereby avoiding overinvestment undertaken solely to cross entry thresholds. Finally, when insufficient domestic absorption produces structural mismatch, spatial choice can be

incorporated into the strategic toolkit. Through interregional or international mobility, international qualification recognition, and cross border project experience, individuals can improve match quality and enable their human capital to attain higher skill utilisation and returns within institutional environments with stronger absorption capacity.

Graphic 2. Schematic Diagram of Policy and Strategic Responses to Educational Credential Devaluation

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