

Methodology to identify and measure gaps in human capital (IMGHC)

Sub-directorate of Labour Analysis, Monitoring and
Foresight

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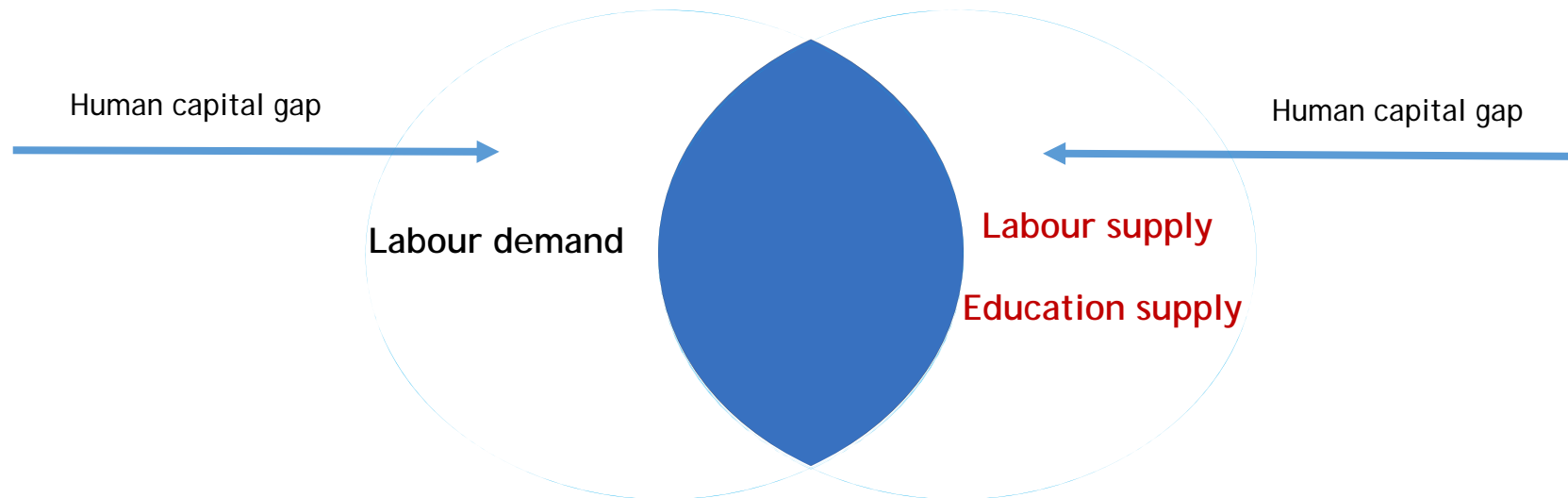
1. What is a human capital gap?
2. The progress made so far
3. Characterization of the types of gaps
4. A look at the indicators proposed for measuring gaps in human capital
5. Stakeholders in the identification and measurement of gaps

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1. What is a human capital gap?

It is the mismatch between the supply and demand of labour when they fail to match each other



- Lack of skills-based human talent management
- Few vacancies opened
- Unable to find appropriately skilled employees

- Labour supply: Workers do not have the profile required by enterprises to perform in a job
- Education supply: People are not being trained in what enterprises require

If gaps are not identified or measured first,
it is not possible to formulate policies for closing them

The vicious cycle of human capital gaps and their consequences

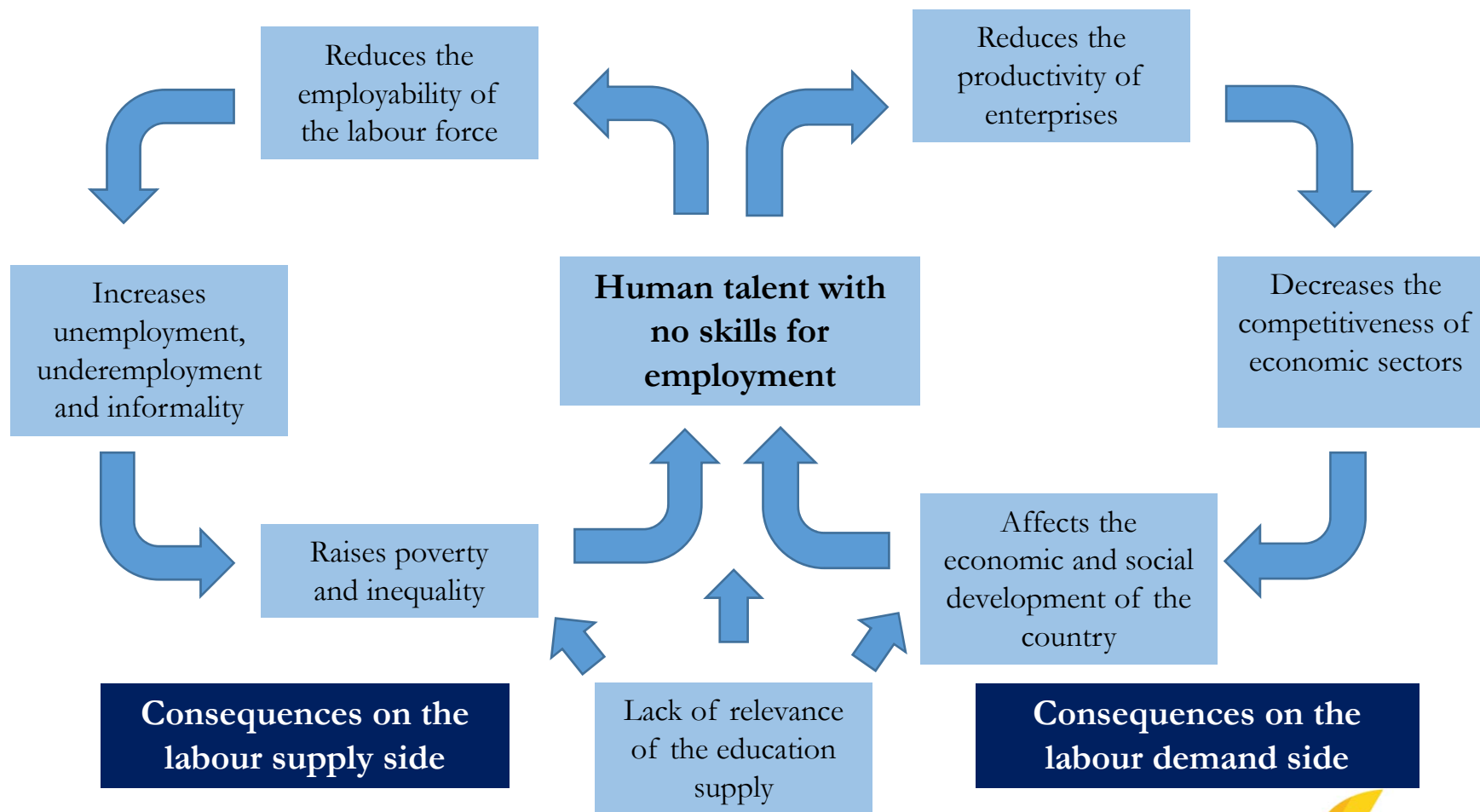


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2. The progress made so far



Tools used for measuring gaps?



Design of indicators
Surveys to enterprises
Macroeconomic models
Expert consultations



Are there sources of information for measuring HC gaps?



Yes, there are, but they are not enough...
It is necessary to collect information in order to construct all the indicators proposed



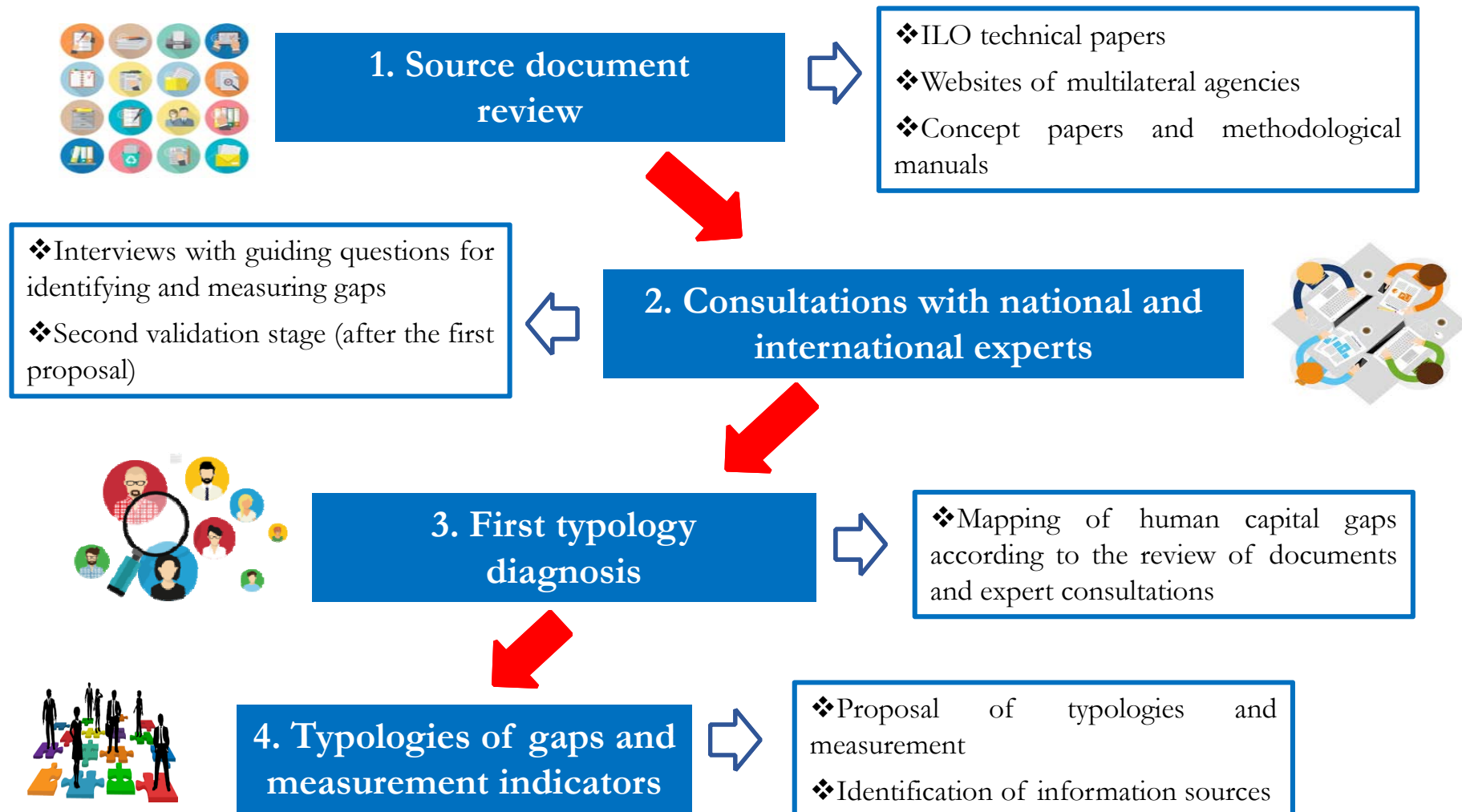
Where are gaps identified?



Commitment sectors and regions
prioritized by the Productive
Development Policy

2. The progress made so far

Path followed for designing the methodology



2. The progress made so far

Entities that have contributed to the development of the methodology



Consejo Privado
de Competitividad



- Methodology for closing gaps in human capital
- Experience in the implementation of the methodology



- Study on human capital gaps in the ICT sector

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3. Characterization of the types of gaps (I)



Macroeconomic gaps by qualification or educational level

They measure the relative dispersion of employment rates across the educational levels of the population



Quantity gaps

Between the number of labour suppliers and vacancies available in the labour market

Between the number of graduates in an area of knowledge and vacancies available in the labour market

Identification of the deficit in higher education and Education for Employment and Human Development (EEHD) programmes

Deficit in the demand for training programmes



Profiling gaps

They arise when the profiles of suppliers do not match the requirements of the vacancies posted by employers

The occupation or profession of the supplier is different from that requested by the employer

A position that will be required by the productive sector in the future but does not currently exist

When the work experience of suppliers is lower or greater than what the demand requires

3. Characterization of the types of gaps (II)



Relevance gaps

When there are disparities between the contents of educational programmes and the skills, both present and future, of the occupations or positions demanded by the productive sector.



Quality gaps

When the contents of educational programmes match the skills required for the positions demanded by the productive sector, but the latter still claims there are shortages in said gaps



Time adjustment gaps

They refer to the time a jobseeker will take to get employment, or the time it will take for a vacancy for a certain position to be filled in the labour market



Skills gaps

The skills of labour suppliers are different from the ones required by the productive sector

When a new skill is required due to the emergence of a new technique

When a skill is rendered obsolete by the emergence of a new technique

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4. A look at the indicators proposed for measuring gaps in human capital (I)



Macroeconomic gaps by qualification or educational level

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Quantitative	Dispersion of employment rates by level of education groups	It is the relative dispersion of employment rates across the three levels of education or qualification groups. It is calculated as the sum, over the three groups, of the absolute difference between the ratio of a qualification group in employment and the ratio of the same group in the working age population	$BMC = \sum_{i=1}^3 \left \frac{E_i}{E_T} - \frac{P_i}{P_T} \right $ <p>Where E_i is the number of employed people with the i-th level of qualification, E_T is the total level of employment, P_i is the EAP with the i-th level of qualification and P_T is the total EAP</p>	Great Integrated Household Survey (GEIH), National Directorate of Statistics (DANE)

4. A look at the indicators proposed for measuring gaps in human capital (II)



Quantity gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Quantitative	Imbalance between supply and demand of labour	It is calculated as the difference between jobseekers (laid-off + applicants + employed seeking employment) versus vacancies	$DOD_{ij} = v_{ij} - b_{ij}$ Where v is the number of vacancies per occupation and sector, and b is the number of jobseekers for the i -th sector and the j -th occupation	Base of vacancies, Public Employment Service (SPE) Base of suppliers, SPE
Quantitative	Imbalance between the potential supply of labour and current vacancies	It is calculated as the difference between the number of graduates in a training programme and the number of vacancies offered	$DOPV_i = g_i - v_i$ Where v is the number of vacancies per occupation and sector, and g is the number of graduates for the i -th educational programme	Employment Observatory for Education Base of vacancies, SPE
Quantitative	Projections of the gap between supply and demand of labour	It is calculated as the difference between projected vacancies and the projection of the potential supply of labour (graduates)	$PDOD_{ij} = vp_{ij} - gp_{ij}$ Where vp is the number of projected vacancies per occupation and sector, and gp is the projected number of graduates per educational programme	Employment Observatory for Education (OLE) Base of vacancies, SPE

4. A look at the indicators proposed for measuring gaps in human capital (III)



Quantity gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Qualitative	Identification of the deficit in higher education and EEHD programmes	A qualitative analysis of the information about the profiles required by the productive sector, and the higher education and training for employment programmes which could train people with said profiles is first conducted, and existing educational programmes are then mapped in order to identify the programmes where there are deficits. The analysis may find that there are no programmes, or that there are programmes but they are offered by few institutions.	Not applicable	For the demand of labour: Vacancies, SPE; studies and interviews carried out with enterprises, interviews with headhunters and employment centres For mapping the education supply: OLE, National Higher Education Information System (SNIES) and Education for Employment Information System (SIET) of the National Ministry of Education (MEN)
Qualitative	Deficit in the demand for educational programmes	The aim is to identify the low demand of the student population for programmes training in the profiles required by the productive sector, even if the supply of those programmes is sufficient	Not applicable	OLE, Interviews with educational institutions

4. A look at the indicators proposed for measuring gaps in human capital (IV)



Profiling gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Qualitative	Non-existent position	Obtained from the information collected about the positions affected by technological or organizational trends in the Qualitative Labour Foresight methodology	Not applicable	Sectoral qualitative labour foresight studies
Qualitative and quantitative	Work experience gap	It is calculated as the difference between the average number of years of experience required for a vacancy and the average number of years of experience accumulated by suppliers who fit the profile for the vacancy	$BEL = t_{iv} - t_{io}$ <p>Where t_{iv} is the average number of years of experience required for a vacancy and t_{io} the average number of years of experience accumulated by suppliers who fit the profile for the vacancy</p>	Base of vacancies, SPE Base of suppliers, SPE
Qualitative	Profile gaps	A text analysis is conducted in order to evaluate the correlation between the profile required for the vacancy (occupation, position, profession) and the profile of suppliers	Not applicable	Base of vacancies, SPE Base of suppliers, SPE

4. A look at the indicators proposed for measuring gaps in human capital (V)



Relevance gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Qualitative	Skill mismatch between the demand and educational and training programmes (gaps in the relevance of the education supply)	A qualitative analysis of the information about the skills demanded by the productive sector and the information about the skills instructed in the different educational programmes is carried out using a text analysis methodology, and the existing mismatch is evaluated	Not applicable	For the demand of labour: Vacancies, SPE; studies and interviews with enterprises, interviews with headhunters and employment centres For the education supply: SNIES; SIET; Quality Assurance System for Higher Education (SACES), MEN; interviews with educational institutions
Qualitative	Participation of the productive sector in planning the education supply	A question to be used for consultations with entrepreneurs is developed to find out in which of the following does the productive sector provide guidelines for the training supply: curriculum design, occupational profiles, mentor profiles, pedagogy, practices, etc.	Not applicable	Direct consultation with the productive sector; validation, MEN

4. A look at the indicators proposed for measuring gaps in human capital (VI)



Quality gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Qualitative	Gaps in training quality	This is an analysis underlying the identification of gaps in the relevance of the education supply, and quality gaps are identified when the demand claims that there is a deficiency in skills which are instructed by the education supply	Not applicable	<p>For the demand of labour: Vacancies, SPE; studies and interviews with enterprises, interviews with headhunters and employment centres</p> <p>For the education supply: SNIES; SIET; Quality Assurance System for Higher Education (SACES), MEN; interviews with educational institutions</p>

4. A look at the indicators proposed for measuring gaps in human capital (VII)



Skills gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Qualitative	Mismatch of skills between the demand and supply of labour	A qualitative analysis of the information about the skills demanded by the productive sector and the information about the skills the labour supply has, is carried out using a text analysis methodology, and the existing mismatch is evaluated	Not applicable	For the demand of labour: Vacancies, SPE; studies and interviews carried out with enterprises, interviews with headhunters and employment centres (UNDP methodology) For the supply of labour: Base of suppliers, SPE; information about population groups of interest where focus is desired (for example, victims, reinstated, among others); base of psychotechnical tests, SPE
Qualitative	New skills	Obtained from the information collected about the new skills arising due to technological or organizational trends	Not applicable	Sectoral qualitative labour foresight studies
Qualitative	Obsolete skills	Skills which can be rendered obsolete by new technologies	Not applicable	Sectoral qualitative labour foresight studies

4. A look at the indicators proposed for measuring gaps in human capital (VIII)



Time adjustment gaps

Estimation or calculation method	Name of the indicator	Calculation methodology	Calculation formula	Source of information
Quantitative	Average time to fill a vacancy	The average time it takes to fill a vacancy is calculated using information from the SPE	Weighted average of the time it takes to fill a vacancy	Vacancies, SPE
Quantitative	Average duration of a job search	The average time it takes for a person to find employment is calculated	Calculation from the P7220 variable	GEIH

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5. Who are the stakeholders and how will they be involved in the identification and measurement of gaps?



Some final thoughts...

- ❖ The way in which the gap is identified and measured determines the intervention strategy which must be formulated in order to close it
 - ✓ If the gaps are relevance or quality gaps, **the education and training supply must be adjusted** in order for the supply of labour to respond to the market demand
 - ✓ If they are profile or skills gaps between jobseekers and vacancies, a labour intermediation strategy must be applied in order to bring the supply and demand closer
- ❖ These kinds of strategies must act as a **compass** guiding the formulation of human capital policies in the country, in coordination with priority productive and innovation commitments

Thank you!